

PhD THESIS DECLARATION

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Essays on Firm Participation in Multi-Stakeholder Sustainability Initiatives

Abstract

This dissertation is composed of three papers on firm participation in multi-stakeholder sustainability initiatives. It aims to contribute to the understanding of these initiatives by first, examining the importance of firm participation in these initiatives alongside competitors. Second, the relationship between firm participation in an initiative and its social and environmental performance is assessed. Finally, the moderating effect of country-level contextual factors on the relationship between firm participation in an initiative and its social and environmental performance is evaluated.

The first paper tries to understand why firms participate in multi-stakeholder initiatives together with their competitors as part of their effort to tackle sustainability-related challenges. It discusses the underlying motivations for firm collaboration with competitors, as well as firm- and industry-level contextual determinants that are likely to affect firm participation in initiatives, and how these contextual determinants relate to each other. Underlying motivations are associated with (i) the nature of similar sustainability issues faced by firms in a particular industry, and (ii) interdependency between competitors arising from indirect links between them. Contextual determinants include firm size, supply chain awareness, customer overlap, perceived level of competition, antitrust apprehension, sustainability regulation, firm influence over suppliers, and industry stigma.

The second paper explores whether and why firms' participation in initiatives may be beneficial for their social and environmental performance. This paper aims to emphasize the importance of considering (i) the learning and knowledge-sharing activities that take place within the framework of an initiative, and (ii) which sustainability issues the initiative focuses on, when trying to understand whether firm participation in an initiative may be associated with different types of sustainability performance.

The third and final paper explores whether firms' institutional environments affect their ability to benefit from participation in initiatives. It considers the effect that country-level contextual factors might have on the relationship between firm participation in an initiative and its social and environmental performance. In particular, the moderating effect of country corruption levels is examined. Results indicate mixed findings, which underscore the importance of taking country context into account when evaluating the effect of firms' participation in initiatives on their social and environmental performance.

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Introduction to the dissertation

This dissertation is composed of three papers on firm participation in multi-stakeholder sustainability initiatives. It aims to contribute to the understanding of these initiatives by first, examining the importance of firm participation in these initiatives alongside competitors. Second, the relationship between firm participation in an initiative and its social and environmental performance is assessed. Finally, the moderating effect of country-level contextual factors on the relationship between firm participation in an initiative and its social and environmental performance is evaluated.

In this dissertation, firm participation in multi-stakeholder sustainability initiatives is studied from different angles. By using different methods, it is possible to address different types of questions, and to gain a more in-depth understanding of various findings. Hence, various methods are used to investigate the research questions posed. A mixed methods approach across and within papers was used to generate complementary insights, which could not have been generated using a single methodology (see Table 1 for an overview).

The first paper tries to understand why firms participate in multi-stakeholder sustainability initiatives together with their competitors as part of their effort to tackle sustainability-related challenges. The paper discusses the underlying motivations for firm collaboration with competitors, as well as firm- and industry-level contextual determinants that are likely to affect firm participation in initiatives, and how these contextual determinants relate to each other. Underlying motivations are associated with (i) the nature of similar sustainability issues faced by firms in a particular industry, and (ii) interdependency between competitors arising from indirect links between them. Contextual determinants include firm size, supply chain awareness, customer overlap, perceived level of competition, antitrust apprehension, sustainability regulation, firm influence over suppliers, and industry stigma. The research question looking at *why* firms choose to participate in initiatives with their competitors called for the use of a predominantly qualitative approach. Semi-structured interviews with knowledgeable sustainability professionals working in firms and multi-stakeholder initiatives located in the US and Europe were conducted and then analyzed. The analysis of these interviews resulted in a multitude of insights, including the list of eight contextual determinants pushing firms towards or away from collaborations. In order to make more sense of the findings pertaining to the contextual determinants, a qualitative

comparative analysis (QCA) was conducted in an effort to generate a clearer picture of how the different determinants bundle together, revealing also which are the most important ones.

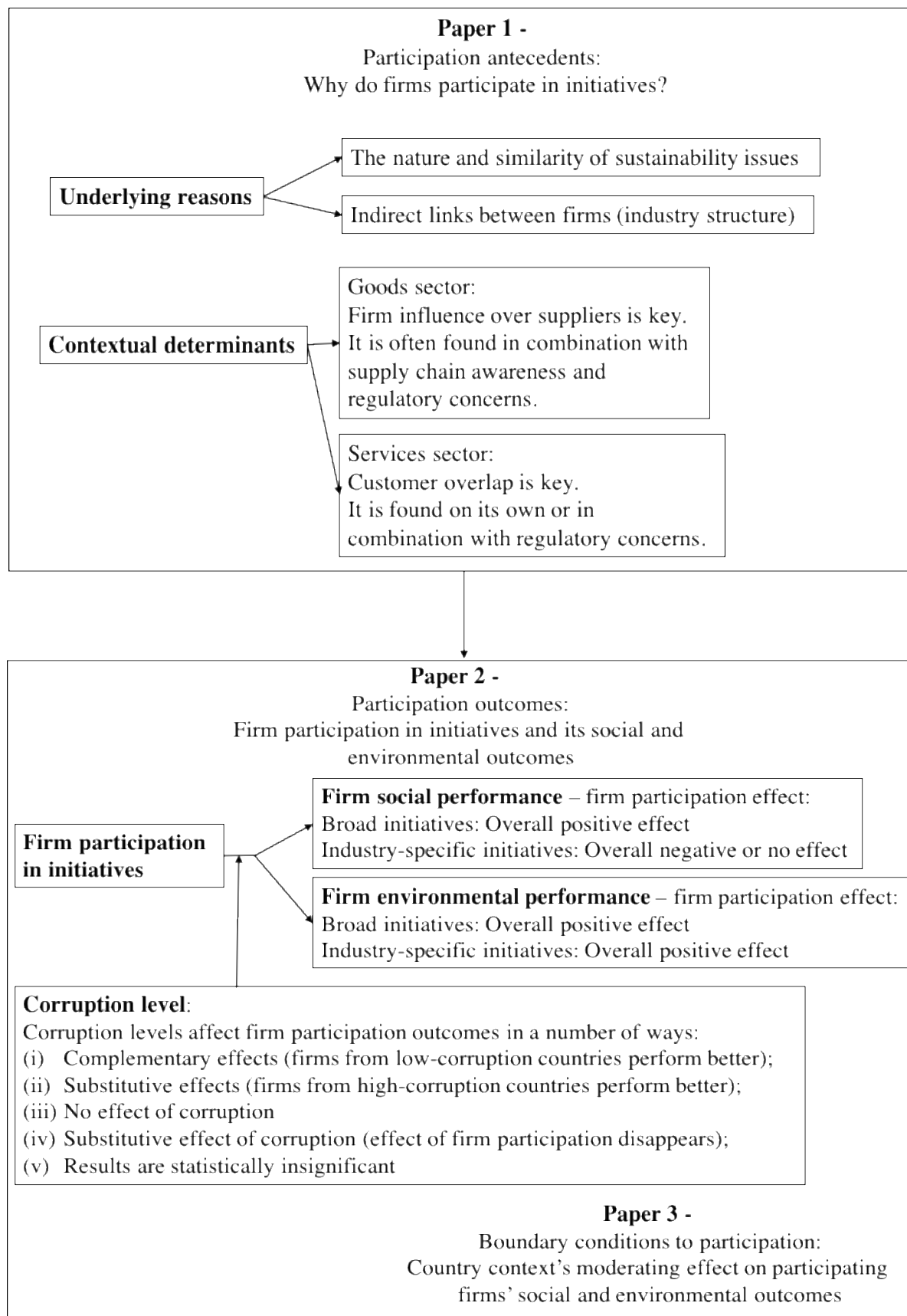
A mixed methods approach was also used in the second paper, which explores whether and why firms' participation in initiatives may be beneficial for their social and environmental performance. This paper aims to emphasize the importance of considering (i) the learning and knowledge-sharing activities that take place within the framework of an initiative, and (ii) which sustainability issues the initiative focuses on, when trying to understand whether firm participation in an initiative may be associated with different types of sustainability performance. In this paper, a quantitative methodology, consisting of the use of fixed effects regressions, was used to examine the direct relationship between firm participation in an initiative and its social and environmental performance. This was combined with qualitative data insights obtained from semi-structured interviews with sustainability professionals to support the suggested mechanism believed to be the main driver enabling the achievement of improved social and environmental performance of participating firms, namely, learning that occurs within the framework of initiatives.

The third and final paper uses solely a quantitative approach to explore whether firms' institutional environments affect their ability to benefit from participation in initiatives. It tries to move beyond looking at the direct relationship between firm participation in an initiative and its social and environmental performance, by considering the effect that country-level contextual factors might have on this relationship. In this case, the analysis of fixed effects regressions was used to answer the research question. In particular, the moderating effect of country corruption levels was examined. Regression results indicate mixed findings, which underscore the importance of taking country context into account when evaluating the effect of firms' participation in initiatives on their social and environmental performance. Figure 1 provides an overview of the three papers included in this dissertation.

Table 1 – Overview of methods used

Paper	Methods used	Reasoning
First paper	Qualitative – semi-structured interviews	<ul style="list-style-type: none"> - Get first-hand in-depth insights from initiative participants. - Generate complementary perspectives from initiative participants including firm insiders, who have predominantly a view of their own firm, and initiative employees, who have a broader view (e.g. of multiple firms and entire industries).
	Qualitative comparative analysis (QCA)	<ul style="list-style-type: none"> - Enhance the understanding of qualitative findings by analyzing how they bundle together. - Generate a more holistic view of qualitative findings, which is difficult to achieve using purely qualitative methods.
Second paper	Quantitative – fixed effects regressions	<ul style="list-style-type: none"> - Understand statistically and quantitatively the average effect (including direction, size, and statistical significance) of firms' participation in an initiative on a range of social and environmental firm performance indicators. - Compare the performance of participating firms to that of non-participating firms. - Annual longitudinal data enables the use of fixed effects to control for time invariant unobserved heterogeneity and year effects.
	Qualitative – semi-structured interviews	<ul style="list-style-type: none"> - Difficulty in perceiving the mechanism behind the statistical findings obtained using the fixed effects regressions. Analyzed data used to get a better understanding of the mechanism behind the statistical findings, based on the views of initiative insiders.
Third paper	Quantitative – fixed effects regressions	<ul style="list-style-type: none"> - Understand statistically and quantitatively the average effect of firms' participation in an initiative on a range of social and environmental firm performance indicators, and how the introduction of a relative measure of institutional strength (represented by corruption) moderates the effect of participation. - Compare the performance of participating firms to that of non-participating firms. - Annual longitudinal data enables the use of fixed effects to control for time invariant unobserved heterogeneity and year effects.

Figure 1 – Thesis overview



Collaboration between competitors and sustainability: What lies beneath

ABSTRACT

This paper investigates why firms participate in multi-stakeholder initiatives with competitors in an effort to tackle sustainability-related challenges. It discusses underlying firm collaboration motivations, as well as firm- and industry-level determinants that can affect firm collaboration likelihood. Underlying motivations are associated with (i) the nature of similar sustainability issues faced by firms in a particular industry, and (ii) interdependency between competitors arising from indirect links between them. Data analysis points towards firm size, supply chain awareness, customer overlap, perceived level of competition, and antitrust apprehension as important firm-level determinants. Sustainability regulation, firm influence over suppliers, and industry stigma emerge as important industry-level determinants. In particular, in the goods sector, firm influence over suppliers is key, and can often be found in combination with supply chain awareness and regulatory concerns. In the services sector, customer overlap is key, and can be found on its own or in combination with regulatory concerns. Findings are generated based on the qualitative analysis of twenty-six semi-structured interviews conducted with knowledgeable professionals working in US and European firms and multi-stakeholder sustainability initiatives, followed by a qualitative comparative analysis (QCA), which provides a clearer understanding of whether and how the various contextual determinants relate to each other.

Keywords: Competitor collaboration, corporate sustainability, decision-making, multi-stakeholder initiatives

INTRODUCTION

“Sustainability is all about systems thinking” (interview 26).

“It’s like a crazy spider web of connections” (interview 25).

“I think we have examples from almost every category that we work on where we work with competitors” (interview 9).

Inter-firm collaborations are complex and important undertakings. It is therefore not surprising that the management literature is no stranger to this topic. As such, much has been written about why firms collaborate in a number of contexts. For instance, research has explored a wide range of industries, and studies have provided a variety of explanations considering transaction characteristics, strategic, as well as social factors (see e.g. Baum, Calabrese, and Silverman, 2000; Chung, Singh, and Lee, 2000; Eisenhardt and Schoonhoven, 1996; Gulati, 1999; Hamel, 1991; Hamel, Doz, and Prahalad, 1989; Kogut, 1991; Santoro and McGill, 2005; Tatarynowicz, Sytch, and Gulati, 2016). While the reasoning behind inter-firm collaboration has been studied quite extensively in technology-related and production-related contexts, it appears to rarely have been the case in the context of corporate sustainability as far as collaboration with competitors is concerned.

Firms that have an advanced approach to sustainability can collaborate with a range of stakeholders. Sustainability research often emphasizes the relationships between a focal firm and other stakeholders such as financiers, suppliers, customers, and civil society. Nevertheless, as it stands, firms often work together, and “set the rules of business competition” (King, Prado, and Rivera, 2012:103). Despite their prevalence and importance, collaborations between competitors arising in the sustainability context appear to have been understudied.

Underscoring the importance of collaborations between competitors, in 2015, the Network for Business Sustainability's (NBS) Leadership Council identified competitor collaboration as a top sustainability challenge for Canadian firms (NBS is a network of researchers and managers aiming to advance sustainable business) (NBS, 2017a).

According to recent research by the NBS, sometimes, "solving complex problems requires competitors to collaborate", which is especially pertinent when a problem is faced by an industry as a whole (Buysse and Verbeke, 2003; NBS, 2017b).

In light of the apparent gap in the literature, the ever-growing emphasis on the need for the business sector to address sustainability concerns, and the prevalence of multi-stakeholder initiatives in which competing firms collaborate in the area of corporate sustainability, the paper therefore addresses the following question: "Why do firms collaborate with their competitors in the context of corporate sustainability?" These collaborations may include only firm peers, or additional stakeholders such as governments and NGOs.

Following the provision of an overview of the types of multi-stakeholder initiatives studied, attention is first drawn to fundamental firm motivations to collaborate with competitors. As will be discussed later, two core determinants are at the base of firm collaboration reasoning. The first one is the nature of sustainability issues, namely, their intricate and systemic nature, coupled with the fact that competing firms face the same issues. The second one is the structure of industries, as firms find that they may not be directly linked to their competitors, but that they are certainly indirectly linked to them through various stakeholders, such that the ability of individual firms to have an impact and improve their own sustainability is limited.

The discussion of fundamental underlying motivations to collaborate is followed by a discussion of firm- and industry-level contextual determinants that can affect firms' decision to collaborate. Firm-level determinants include firm size, supply chain awareness, customer overlap, perceived level of competition, and antitrust apprehension. Industry-level determinants include the extent of sustainability regulation in the industry, firm influence over suppliers, and industry stigma. The discussion of the individual contextual determinants refers to differences in findings relating to the three key industries examined in this study, namely, the textile/apparel, food and beverages, and the finance industries.

Findings suggest that while many of the determinants are relevant across industries, some of the determinants are emphasized more in certain industries than in others. Additionally, it transpires that, predominantly, both firm- and industry-level contextual determinants are considered simultaneously by firms as part of their decision-making process. In the goods sector, findings emphasize the importance of firm influence over suppliers, which is often coupled with supply chain awareness and regulatory concerns, while in the services sector, findings underscore the importance of customer overlap, which can be found either on its own or in combination with regulatory concerns.

In order to generate insights, this paper first takes a qualitative approach. Twenty-six interviews with firm and multi-stakeholder sustainability initiative insiders from the US and Europe were conducted and analyzed. The interviewees are deemed to be knowledgeable about sustainability and firm participation in initiatives, as pertaining to their firm or as transpiring from their experience as sustainability initiative insiders. Then, a qualitative comparative analysis (QCA) was conducted to generate a clearer understanding of whether and how some of the findings uncovered by the qualitative analysis of the interviews relate to each other in influencing firm motivation to collaborate with competitors, resulting in a more

holistic view of some of the qualitative data. Getting the insider view on firms' motivations to collaborate with their competitors was considered primordial in order to answer the research answer, as secondary sources may contain only superficial information or lack information altogether, whereas the goal was to generate an in-depth understanding of firms' motivations to collaborate as they try to address sustainability-related issues.

From a managerial perspective, resulting insights may help draw managerial attention to the importance of collaborating with competitors in the sustainability context, as well as assist managers in better understanding under what circumstances involvement in multi-stakeholder sustainability initiatives alongside competitors may make more or less sense for their firm.

The remainder of this paper is organized as follows: A literature review is followed by a methods section describing the approach to data collection and analysis, along with key information about the data. A discussion of the findings comes next, and is made up of multiple parts. This section starts by discussing the importance of collaboration between competitors in the sustainability context from a managerial perspective, and providing information about the initiatives studied to allow for a better understanding of these initiatives. Once a better understanding of the initiatives has been gained, the underlying reasons for competitor collaboration are discussed. Then ensues a discussion that focuses on the contextual determinants. First, the various firm- and industry-level contextual determinants are presented and linked to firm collaboration likelihood. Then, the findings pertaining to the way in which the various contextual determinants combine together and relate to each other are discussed. The paper ends with a discussion and conclusions section.

LITERATURE REVIEW

Inter-organizational collaborations

Increasingly, global competition is not purely competitive. Firms may simultaneously compete and collaborate with the same rival or rivals (Luo, 2007). Already a couple of decades ago, Lado, Boyd, and Hanlon (1997) stated that “success in today's business world often requires that firms pursue both competitive and cooperative strategies simultaneously”, and that, “cooperation can enhance the competitive position of a firm.” This is because competitors are more likely to be facing similar market conditions, customer needs, and uncertainty issues, facilitating the generation of a common understanding of the issues faced by the various competing organizations and potential solutions to said issues (Bouncken, Gast, Kraus, and Bogers, 2015).

Firms may collaborate on upstream activities such as research and development and production efforts, while competing in downstream activities such as sales and distribution, and in various product categories (Luo, 2007; Walley, 2007). The levels of collaboration and competition between competitors may change over time, as responses change in accordance with firms' internal and external environments (Luo, 2007). A rise in simultaneous collaborative and competitive approaches over time may be due to growing interdependence among global competitors, and an increase in the need for collective action, risk-sharing, and strategic flexibility (Bouncken et al., 2015; Luo, 2007).

Collaborations with competitors may or may not prove to be successful. Existing studies have tried to identify success factors of such relationships. These studies suggest that firms need to actively manage the relationship, may need to separate pre-competitive and competitive stages, as well as competition and cooperation logics between different units within the organizations. Various firm attributes may need to be considered such as the firm's

experience, culture, learning abilities, leadership, commitment, and strategic orientation. Additional relevant dynamics include goal congruence, trust, knowledge- and risk-sharing, resource and capability complementarity, information system support, conflict management system, and market commonality between competitors, as they can all affect the success of collaborations between competitors (Bouncken et al., 2015; Luo, 2007).

There is a range of benefits that firms may perceive from collaborating with their competitors. At the firm level, firms can reduce risks (including regulatory risks), costs, and time for improving efficiency and quality control, as well as speed to market, increase their bargaining power, introduce entry barriers, enjoy economies of scale, face more easily dynamic and uncertain environments (reduce uncertainty), and improve their ability to deal with stakeholders (e.g. through government lobbying, the alignment of interests with other stakeholders' interests) (Barringer and Harrison, 2000; Bouncken et al., 2015; Luo, 2007). They may also improve their internal skills, technologies, productivity, innovation (especially when the knowledge in an industry is complex and expanding, with expertise being dispersed), products or services, enhance their visibility and legitimacy, as well as their ability to influence the shaping of future outcomes (e.g. technological developments), gain access to resources or markets, and in general, improve their overall performance (profits, reach, market position). Firms may do so by sharing or integrating their resources, accessing each other's knowledge and competencies, and committing to common goals (Barringer and Harrison, 2000; Bouncken et al., 2015; Khanna, Gulati, and Nohria, 1998; Luo, 2007; Powell, Koput, and Smith-Doerr, 1996; Rosenkopf, Metiu, and George, 2001; Walley, 2007).

While competing firms may individually try to take advantage of newly-gained knowledge for private gains and an enhancement of their competitive advantage, they may also enjoy collective benefits by working together to produce an outcome that is beneficial

for everyone (Bouncken et al., 2015; Khanna et al., 1998). In effect, the market as a whole can grow when competitors collaborate. Competitors can also collaborate to “raise all boats”, creating benefits for different kinds of market players. A firm might follow economic, political, social, and ideological (nonmarket) reasoning when it makes decisions. For example, by improving their reputation via socially-responsible behavior, firms may be able to access better financial and human resources (Chen and Miller, 2015). Competitors’ collaboration efforts may benefit only the participating firms, or an industry or sector as a whole.

While there are potential upsides to collaborations between competitors, there are also potential downsides. When collaborating, firms may be faced with opportunistic behavior on behalf of partners, especially if the cooperation is not strongly governed or structured enough (Luo, 2007). Firms may also experience higher costs and financial risks, unwanted knowledge spillovers, distraction of already limited managerial attention, learning races, clashing of cultures, reduction in freedom and flexibility, and conflicting priorities (Barringer and Harrison, 2000; Bouncken et al., 2015; Eisenhardt and Schoonhoven, 1996). Furthermore, collaboration between competitors may increase the dependency of firms on each other, which may lead to a loss in competitiveness and performance of individual firms, as well as entail antitrust implications and challenges (Barringer and Harrison, 2000; Bouncken et al., 2015; Luo, 2007). Collaborative relationships between competitors may be terminated unsuccessfully because one party may not get enough of a return, due to leakage of confidential or proprietary information, differing partner objectives and intentions, lack of trust, or environmental changes that make partners lean more towards competition than collaboration (Barringer and Harrison, 2000; Walley, 2007).

Sustainability and collaborations between competitors

Sustainability has been increasingly highly placed on research agendas. The sustainability literature attempts to highlight that firm obligations should go beyond “financial considerations” and include obligations to society, as it discusses the purpose of the firm and how it can achieve what may be perceived as multiple and separate goals (Freeman, Harrison, Wicks, Parmar, and De Colle, 2010). It has been argued that “doing good [...] leads to doing better” (Lindgreen and Swaen, 2010), and that, in today’s society, “good ethics is good business” (Van Beurden and Gössling, 2008).

Over recent decades, businesses have seen growing concern for and attention being paid to their ability to secure a future for the next generations. Increased awareness of sustainability-related issues has led to increased pressures on businesses to act in a more sustainable manner (Freeman et al., 2010). Today, investors perceive a “strong link” between corporate sustainability and financial performance, and are increasingly using ESG (economic, environmental, social, and governance) firm data to make investment decisions. Investors believe that an increased potential for long-term value creation, improved revenue potential, and operational efficiency, provide business value to firms that invest in sustainability. Importantly, investors are increasingly likely to divest firms that have a poor sustainability track record. Indeed, evidence that “sustainability-related activities are material to the financial success of a company over time” has become more prevalent, and investors increasingly believe that firms’ sustainability actions can create tangible value for the firms (MIT and BCG survey, 2016). Furthermore, executives understand that sustainability is important for business, and perceive sustainability as increasingly vital for firm strategy as they incorporate it into the business. There is also indication of a growing perception that

sustainability should be a top CEO priority, as executives see an important business role for sustainability (McKinsey, 2014).

Overall, a more systemic approach to sustainability can now be seen within firms, as sustainability becomes more integrated throughout the firm (Ernst and Young, 2011). While it is difficult for firms to observe the effectiveness of their sustainability efforts, sustainability is perceived “as a mechanism to energize and motivate stakeholders, as well as manage societal perceptions and expectations on the role and utility of businesses in societies and communities” (Wang, Tong, Takeuchi, and George, 2016: 534), and firms have been increasingly more proactive rather than reactive in their approach to sustainability (Utting, 2005). Firms can use sustainability as a strategic tool to provide increased value to their stakeholders (Malik, 2015).

When thinking about ways to alleviate concerns related to firms’ sustainability, three types of solutions may come to mind. The most prevalent one in the past followed the command-and-control route, where governments impose regulations on firms. A second solution is the reliance on market incentives. A third solution is self-regulation by firms (Argandoña, 2004).

Given economic globalization, and the global nature of sustainability issues, both command-and-control and individual firm-level approaches appear to be insufficient. In order to remedy global governance gaps, more encompassing, global governance initiatives have been established to try to regulate global business (Voegtlin and Pless, 2014). Actors from different sectors started referring to the need for a cooperative paradigm (Lund-Thomsen and Lindgreen, 2014).

In general, firms with advanced sustainability strategies can collaborate with other stakeholders such as regulators, NGOs, communities and civil society, and form strategic

alliances with major competitors to address complex sustainability problems (Buysse and Verbeke, 2003; Gray and Stites, 2013). Given the global nature of sustainability issues, their resolution should also take place at a global level (King et al., 2012). However, deficits in global business regulation of sustainability-related concerns, coupled with the understanding that unilateral firm actions may be insufficient, resulted in a decline in the command-and-control mode of regulation and the creation of global governance initiatives, often referred to as multi-stakeholder initiatives, that try to regulate global business (Baek, 2017; Mele and Schepers, 2013; Voegtlin and Pless, 2014). Multi-stakeholder initiatives are located between command-and-control regulatory approaches and single-firm undertakings aimed at addressing sustainability issues (Baumann-Pauly, Nolan, van Heerden, and Samway, 2017).

A collaboration continuum ensuing from the analysis of the more general area of cross-sector partnerships, suggests that there are four types of collaborations: Philanthropic, transactional, integrative, and transformative (Austin and Seitanidi, 2012; Gray and Stites, 2013; Seitanidi and Crane, 2014). Focusing on multi-stakeholder initiatives, this paper is concerned with collaborations that fall under the integrative and transformative categories, and that include firms as key actors. These types of collaborations have a relatively wide scope and high levels of actors' shared ownership and responsibility. Firms in such initiatives try to balance their financial, social, and environmental concerns, with firms in transformative initiatives also trying to integrate stakeholder expectations (Gray and Stites, 2013).

A multi-stakeholder initiative is an entity that works with multiple stakeholders (e.g. the business sector, civil society, governments, universities, investors) to solve sustainability problems that cannot be solved at an individual firm level (Baumann-Pauly et al., 2017). Firms may collaborate solely with other firms or members of their industry, or with other

sectors as well. Regardless of which sector initiates the initiative, firm participation is indispensable (Mele and Schepers, 2013). These initiatives help address governance gaps, serving a global governance function by regulating what governments leave unregulated, and what individual firms are not able to handle by themselves. These initiatives have gained in popularity over the last couple of decades as firm-level solutions started being perceived as inadequate, while the understanding of the usefulness of the inclusion of additional stakeholders started gaining traction (Baumann-Pauly et al., 2017).

Within the framework of multi-stakeholder initiatives, firms try to address a variety of environmental and social issues across and between industries (Castka and Corbett, 2016). Over recent decades, a large number of initiatives have been developed to support firms in their sustainability efforts (Runhaar and Lafferty, 2009). Whether trying to address social concerns, such as the implementation of responsible labor standards in the entire value chain (Lin-Hi and Blumberg, 2017), or environmental ones, such as the generation of environmental standards (Buysse and Verbeke, 2003), collective action is called for (Lin-Hi and Blumberg, 2017).

The growing importance of multi-stakeholder initiatives is reflected in the evolution of the Electronic Industry Citizenship Coalition (EICC) into the Responsible Business Alliance (RBA). Founded in 2004, the EICC (now RBA) is a non-profit organization aimed at improving sustainability conditions (social, environmental, and ethical) along global supply chains. It was initially composed of electronics companies that came together to generate a code of conduct for the electronics industry. Over time, the initiative's scope, programs and tools, influence, and membership have expanded significantly. Since 2016, membership eligibility was changed to include, in addition to firms that either manufacture or contract the supply of electronics, firms that require electronics for the main functionality of

their products (Responsible Business Alliance, 2017). This evolution is indicative of the need for these types of initiatives, and potentially their effectiveness.

While increasing in popularity, these initiatives are also facing criticism when compared to other approaches. One such criticism is that following this approach means that firms are regulating themselves. This poses the risk that firms may be choosing to take actions that would be considered too lenient compared with other regulatory approaches, which would result in the rejection of such approaches by regulators and society (Argandoña, 2004). Additionally, member firms may enjoy enhanced reputation without making substantial changes to their operations (Perez-Batres, Doh, Miller, and Pisani, 2012).

Existing studies point to a number of benefits that firms participating in multi-stakeholder initiatives may enjoy. Adherence to these initiatives can generate economic and reputational benefits, legitimacy, as well as learning, cooperation, and networking opportunities (Arevalo and Aravind, 2017; Berliner and Prakash, 2015; Cetindamar, 2007; Mele and Schepers, 2013; Runhaar and Lafferty, 2009). Participation enables stakeholders to observe participating firms' sustainability actions and performance (hence enhancing firm transparency), and stakeholders may react accordingly (Baek, 2017; Janney, Dess, and Forlani, 2009; Runhaar and Lafferty, 2009). For instance, regulatory agencies may reduce regulatory pressure, investors may show confidence leading to better market performance, consumers may show increased loyalty, and the firm may enjoy more goodwill and sell products at higher prices (Baek, 2017; Cetindamar, 2007; Janney et al., 2009). Firms may therefore enjoy a range of benefits, including those related to regulatory expectations, market opportunities, operations, and customer relationships (Bowler, Castka, and Balzarova, 2017). Nevertheless, the impact of participation on individual firms can vary among participants (O'Faircheallaigh, 2015).

By and large, multi-stakeholder initiatives have emerged as an important empirical phenomenon in global governance processes that is of high practical relevance. They help provide a response to pressing, global sustainability challenges. As part of these initiatives, firms co-create and voluntarily commit to new sustainability standards, compensating for governance gaps and going beyond existing regulation (Zeyen, Beckmann, and Wolters, 2016). Thus, multi-stakeholder initiatives have become an integral and vital part of organizational sustainability efforts (Moog, Spicer, and Bohm, 2015). Despite their importance, multi-stakeholder initiatives are thought to be an underexplored topic (Baumann-Pauly et al., 2017). This paper zooms in on what is perceived as a key aspect of multi-stakeholder initiatives – the simultaneous presence of, interaction, and collaboration between competing firms.

METHODS

This paper first takes a qualitative approach, and then complements it using qualitative comparative analysis (QCA). In order to generate insights on the phenomenon at hand, namely, the multilateral collaboration of competitors in the area of corporate sustainability, an insider's view was sought. More specifically, an understanding of why these collaborations take place was desired.

In an effort to gather data, firms and relevant multi-stakeholder initiatives were contacted to obtain interviews with knowledgeable individuals. In total, twenty-six semi-structured interviews were conducted between October 2016 and May 2017. Some interviewees are sustainability professionals working predominantly for firms in the financial, food and beverages, and the textile/apparel industries (with the exception of one interviewee holding the position of CEO). Other interviewees are sustainability professionals working for

relevant, non-profit, multi-stakeholder sustainability initiatives, also related to a range of industries.

Main paper findings revolve around information obtained from data pertaining to the textile/apparel, food and beverages, and finance industries. The textile/apparel industry has been the focus of media and civil society attention for a number of years due mainly to poor working conditions along the supply chain. The food and beverages industry caters to the fulfillment of some of the basic needs of an ever-growing world population with increasingly limited earthly resources. Finally, the finance industry is a key intermediary providing firms with means to carry out various activities, and is uniquely positioned in such a way that it can act as a “gatekeeper”, promoting or prohibiting the undertaking of certain activities.

In preparation for the interviews, a number of informal discussions were held with knowledgeable individuals, and online research on the topic and relevant organizations was conducted to help ensure that pertinent questions would be asked. Data analysis took place iteratively with data collection.

Average interview length is around 50 minutes. Average interviewee tenure with his/her organization is 7.4 years, and all but one interviewee work directly on corporate sustainability matters, with the remaining interviewee holding the position of CEO. Most of the firms interviewed are some of the largest in the world, while the membership size of the multi-stakeholder sustainability initiatives whose employees were interviewed exceeds 100. All interviews were recorded, transcribed, and analyzed. All data was inserted into and coded using the NVivo software. A vertical reading of the interviews for the coding of the data was followed by a horizontal reading of the interviews to compare the data and generate insights, as well as for the categorization of the codes. No additional interviews were sought once

information of only marginal value was generated via later interviews relative to previously collected data (emerging theoretical categories appeared to be “saturated”).

More specifically, for every transcribed interview, data analysis began with a reading of the interview from beginning to end, and the coding of every piece of text found in the interviewee’s answers. Hence, a code reflecting the subject matter discussed was attached to every piece of text using the NVivo software. All of the pieces of text describing or discussing a similar topic were given the same code. This vertical reading and coding of the data was followed by a horizontal reading of the data, or, in other words, the comparison of the information provided by the different interviewees that was grouped under the various individual codes. This facilitated a more in-depth discovery of insights that transpire from the data in relation to the individual codes, going beyond the more superficial understanding obtained through the generation of the various codes. Furthermore, at the end of the coding process, and based on the understanding of the insights generated through the analysis of the data found under the various codes, the codes were grouped into categories, where relevant. For example, the codes “can’t on own”, “dependency resources”, and “dependency stakeholders”, were all placed under the category “core underlying reasons”.

Interviews with firms mainly centered around the individual firm’s approach to sustainability, how sustainability is incorporated into the firm, internal and external pressures on the firm to behave in a sustainable manner, motivation for collaborations with competitors and perceived risks, and how collaborations come about. Interviews with initiative employees revolved around initiative members’ motivation to collaborate, benefits and downsides to collaborations, differences between firms and/or industry characteristics and how they might affect firm likelihood to join and benefit from collaborations, as well as how collaboration actually happens. Table 1 provides an overview of the interviews conducted. A non-profit

organization, or a multi-stakeholder sustainability initiative, is considered large when it caters to more than 100 members (which is always the case in this paper's sample).

[Insert Table 1 about here]

Qualitative comparative analysis (QCA) can help complement the type of qualitative research conducted in this paper. It is effective even when there is a relatively small number of cases analyzed, as it does not require a large number of cases to produce meaningful results, and it helps provide a more complete view of the data that is both interpretable and does not ignore "relatively rare" data (Lacey and Cohen, 2015). It facilitates the discovery of different combinations of causal variables that lead to a certain outcome, and can help test models in which there are multiple interacting variables (Longest and Vaisey, 2008). Additionally, QCA allows for the examination of how effects combine and interact across levels (Lacey and Fiss, 2009). This is helpful seeing as some of the contextual determinants that were uncovered are at the firm level and others are at the industry level.

In order to perform a QCA using the interview data, qualitative data was converted into quantitative data. For every interview, participation in an initiative (the outcome variable), the presence of the different contextual determinants (firm size, supply chain awareness, customer overlap, perceived level of competition, antitrust apprehension, sustainability regulation, firm influence over suppliers, and industry stigma), and firm or initiative characteristics were coded. The variables were coded in the following manner: *Participation*: A value of 1 was given if a firm generally participates in initiatives or if the interviewed employee works for an initiative; a value of 0.7 was given if a firm is mostly favorable to participation in initiatives; a value of 0.3 was given if a firm is mostly not favorable to participation in initiatives; and a value of 0 was given if a firm does not participate in initiatives.

Contextual determinants: For every contextual determinant, a value of 1 was given if the determinant was mentioned during the interview, and 0 otherwise.

Firm and initiative characteristics:

Firm size: Size was determined based on 2016 revenues (in billions of USD). Firms with revenues of 20 billion USD or less were given a value of 0; firms with revenues of between 21 and 50 billion USD were given a value of 0.33; firms with revenues of between 51 and 99 billion USD were given a value of 0.66; and those that earned more than 100 billion USD in revenues were given a value of 1.

Sector: A value of 1 was given if a firm or an initiative belongs to the goods sector, and a value of 0 if it belongs to the services sector.

Headquarters location: A value of 1 was given if a firm or an initiative is headquartered in the US, and a value of 0 if it is headquartered in Europe.

Age: Organizations that are 20 years old or younger were given the value 0; organizations that are between 21 and 50 years old were given the value 0.33; organizations that are between 51 and 99 years old were given the value 0.66; and those that are over 100 years old were given the value 1.

Using the coded data and the fuzzy command in Stata (Longest and Vaisey, 2008), a number of analyses were performed to gain a more in-depth understanding of the qualitative data. First, analyses focused on firm data, followed by initiative data, and finally on the entire sample. The following samples and variables were analyzed: (i) firms only – contextual determinants only; (ii) firms only – contextual determinants and firm characteristics; (iii) initiatives only – contextual determinants and initiative characteristics; and (iv) firms and initiatives – contextual determinants only. The discussion of the QCA findings in this paper

focuses on the outcomes obtained for the entire sample. Subsample analyses' findings are referred to where relevant.

It may be worth highlighting that secondary data pertaining to firms' collaborative activities in the sustainability context is very limited. This appears to be due to two main reasons. One is the partial external communication of firms' activities as they may choose to take a conservative reporting approach. The second reason is the non-existence of a centralized relevant knowledge repository within firms where information about sustainability-related activities is kept, making it impossible for a firm to communicate about all of its collaborative activities even if it wanted to.

FINDINGS

This section contains multiple parts. It starts by discussing the importance of collaborating with competitors from a managerial perspective. It continues with an initiative typology, followed by an overview of the issues that these initiatives try to address, the kind of knowledge that is shared, and perceived collaboration risks. Once a better understanding of the initiatives studied has been gained, the underlying reasons for collaborations between competitors are discussed, followed by a discussion of key firm- and industry-level contextual determinants affecting firm collaboration likelihood with competitors, and their relevance in the textile/apparel, food and beverages, and finance industries. This section ends with a discussion about how the contextual determinants relate to each other, differentiating between the goods and services sector.

The professional perspective: Do collaborations with competitors matter in the grand scheme of things?

“I think it is important to ask: Is this an area where collaboration makes sense? Is this an area where collaboration is going to be more effective?” (interview 10).

As part of the evolution of firms’ approach to tackling sustainability concerns, firms have been increasingly collaborating with stakeholders such as NGOs and suppliers, and importantly also competitors, in an effort to address system-level concerns. However, as suggested by the quote above, collaboration might not always be the best solution. The idea is that “a company is [not] only collaborating. They also need to be making their own investments and driving their own sustainability performance, but a collaboration is a key component of that” (interview 10).

Being a key component, one interviewee went so far as to say that “everybody has been saying that in sustainability that’s the advantage, that companies can work together [...] it’s really a common understanding. [...] Like we have to work together otherwise nothing will come of it” (interview 22). It appears that “in terms of the evolution of a company’s strategy, collaboration is [...] seen, at least now, as the pinnacle of sort of the evolutionary top. [...] As [companies] [...] evolve their approach and grow and mature their programs, [...] collaboration seems to be like the height of making the most impact” (interview 25).

Some industries, such as the apparel industry, are perceived as “definitely [being] a proof that collaboration is essential and is the way to go” (interview 23). In the food industry, collaboration efforts are considered “critical. Without them we wouldn’t be able to do our work” (interview 9). The latter interviewee also said: “I think we have examples from almost every category that we work on where we work with competitors. [...] If everyone agrees on how to do it, it would become easier to achieve our shared goals” (interview 9). An

interviewee from the finance industry felt that collaborative efforts are a “critical [aspect], because we’re dealing with topics that are not easy. [...] So I find it pretty critical. Not on all topics, but for most topics” (interview 11). Another interviewee from the finance industry said that collaboration is “helpful because at some point it furthers the field and gets you further in achieving sustainability goals” (interview 17). Furthermore, some think that there should be more collaboration between competitors taking place in their industry. With regards to the food industry, one interviewee said that “typically on the collaboration aspect [...] I believe there is still lots to do. [...] In the area I’m more involved in it’s still something that would need to be much more strongly driven with competitors. [...] I think that’s the one element the industry struggles with, is really that element to bring everybody around the table and effectively work together” (interview 8).

Concurrently, some firms feel that sustainability concerns are best tackled single-handedly. Even in the textile industry, in which collaboration often makes a lot of sense, when regulating chemicals, one firm, for example, “decided to develop its own tool to regulate chemicals, to audit the use of chemicals, and to phase out of them” (interview 20). In this case, the firm felt that developing “its own chemical management system is not only very effective, but also very cost efficient” (interview 20). A different firm decided to take an individualized approach because, for this firm, “it is always hard to find an initiative that would fit all [business areas],” and because the firm is seen as “a first mover [...], so [...] it also wants to kind of maintain this alone, this position, and maybe [managers] feel like [the firm] would be weakened if they would join big initiatives instead of doing their own” (interview 22). In a similar vein, another interviewee pointed out that “still there are companies that say that they need their stamp and it needs to be their program” (interview 9). Furthermore, one interviewee pointed out that sometimes it is a matter of financial health, as

when “you have the water at your neck and you’re just in survival mode then you go into kind of a different way of working. But let’s say in a perfect world where your business case works out, and you have the means to really change, you would [collaborate], and this is what companies are doing” (interview 8).

Collaboration typology

Existing literature acknowledges that collaborations between competitors can take place via a range of entities such as professional societies, trade associations, and standard-setting bodies. These can provide coordination means for knowledge-sharing, the creation of a common view, and the creation of various outputs. The existence of an entity through which collaboration takes place facilitates the interaction between firms, and the generation of collective goods when knowledge is fragmented and firms face shared problems (Rosenkopf et al., 2001).

Existing typologies of collaborations with competitors classify relationships between firms according to the balance of competitive vs. collaborative efforts in a relationship, the degree to which the relationship is determined by other actors in a network, and the understanding of whether firms are in direct/indirect competition or partners in competition (Walley, 2007). Several typologies of multi-stakeholder sustainability initiatives have been suggested. One points to the variation in the issues addressed, the processes that are standardized (e.g. accounting, auditing, reporting), and finally, to the specificity of the norms (Gilbert and Rasche, 2008). Another typology focuses on the differences in form (participatory make-up and governance structure), scope (reach in terms of product, industry, geography), and the functions performed (fostering dialogue, standard creation and enforcement, certification) (Baumann-Pauly et al., 2017). A final typology considers the variation in the strength of the initiatives’ soft law functions (Moog et al., 2015). Based on

conducted interviews as well as an online search of various relevant initiatives' websites, this section highlights a number of factors that were found to be important in distinguishing between different types of multi-stakeholder sustainability initiatives. These factors are:

- *Leadership*: Whether the initiative led by the industry or by a third party.
- *Formalization level*: Whether the initiative is formal or informal, and/or whether membership fees are required or not.
- *Collaborative entity's role*: Whether the interaction between competitors is for the most part based on direct, unassisted interaction, or whether the collaborative entity has an important buffering role facilitating the interaction between competitors.
- *Stakeholder breadth*: Whether the initiative includes firm peers only, or also other types of stakeholders.
- *Industry/sector breadth*: Whether the initiative focuses on a single industry/sector or is relevant for a variety of industries/sectors.
- *Geographic breadth*: Whether the initiative is local, regional, or global.

What needs fixing?

Interviews indicate that multi-stakeholder initiatives try to tackle a variety of social and environmental sustainability issues:

- On the social side: Understanding and addressing risks related to human rights, including child labor, forced labor, and worker rights (such as freedom of association), the provision of living wages and food security, worker health and safety, corruption, diversity, as well as supply chain transparency and purchasing practices.
- On the environmental side: The development of sustainable, efficient, effective, and high quality sourcing and production, capacity building of suppliers, improvement of supply

chain traceability, addressing climate change, the reduction of negative impact on the environment (e.g. minimization of deforestation), and food safety and quality.

Issues are often addressed by the collective creation and adoption of common views, frameworks, certification schemes, standards, policies, and the development and sharing of knowledge and best practices.

The segregation between pre-competitive and competitive spaces

“Nobody wants to be making a competitive advantage out of child labor. Or at least they shouldn’t be” (interview 16).

Gulati (1999) has defined a strategic alliance as “any voluntary initiated cooperative agreement between firms that involves exchange, sharing, or co-development, and it can include contributions by partners of capital, technology, or firm-specific assets”. This definition holds in the case of multi-stakeholder sustainability initiatives. However, it is important to keep in mind that while exchange, sharing, and co-development take place, according to interviewees, the information that is shared is not intended to be of strategic nature, and the outputs of the collaborations are not of strategic nature either.

Firms perceive collaborations with competitors in the sustainability context as addressing more general, non-competitive topics, since “most sustainability topics are precompetitive” (interview 10). There may be a “quiet agreement in the industry that this is a non-competitive area” (interview 8), while competition takes place in different arenas following the implementation of collaboration learnings and outputs, such as product markets. As one interviewee explained, “[firms] find that they can cooperate on sustainability issues without compromising their competition in commercial terms. So, they’re still competitors in commercial terms, but they see that they’re able to share information about ethical issues, [...] safeguarding human rights, worker rights, the environment, and so on,

[...] without compromising their competition on price and quality. This is a different thing” (interview 4).

In a nutshell, it appears that from a firm’s point of view, the logic linking competitive advantage and participation in multi-stakeholder sustainability initiatives is the following: Participating in multi-stakeholder initiatives is part of a firm’s sustainability strategy, and may therefore be deemed a “strategic” decision. However, the information shared as part of the initiatives’ activities is not considered strategic, and the outputs of the initiatives per se are not intended to provide a strategic advantage to the participating firm. Whether a firm participating in an initiative will be able to generate a strategic benefit as a result of its participation, i.e. create or enhance a sustainability-related competitive advantage, depends on its ability to incorporate the knowledge accumulated and outputs produced by collaborative efforts into its ongoing business activities, combining them with the firm’s existing and unique resources in an effort to get an edge over the competition (Gulati, 1999).

In effect, it has been acknowledged that some firms have the ability to change their resources (Newbert, 2007), as well as to create and integrate new resources. Participation in alliances with other firms has the potential to influence a firm’s resource base, as “interconnected firms combine network resources and internal resource endowments to achieve competitive advantage” (Lavie, 2006). Within the framework of multi-stakeholder initiatives, firms add some of their resources to a pool containing other firms’ resources. As collaborations bear fruit, firms may be able to internalize collaboration benefits, assuming that they have the necessary capabilities to do so, into their idiosyncratic business models in an attempt to generate some unique resources.

Therefore, firms can benefit from collaborative efforts if they are able to integrate knowledge accrued via initiative participation into the firm, and implement newly generated

or acquired know-how towards the creation of a more sustainable firm. Participation can facilitate the generation of a competitive advantage in the medium to long term, while preventing detrimental outcomes that could result due to lack of action. Indeed, “when collaborating, all companies get the same algorithm, but then each company’s management system is distinct. [...] Each company is unique and needs to integrate the algorithm into its own system. [...] [The algorithm] may or may not work” (interview 1), so “not all competitors are going to benefit in the same way, not take advantage of the outcomes in the same way” (interview 10).

Hence, “the competitive advantage that [firms] then take away would be how they’re going to implement [collaboration outputs] internally, and what kind of benefit they can have [...] out of implementing them internally. [...] That really depends on how well you execute, and that’s up to you. [...] And then the other thing is how you market it, and the marketing depends as well on how well you’ve executed” (interview 16). This echoes existing literature suggesting that a firm’s internal capabilities are key for the management of its sustainability performance, and that firms need to have the appropriate internal capabilities to be able to fulfil the requirements of the initiatives that they are a part of (Simpson, Power, and Klassen, 2012).

In order to be able to implement collaboration outputs, employees involved in collaborations need to have “the right skills and enough time”, and be “trustworthy and [able to] build trust, [...] look for win-win not just winning everything for themselves, [...] [and be] systems thinkers”. Therefore, “to get the most out of [the collaboration] you have to first of all a) invest in a person to participate and b) actually do something with the information [...] and actually put in place changes” (interview 16). This line of reasoning highlights the

fact that different firms may have different capabilities such that firm participation benefits are likely to be unique to each firm.

Collaboration risks

As with almost any collaboration, while parties enter a collaboration expecting it to generate some benefits for them, there can also be some downsides. The interviews conducted point to a number of potential downsides to collaborations with competitors. First, it was emphasized that “collaboration is hard. I think it seems like sort of this easy way out [...] but, to make them done effectively, it is actually very challenging, because you have a bunch of different companies, different cultures, different legal challenges, different timelines, etc. etc., and that just adds more complexity to it. So I think that collaboration is wonderful, but it shouldn’t be thought of as just like taking [...] the easy way out” (interview 26).

An additional downside that arises sometimes is the need for firms to share more information than they would have liked to, as the level of transparency required by some initiatives may be relatively high. Sometimes, firms are “a bit afraid that they will expose themselves. So that will lead to more attention on them so they will not keep being under the radar, so that maybe campaign organizations or the media and so on will put more focus on them because they get more transparent. So that is definitely one worry” (interview 4).

Firms may also find that in some cases they have wasted time, effort, and money participating in initiatives from which they are not able to benefit. This may especially be the case in larger initiatives seeing as “the larger the organization, the more likely [time will be wasted] because then people tend to be, can be very superficial, [...] because there are so many around the table, everybody gets five minutes and then it all becomes a very superficial thing. [...] So you don’t necessarily get what, not as much out of it as you would assume” (interview 11).

Finally, while being part of an initiative may provide firms with positive reputational benefits, collaborations may also harm firms' reputations regardless of their individual actions. By participating in initiatives, firms attach their reputation to the reputation of other participants. Hence, "if there's a bad actor in the group it brings down the credibility of the initiative and could bring down the credibility of [the participating firm's] actions" (interview 10). In general, "initiatives are vulnerable to the weakest link in the initiative. Companies in initiatives are exposed to bad reputation because of bad apples in the initiative" (interview 1).

Potential benefits: Underlying reasons for collaborations between competitors

Why is it that, over time, there has been an increase in sustainability-related collaboration efforts made by firms, with firms often participating in multiple collaborations? Why is it that firms of all sizes, including some of the largest firms in the world, operating in a range of industries, spend some of the limited tangible and intangible resources that stand-alone firms have at their disposal (Barney, 1991) on sustainability initiatives alongside some of their competitors?

As a starting point, it is necessary to acknowledge the nature of sustainability issues. In light of the complexity, breadth, and systemic nature of sustainability issues, it is often the case that a single firm cannot solve some of the issues on its own, despite having considerable (yet still limited) resources. For instance, "Unilever has a ton of commitment. They've got a big focus on sustainability. It's a big part of their overall corporate strategy, individual brand strategies, and they are collaborating all over the place in order to really drive systemic change because they know that, as big as Unilever is, if they're not moving the industry, they're not actually creating the change" (interview 10). Therefore, firms "need to be a part of a collaboration in order to have sort of the impact and leverage" (interview 10). Some firms acknowledge that sometimes "there's a complex topic that you can't resolve on

your own. You know you can't. You don't have the answer on your own. You need to work with others" (interview 11). Working together is "a way to understand together which are the challenges and problems that we have as a whole industry" (interview 19). Either way, "sustainability is a shared responsibility" (interview 12), and "when you're talking about that in an industry you generally want to reach a broad part of the industry. You don't hope to be able to shift sustainability issues by doing something with five companies" (interview 16).

In the sustainability context, firms need to be able to work together with their competitors as they strive to solve similar problems. Collaborative initiatives can help the industry improve as a whole, as suggested by one of the interviewees who said that "the direction [that firms] spend money in through the [initiative] is for the broader benefit of the sector" (interview 12). From a more individualistic standpoint, from the interviews it transpires that, often, sustainability challenges may be new to firms. They therefore look for other firms facing similar issues to help them enhance their understanding of the issues at hand, to generate and absorb relevant knowledge, and to share best practices. Firms can enhance their legitimacy and reputation in the eyes of various stakeholders, as the initiatives can "provide legitimacy to what [firms] are doing themselves" (interview 14). Firms may also learn how to more efficiently and effectively use their resources and "actually mitigate their [...] operational supply chain risks" (interview 12). As one interviewee put it, "the smallest certainly benefit from joining forces because alone they are too small and they don't have the time or experience in learning about sustainability [...] so for them it's very much practical motivation to get someone to help them. And so the big ones [...] the initial motivation is to find a way to learn from peers, improve their own systems because they may have already something in place but they would like to hear from others [...] where and how they could improve whatever they have, and eventually through that process what we see

now is companies that have been for many years working with their own systems and without sharing or collaborating with others, they realize that the impact they may have and the credibility of their approach will be higher if they belong to an association or an initiative” (interview 18).

As a result of the nature of sustainability issues (i.e. their complexity, breadth, and systemic presence) and there being common concerns among firms, some firms choose to collaborate in order to level the playing field. By doing so, such firms “share the burden” so that they would not be the only ones investing resources into tackling certain issues and taking related risks. Firms may prefer to share both collaboration costs and benefits with competitors. This was the case with Dell, which “had requirements for its suppliers and nobody else did. Dell would have to bear the cost of that, they would be doing all of the auditing, they would be taking all of the risk, putting themselves out there, and yet their suppliers also supply other companies, so other companies would get the benefit without having to do any of the work” (interview 10). At the same time, this enables firms to diverge the resources that they would have used towards an attempt at an individual resolution of issues – now addressed by collaborative efforts – towards other activities.

By leveling the playing field, participating firms are “creating the same perspective, so they’re all able to share their view on how certain problems should be solved” (interview 15). By doing so, firms can “make sure that there’s a standard. That things are comparable. That people, clients, investors, stakeholders, understand what [firms] are doing” (interview 17). Sometimes, firms want “to make sure that the standards, the requirements, don’t get too high. [...] Because if you have a sustainability strategy and then suddenly the standards [in the industry] are much lower, then you kind of lose negotiation power with other companies or other suppliers” (interview 22).

Given the resulting situation in which multiple firms gain access to knowledge and tools to help them address sustainability concerns, some firms, while they may not be willing or able to lead collaborative initiatives, and may not even want to be a very active member of such efforts, can feel compelled to join because “if something goes wrong, companies can say they did what others did. It keeps companies from being the slow gazelle in the herd” (interview 1). In such cases, firms are sometimes “just following along because they don’t want to be left behind, and so they’re just doing the minimum” (interview 16). They are “just positioning themselves as keeping up to date with what the group is up to and just making sure, keeping tabs as it were” (interview 15). Therefore, sometimes, “you see what the competitor is doing so you want to mimic them so you don’t get behind. [...] It could be seen as getting on the bandwagon - I don’t want to be left behind and accused that I’m not doing anything” (interview 23).

The ability of firms to “share the burden”, their willingness to level the playing field, and the resulting need for some firms to join just so that they would not stay behind, are indicative of a key element in firms’ motivation to collaborate with their competitors – interdependency. This interdependency is perceived when looking at the firms’ stakeholder networks. It is also seen in some cases when considering the external resources used by firms. It is therefore paramount to view the firm as part of a world encompassing itself, its stakeholders including its competitors, its competitors’ stakeholders, and a limited amount of external resources. Links are found between firms and their stakeholders, but importantly, between stakeholders of different competing firms, and between individual stakeholders and multiple competing firms (see Figure 1 for a simplified illustration). Any potentially already existing links between competitors are interestingly not addressed in this paper, as these did

not emerge as important elements to consider in firms' collaboration reasoning based on the data analysis conducted.

[Insert Figure 1 about here]

As previously mentioned, often firms do not only face similar issues, they also share stakeholders, and hence the very same stakeholder-related issues. The stakeholder theory acknowledges that firms are accountable not only to their shareholders, but to a wide range of stakeholders. Stakeholders are “groups and individuals who have a stake in the success or failure of a business”. It has been argued that sustainability requires a “mechanism for balancing stakeholders' interests” (Freeman et al., 2010).

The stakeholder theory suggests that in order to succeed a firm needs to be able to manage its relationships with multiple stakeholders (Van Beurden and Gössling, 2008). Existing studies often perceive individual firms and their stakeholders in isolation to other firms and their stakeholders, and the unit of analysis is often the relationship between the firm and its stakeholders (Hörisch, Freeman, and Schaltegger, 2014).

This paper draws attention to the importance of the indirect relationships between competitors - their connections through their stakeholders. The view should therefore be expanded from a focus on a single firm and its stakeholders to seeing a broader picture including the links between individual stakeholders and multiple firms, and the dependencies of different firms' stakeholders on each other. The expanded view of the relationships between firms and their stakeholders, and between the stakeholders themselves, raises effectiveness, efficiency, and market growth arguments in favor of collaboration, as competitors join together to collectively influence stakeholders. When multiple firms work with the same stakeholders, having a common language and expectations can save firm as well as stakeholder resources including time, effort, and money. A common language

enhances the comprehension of firms and stakeholders, facilitating firm interaction with stakeholders such as suppliers, customers, and regulatory bodies.

The interview data provides multiple examples describing the dependency of stakeholders of different firms on each other, and firms' sharing of stakeholders. In order to illustrate the dependency of different firms' stakeholders on each other, one may recall the Rana Plaza building collapse in Bangladesh in 2013. In this case, a single building hosted multiple textile industry suppliers, with different suppliers working for different firms. Following the building's collapse firms realized that they needed to act together in order to make sure that the buildings in which their suppliers are located are safe. An individual firm could not single-handedly improve the safety of its own suppliers as other firms needed to also agree to take action to ameliorate their suppliers' safety, and make the entire building safe (interview 1).

Additionally, firms may share suppliers, customers, and be under the same regulatory authority. A single supplier usually works with multiple firms. In the textile industry, "a group of brands is more likely to cooperate as they have also very similar sourcing strategies" (interview 14), "so they have quite some overlap in factories where they have their products made. So they can [...] create more leverage to work on change" (interview 14). This industry in particular "is so fragmented [...]. Several factories have maybe 20 or 30 customers. [...] It's very often seen that brands have only a two or three percent share of the production volume at the factory location. Then it's difficult to really have an impact, and it's really necessary to cooperate also with other brands" (interview 14). According to one interviewee, "if we wanted to go with our own standards, we wouldn't have any chance that the supplier would accept it, or would agree to pay for it because he would just kick us out" (interview 22).

In the food industry, collaborations can help firms “raise the average level [of the sustainability] of the supply chain, and in this way [...] improve suppliers also of other companies that are not able to develop such big projects as the one we have developed” (interview 19). As in the textile industry, “many of the big players in the market have the same suppliers. So supplier A is supplying Unilever, supplying Kraft, supplying us, and everybody from us to Kraft to Unilever have different requirements from the suppliers, [...] making the life of these suppliers much more difficult because adhering to all these different yet very similar requirements takes a lot of time and effort which could be used otherwise” (interview 8). Sometimes, firms only need part of the produce (e.g. only a specific part of an animal, or only a certain amount of a particular grain). Hence, collaboration is needed “in order to set up an economic system that works. For that we need to have retail partners, competitors, and everyone at the table” (interview 9).

In other cases, multiple firms may cater to the same customers, as in the finance industry, where multiple banks may participate in a single loan. As one interviewee explained, “the reason why banks collaborate is because oftentimes financing is a collaborative thing. Very few banks do deals on their own, right? So oftentimes we are going in on the same deals that other banks are going in on” (interview 17). Another interviewee emphasized: “I think that banks like to make sure that when they work together, it’s not that one bank requires more rather than another, so [...] I think that there is a lot of collaboration to make sure that we are pushing clients, all, everyone to do the same thing” (interview 21).

In addition, multiple firms are also likely to be required to comply with the same regulations, as they address both “soft” (e.g. UN regulations) and “hard” requirements (e.g. country laws) (interview 18). Hence, firms may get together to understand how to address

new regulations, as well as to signal that they are trying to resolve certain issues in an effort to prevent future regulation, as is the case in the finance and textile industries.

Interdependency among competing firms also exists in relation to available external resources. Discussions of tragedy of the commons arguments underscore the limited amount of external resources available for firm use. In effect, many firms are dependent on the same limited resources provided by the earth. These resources are not only limited at any given point in time, their availability is also changing due to external factors, such as climate change. Other resources, such as qualified labor, are also expected to be in short supply in some cases. This may be because the demand for a certain input is growing while the quantity of qualified labor is not, and/or because qualified labor no longer finds the provision of the input profitable and moves away from it towards other sources of income. These issues were highlighted by one of the interviewees who said that “especially in supply chain sustainability, we talk about assured supply, which is to have food in the future. To make sure we always have food to serve people in the restaurants. And it’s hard, I think, for people to grasp, but what we talk about is that if we do not address some of these things like draught, and climate change, and farmers leaving farming, which is a big issue, we won’t have food to serve our customers” (interview 9).

The commons theory acknowledges that when multiple actors use a shared resource system without regard for the use and needs of other actors, the actors’ individual use of the resources can result in the depletion of the resources. This creates a situation in which individual actor behavior can have a negative impact on the common good of all actors. In such situations, any and all actors may be harmed, as access to valuable resources may become very limited or even impossible. As one interviewee said, “we don’t have much time to guarantee the sustainability of our value chains. Otherwise tomorrow we won’t be able to

produce stuff anymore” (interview 19). This reality was seconded by another interviewee who said that “we as a company are completely dependent on agriculture, so it would only be smart to be a partner, to be a driver at the support of sustainable agriculture because long term, I’m talking 25, 50, 100 years, long term we know that we are going to have, for certain crucial commodities, we’re going to run into issues [...] There is a very intrinsic interest long term. [...] Otherwise, the other way you’re out of business because you don’t have the input materials. So that’s very straightforward. [...] Otherwise the industry is out of business” (interview 8).

Today it is understood that there are multiple ways of governing the commons successfully (Ostrom, 1990). Commons problems exist on a variety of scales, and it has been suggested that different individuals will react and behave differently when faced with such problems (Ostrom, 2009). Similarly, different firms may react differently to commons-related problems. The fear of resource depletion acts as a driver for firms to collaborate with their competitors to find viable long-term solutions to currently unsustainable management practices of the commons. Hence, firms are driven to collaborate as they acknowledge that if everyone continues to exploit the earth’s resources (and other resources) solely for their own benefit, in the not-so-distant future, these resources will be depleted (or insufficient) to the detriment of all actors. This realization is also propelling some firms to act faster than they otherwise would have, for fear of no longer being able to have a “business case” to make in the future.

Common resource problems can sometimes be solved by voluntary organizations of relevant actors who think together about how to limit the use of resources to ensure their long-term viability and then act accordingly (Ostrom, 1990). Given firms’ often global, complex, and interdependent supply chains, voluntary collaborations are needed in order to

prevent the depletion of resources. The successful governance of common resources should help prevent or limit the over-exploitation and eventual depletion of resources by the relevant actors.

In sum, the two fundamental reasons for competing firms to collaborate in the sustainability context are (i) the complex, broad, and systemic nature of similar sustainability issues faced by firms in a particular industry, and (ii) interdependency between competitors arising from indirect links between them, passing via their other stakeholders (i.e. suppliers, customers, regulatory bodies), and the common use of external limited resources.

Collaborating with their competitors enables firms to drive change by working together to understand the issues, come up with, and implement solutions that lead to more efficient and effective outcomes, market growth, and enhanced firm credibility and reputation. The arguments made and the illustrations provided suggest that collaboration between competitors is an important means for firms to advance their sustainability agendas. The following section discusses firm- and industry-level contextual determinants that can push firms towards or away from collaborating with their competitors.

Key contextual determinants affecting collaboration likelihood

Data analysis points to a number of contextual determinants that are likely to influence firms' decisions to enter collaborations alongside their competitors in the sustainability context.

Some contextual determinants are at the firm level, while others are at the industry level.

Firm-level determinants will be discussed first, followed by industry-level determinants.

Table 2 at the end of this section provides an overview of the findings. In addition to a “general” category, which cuts across industries, Table 2 provides information about the relevance of the various determinants for different industries, namely, the textile/apparel, food and beverages, and the finance industries. The “other” category pertains to data

regarding other industries. In total, 200 references to the various contextual determinants were made in 24 of the interviews conducted.

About size and timing

Small and medium-sized enterprises (SMEs) and large firms have different characteristics that affect the implementation of sustainability practices. While SMEs can more easily implement sustainability practices in core business functions but encounter difficulties in communicating their actions externally, large firms can more easily communicate about sustainability to stakeholders, without necessarily implementing sustainability practices in core business functions (Baumann-Pauly, Wickert, Spence, and Scherer, 2013). Similarly, different sized firms have different incentives to collaborate. Large firms tend to be scrutinized by stakeholders to a larger extent than smaller firms. As suggested, “small companies [under the radar] can do whatever they want and no one cares” (interview 1), while “if you’re a big company and your brand name is well known there definitely is more pressure because you’re a bigger target” (interview 17). Indeed, “[large] size brings benefits but also the elements of you being pushed by many interest groups to really be the lever of action, right? [...] You’re constantly under watch. You know, might be a key opinion leader, might be consumer groups, might be activist groups. I mean, whoever is a clever activist today knows it will be much faster in achieving activist goals if it gets a really big company” (interview 8).

Even though size sometimes speaks to the amount of influence that firms have within their industry, even very large firms understand that it is better to collaborate with their competitors when tackling certain issues. It appears that “bigger companies and more advanced companies are more often collaborating, often because they have solved most of what they can solve on their own and so what’s remaining tends to be the systemic solutions”

(interview 10). For example, “H&M is very big, so probably on their own they could do a lot of things, but still they prefer to unite with other brands and execute together the power on new plants, and leverage on each other’s knowledge, talk to civil society. [...] If like GAP, H&M, and Zara, are doing the same thing, they’re big enough to eventually make that a requirement for doing business in that field” (interview 23). While a large firm can “make a big difference by taking a step, [it] can make an even bigger impact by partnering with [its] competitors to change [its] industry” (interview 17).

Existing literature suggests that SMEs may choose to collaborate when they evolve in environments with weak infrastructure and institutions as this enables them to obtain collective efficiencies (such as collective resource use and joint product innovation) and access to global markets (Mesquita and Lazzarini, 2008). According to interviewees, in the sustainability context, smaller firms can benefit from joining a collaboration because that enables them to “leapfrog [...] rather than starting from scratch on their own” (interview 10), and gain some leverage seeing as “they don’t have the leverage on their own” (interview 10). Smaller firms can also be “quicker to turn around [...] and implement new procedures” (interview 4), as they may be more flexible. In terms of leadership, smaller firms might actually be “doing far more innovative things. [...] Small guys can move more quickly, take on more. If you look in the apparel sector, Patagonia is much nimbler and can do some more interesting things and sort of spearheaded the Sustainable Apparel Coalition” (interview 16). However, in general, it is the larger firms that seem to be taking initiative leadership, as “you tend to see the larger market players be the ones who are more exposed so they would take more of the lead than the small guys” (interview 16).

Therefore, both smaller and larger firms have incentives to join multi-stakeholder initiatives with competitors. These incentives may differ according to size. An important

point, however, is that the timing of joining an initiative is likely to be different for smaller and larger firms (although there are always exceptions). While larger firms are more likely to join initiatives in their early stages, acting as leaders or first joiners as they seek to benefit from a reputational perspective or from an enhanced ability to influence outputs, the benefits relevant for smaller firms often only appear at later stages. Smaller firms can often benefit once the collaboration has generated some outputs such as best practices or standards to be followed or implemented.

The effects of size and timing were mainly raised by sustainability professionals working in initiatives and who are exposed to many different industries and companies (henceforth referred to as experts), giving them a broad overview of how this particular determinant might affect collaboration likelihood. Their perspective includes insights that sustainability professionals working in individual firms may not have. In light of the above, this determinant is not considered industry specific. It is relevant for the various industries examined.

Supply chain awareness

The supply chains of many firms today are very intricate and span across multiple locations and geographies. In reality, many firms are not aware of the different parts of their supply chain. One interviewee recounted: “Most companies [...] have limited understanding of all the links in their supply chain. So we do engage with companies that don’t have good understanding. Sometimes we have to map their supply chain” (interview 13). Not only are firms not aware of the different elements in their supply chain, they sometimes do not realize that they should learn about their supply chain, as “until very recently [firms] thought that the only thing they need to be worried about is the direct suppliers, and little by little they realize

that there are many other direct and indirect links that they need to watch out for” (interview 18).

By joining multi-stakeholder initiatives, firms can learn how to “map the supply chain and then learn on how to deal with issues [...] How do I react in a way that I am responsible and that is also respecting the person but also for my own company” (interview 18). For example, in the textile industry, “the supply chain is really not transparent. So the problem is that we have direct contracts with our suppliers, but the supplier so many times is just an agency or just a person that then outsources all the contracts, all the orders, and then you already lose control of who he is sourcing it out to. [...] So it’s really easy to just completely lose control over the supply chain. [...] In working together there is a much better way to somehow get more transparency also into the supply chain and get back the control” (interview 22). By collaborating, firms “gain knowledge about their supply chain, and get an understanding of it. [...] Also as a result, they start thinking more strategically about their supply chain” (interview 23).

While “usually [firms] think the conditions [in the supply chain] are better than they actually are” (interview 4), a need to better understand their supply chain can arise when stakeholders put pressure on firms via “a media exposé” (interview 4). “The [firms] that do engage often it’s [...] especially if they are in a sector where there has been a lot of focus on this, [...] it’s written about in the media from time to time. So in those sectors they would be more aware than many other sectors” (interview 4), even though they still “tend not to agree too much” (interview 4) about the conditions. Sometimes the pressure is anticipated by firms, as was the case with cotton, where firms may have “anticipated that eventually they will be under pressure, that cotton will be the next thing, so they tried to take measures in advance. And indeed, actually in the past year, last year, there are some experts who started looking

into that” (interview 23). Once firms become aware of the need to better understand their supply chain, they can join multi-stakeholder initiatives and work with competitors (directly or indirectly) in order to learn about and work on improving sustainability along their supply chain. While most of the examples provided refer to goods providers, service providers also have supply chains to take into consideration. As one interviewee said, “in 2015, we’ve spent over nine billion USD on suppliers and vendors” (interview 11).

An assessment of the interviews shows that references made to supply chain awareness (or lack thereof) were made by experts, indicating that supply chain awareness is a general concern, while it also seems to be of particular concern in the textile/apparel industry.

Common customers and growing pies

Another contextual determinant, raised by the financial sector, is the extent to which firms share customers. As previously illustrated, at the end of the day, “all banks want to go after business. The reason why banks collaborate is because oftentimes financing is a collaborative thing. Very few banks do deals on their own” (interview 17). By setting industry standards together with competitors, banks “make sure that [they] are pushing clients, all, everyone to do the same thing” (interview 21), and that helps to “develop a whole marketplace” (interview 17).

When individual customers’ needs require multiple competing firms to work together on the same project, good communication among participants greatly facilitates the work. It is more efficient and effective for firms to present a united front. A common language can be created in the form of an agreed upon standard that competing firms agree to, and maybe even help develop. In order to create the standard, which may be especially needed when a product category is at its infancy, the firms need to collaborate with each other to first create a common view and understanding of the product category, and then eventually a standard

that customers can refer to. The clarification of the product category can enhance customer confidence, attract customers, and help grow the market for that product category, to the benefit of all firms offering this type of product.

In the data analyzed, all references to shared customers were made by professionals from the finance industry. This determinant is therefore industry specific and applicable in the case of finance.

Competitive intensity

One firm-level determinant that can actually drive firms away from participating in collaborations is the firm's perception of the competitive intensity in the industry. Research on managerial cognition shows that CEOs from the same industry that evolve in the same environment may have different perceptions of industry trends and levels of uncertainty (Sund, 2013). Similarly, managers in different firms from the same industry may perceive different levels of competitive tension or intensity. Research focusing on technological environments, name actual (not perceived) competitive intensity as a determinant of firm collaboration likelihood (Ang, 2008; Sakakibara, 2002).

When the competitive tension is perceived as being high, managers may be more susceptible to psychological barriers, such as increased levels of difficulty to cede control. These barriers can prevent firms from collaborating with their competitors, even if the information shared within the framework of the collaborations is expected to be non-strategic (or pre-competitive). Indeed, it may be "difficult to imagine sitting with the people that you battle so hardly and brutally every day in the commercial side, and at the end of the day you sit together and you strategize how to ensure, let's say, the most sustainable basis for everyone in the world" (interview 8). Therefore, when "the competitive dynamic is much

more pronounced [...] companies will only go so far [...]. Certainly because they're fierce competitors outside [of the collaboration] that certainly doesn't go away" (interview 13).

The issue of perceived competitive intensity has only rarely been referred to in the interviews. Once by an interviewee who is an expert, and once by an interviewee who works for the food and beverages industry. Nevertheless, this determinant seems attention-worthy. This is because it may potentially be an important barrier to collaborations between competitors in the sustainability context, which could help explain why there are different levels of collaborations within and across industries.

Antitrust apprehension

Collaborations between competitors may lead to anticompetitive collusion on the part of participating firms (Walley, 2007). Collaboration risks include the potential oversharing of information, which is related to possible stakeholder suspicion that firms may be colluding. Antitrust law is meant to regulate anti-competitive firm behavior, preventing the collusion of competing firms on matters such as price. According to interviewees, when firms collaborate on sustainability issues they should not be in violation of antitrust laws given the pre-competitive nature of the topics discussed. Nevertheless, firms that evolve in environments in which their participation in sustainability initiatives may be perceived as a possible act of collusion, may "have concerns about antitrust" (interview 1). Firms may refrain from participating in collaborations for fear of negative repercussions from stakeholders who may mistakenly perceive firm participation in an initiative as an act of participation in collusive activities.

Indeed, "antitrust considerations [are] certainly something that companies need to be aware of, and [they need to] be careful not to cross the line of antitrust collusion" (interview 13). Often, members "sign the antitrust agreement, that kind of means that [...] these

competitive elements cannot be talked about and it's all, you know, it's purely a non-competitive environment" (interview 12). Before becoming a member of an initiative, firms may "need to go internally through a long process of internal stakeholder engagement" (interview 21) related to antitrust, as "the anti-competitive law is one of the first things that you have to check" (interview 21). In one case, an interviewee recounted the early stages of a collaboration where "the companies had to sign in the beginning that they would not form a cartel. [...] Everybody had the legal department set up something to make sure that what we are discussing here is not like price fixing. [...] But as soon as this would be in the media, that [all these companies] are meeting, that would also raise a lot of questions. So maybe that's also something that is not quite clear yet that it's not price fixing or that this is not a cartel" (interview 22). Therefore, the extent to which a firm is reluctant to take the risk that collaborative activities will be perceived as representing a breach of antitrust laws can affect its willingness to collaborate.

In the data, references to antitrust concerns were made by a range of interviewees. Three of the interviewees are experts, and the others represent all three industries – the textile/apparel, food and beverages, and finance industries. On the whole, antitrust considerations seem to be of concern across industries.

Regulating sustainability

In addition to firm-level determinants, the data unveil industry-level determinants that can affect the likelihood of firm collaboration with competitors. One such determinant is sustainability-related regulation, be it the extent to which an industry is already regulated or industry expectations of future regulation. Firms are expected to comply with regulation imposed by external stakeholders such as governments. The need to comply with existing regulation and the willingness to preempt further regulatory burdens are common to the

various firms in an industry. As indicated, “sustainability-linked topics [...] have more and more become a regulatory topic so there is standardization when the regulator is more sensitive to the topic. [...] [Companies] try to understand how they can anticipate these legal requirements” (interview 6). Some companies perceive “an ever-growing expectation, quite understandably, that if business understands or accepts that there are certain challenges then it should also act upon those challenges. [...] You could say that rather than waiting for regulation, you basically act on the particular topic” (interview 11). Hence, sometimes “voluntary collaborations are a way to preempt regulation” (interview 10), as firms prefer to “start acting instead of waiting for bigger requirements” (interview 6). This is in line with existing literature suggesting that firms may collaborate in an attempt to manage risk and avert regulatory or stakeholder action (Austin and Reficco, 2005; King et al., 2012).

Sometimes the push towards firm collaboration comes from governmental bodies. For example, in the apparel industry “there are initiatives promoted by the European Union [...] that you cannot avoid to be involved with because the outcomes will probably become laws that you will need to follow in the future. So it’s better to be part of this kind of initiative to influence them from the inside” (interview 20).

Since firms are working on similar issues, once regulation is in place, they can collaborate to understand how different firms are “going about implementation to kind of share best practices” (interview 17). This is especially important given the “great and very rapid changes in the way sustainability was dealt with, let’s say ten years ago and how it’s dealt with now. [...] Ten years ago it was not whatsoever related to laws and now it’s getting more and more into soft laws and hard laws getting issued in different countries. So sharing knowledge about how to deal with those requirements is one of those things” (interview 18). Even when trying to understand broad guidelines, such as the UN Guiding Principles, firms

may turn to their competitors to “try to understand, because [the principles] are not specific to sectors like other standards, and they cover both the regulation and the voluntary side” (interview 6).

Given the costs involved in understanding and implementing new regulation, it can be more efficient for firms to join their efforts to understand and agree on how to address regulatory constraints already in place. Concurrently, if firms work together to preempt future regulation by showing that they are taking action, they can avoid being dictated how to address sustainability concerns, or at the very least influence future requirements, even if they do become anchored in governmental regulations.

The extent and expectation of industry sustainability-related regulation seems to be a general concern as it was mentioned by two of the experts, as well as interviewees from the finance and the textile industries.

Firm influence over suppliers

Different industries have different structures. They can be more or less concentrated, and have many or few suppliers. The supply chains themselves may be more or less complex, and include few or many different steps until the final product is ready. Firms that want to improve sustainability along their supply chain, may find that they are unable to do so without collaborating with some of their competitors. The need to collaborate with others stems from the lack of influence that single firms often have on their individual suppliers. By collaborating, firms increase their influence over their suppliers. Collaborations can be useful when (i) suppliers are co-located, and (ii) suppliers cater to an array of customers with different sustainability-related requirements. Furthermore, the need to improve sustainability along the supply chain to begin with likely depends on whether the part of the supply chain to

be improved is located in developed or developing countries. These conditions are elaborated upon next.

Supplier co-location may refer to suppliers being co-located in the same building, as is the case in the textile industry and illustrated by the Rana Plaza collapse example provided earlier. When suppliers are co-located in the same building, a single firm may find it very difficult to make a difference. If a firm wishes to improve the working conditions of its suppliers, but these suppliers work in the same building as a number of other suppliers that have different customers, the firm on its own may not be able to improve the working conditions sufficiently as some changes would need to be made to the building as a whole. For firms, “in working together there is a much better way to somehow get more transparency also into the supply chain and get back the control over where you’re actually producing, because companies are so scared that something like Rana Plaza will happen again” (interview 22).

Supplier co-location can also refer to suppliers being located in the same geographic region, if the actions of individual suppliers affect the ability of other suppliers to provide adequate working conditions (by causing pollution, for example), or even their incentive to improve their employees’ conditions. One interviewee explained that “you have to build [the suppliers’] capacity sometimes because they might not even know what protective equipment should look like, or realize that they have been taking passports from workers. They don’t even realize that that’s not legal. But when you are kind of like in the rural areas of Honduras or Nicaragua or Thailand or India, I mean you’d be surprised. There’s very little consideration given to a lot of things. So, what happens when [the companies] are able to collaborate, they are able to leverage their influence and make a greater impact in the industry itself” (interview 25). According to another interviewee, some “production areas are

horrifying, it's really bad for the people working. So you could imagine people killing themselves, or their children die because they get water in a pesticide bottle. So really some of the conditions are so bad that even the smallest improvement gets big results" (interview 23). Under such circumstances, it is the firm's dependency on others' cooperation that drives firms towards collaboration. A lack of effort on behalf of competitors to improve conditions along their supply chain can affect the supply chain conditions of a focal firm.

Through collaborations, firms can work together to better understand how to approach suppliers and come up with streamlined, coherent requirements for suppliers to follow, creating a minimal benchmark (e.g. standard) to try to improve overall sustainability levels. For example, one of the initiatives hopes "to push the sector out of this era of the last ten years where every company and every government is doing their own thing, thinking that they're doing the right thing" (interview 12). By collaborating, firms can more easily and consistently communicate with suppliers, while exercising stronger influence on them than otherwise given the generation of collective demands.

Moving on to the second point, when firms work with suppliers for whom the firm represents a small portion of the suppliers' output, it may prove difficult for the individual firms to make sustainability-related requests from said suppliers. As previously mentioned, sometimes "the way the whole industry is structured creates a need for cooperation. [...]. Because [the textile] sector sometimes is so fragmented [...] several factories have maybe 20 or 30 customers" (interview 14). A focal firm's individual efforts to improve supplier conditions are likely to be insufficient in such cases, as firms may "really have a hard time with low volumes to even have control over the suppliers" (interview 22), creating the need for firms to "really join up against the supplier together" (interview 22). If a sustainability mindset is not advocated by additional customers, non-sustainable conditions may persist.

By working together, firms that work with the same suppliers can use their collective power to influence the suppliers. If several firms which, individually, represent a small portion of the suppliers' output, approach suppliers as a group representing a larger share of the output with clear, agreed upon requirements instead of having each firm come up with its own requirements for suppliers, the suppliers are more likely to pay attention to the requests and make the necessary adjustments. Collectively, firms can exercise stronger influence, which individually they do not have.

The need for firms to collaborate to strengthen their influence over suppliers can arise when supply chains are fragmented as well as when they are more consolidated. When the supply chain is fragmented, "one good aspect of such [collaborative] initiatives is that they raise the commitment and trust within the supply chain in a way. You see that this supplier could provide you with a better, more sustainable material, and as a result they might go up in your rank of suppliers and eventually you get a stronger relationship" (interview 23). Sometimes, parts of the supply chain can be consolidated, such that "there are certain big companies that it seems everyone is sourcing from. [...] And so those are ones where you just know that if you are a big importer or user of [this commodity], it's probably going to be coming from one, two, three, four, five or all of these sourcing origins" (interview 25). In an even more extreme case, one interviewee said that their firm has "two major suppliers, [...], and I think that basically those are the two main suppliers for most of the companies" (interview 7). In these cases, even though the firms may only be working directly with a small number of suppliers, indirectly they are likely to be sourcing from an extensive array of suppliers through their direct suppliers since the direct suppliers "may be sourcing from millions and millions of [suppliers] but at the higher levels it's quite consolidated" (interview 9).

Firms (and their suppliers) can become more efficient and effective if they work together in order to agree on certain ways of undertaking some activities, be it using standards, or by aligning training needs and provision to avoid supplier confusion, and inefficient time, effort, and money-consuming work processes. In this way, at the individual level, firms can benefit from improved communication flow and a more efficient, effective, and sustainable supply chain.

When thinking about the importance of firm influence over suppliers for the enhancement of sustainability along the supply chain, as previously suggested, it is important to keep in mind the geographic location of suppliers. Very large firms may have “global exposure, [with presence] in over 50 countries of this planet” (interview 11) and, even when spreading across fewer countries, employ many small suppliers. As described by one interviewee: “On the farming side, we source from 450,000 farms in 30 countries, and within that there are 2.5 million workers in that supply chain” (interview 7). Either way, supply chains are often “not local anymore” (interview 9), and “every country has been different. You know, Europe I would say has a lot more visibility to the farm level than other parts of the world right now” (interview 9). Given the different conditions in different countries, some firms “on purpose might have a policy that they choose to source in lower-risk countries. And then there’s of course less of a need to invest in changes” (interview 14). One firm said that they are “working only with companies that are in OECD countries or the US” (interview 2).

The extent to which the supply chain is located in developing as opposed to developed countries may be indicative of the conditions along the supply chain. Parts of the supply chain that are located in developing countries may require more improvement and hence the firm’s attention and efforts, leading to a more pertinent need for firms to collaborate. As one interviewee explained, “if you work in this field you know that in low

cost countries, developing countries, the standard is that, [...] you know that you have a lot of health and safety issues, you know that you have a lot of issues with respect to freedom of association, you have some discrimination issues, you have, there tend to be quite a lot of informal systems so things not as properly documented in terms of payment and working hours. A lot of things like that, which may come as a surprise to many, but that is actually the way things are normally done” (interview 4).

Supply chain issues seem to be of concern across the board as far as goods-producing firms are concerned, as they were mentioned often and by both experts and professionals from the textile/apparel and food industries.

A side note about stigmatized industries

Industry stigma came up as a central determinant in the interview conducted with a sustainability professional working for a prominent tobacco firm. It transpires that sometimes firms find it very difficult to collaborate with stakeholders other than their competitors, because other stakeholders “do not want to be associated” with them (interview 7).

Organizational stigma has been defined as “a label that evokes a collective stakeholder group-specific perception that an organization possesses a fundamental, deep-seated flaw that deindividuates and discredits the organization”. As a result, it has been suggested that organizational stigma will have a negative impact on stakeholder interaction with a stigmatized organization (Devers, Dewett, Mishina, and Belsito, 2009). It is argued that this definition could be extended to and applied at the industry level, such that firms in a stigmatized industry would incur a lack of willingness on the part of external stakeholders and other firms that are not in the same industry to collaborate with them.

Stakeholders, and more specifically firms, external to a stigmatized industry may fear that their reputation would be tarnished if they work with stigmatized firms (interview 8).

Stakeholders may even be dissuaded from collaborating with stigmatized firms by inter-governmental bodies such as the UN, even though firms in the stigmatized industry could “have more impact if other stakeholders helped [them]” (interview 7). Whereas by being part of non-stigmatized industries firms can reach out to and try to collaborate with non-competitors in an effort to address sustainability issues, the default solution for stigmatized industries is to work with their competitors. As the interviewee from the tobacco industry said, “sometimes we don’t get the recognition because if [other stakeholders] do recognize [our] company then it does create a lot of difficulties. [...] It has always been so difficult for us to work with other stakeholders” (interview 7). As firms in stigmatized industries cannot count on external stakeholder and firm collaboration to help them find and advance solutions to address sustainability-related concerns, they are likely to turn to and collaborate with each other.

Even though only one interview was conducted with a stigmatized industry representative, the information provided in this interview raises interesting relevant insights about stigmatized industries. The tobacco industry is an example of a large yet often poorly-regarded industry, in this case due to the negative addictive and health effects its products cause, but it is not the only large and stigmatized industry. Additional industries include the arms and gambling industries.

[Insert Table 2 about here]

Combinations of contextual determinants

Having uncovered the various firm- and industry-level determinants using a qualitative analysis of the data, some of the findings were converted into quantitative data in order to perform a QCA to check whether and how the different contextual determinants combine together. In this section, the contextual determinants that appear in a configuration as having

been mentioned in interviews will be mentioned explicitly, as well as any determinants that were dropped from the final configuration. Those that are not explicitly mentioned are those that are part of the configuration but were not mentioned in interviews. Additionally, while the determinant firm size is part of the analysis, the mere mention of firm size only indicates that interviewees are aware that firm size might matter under different circumstances, but it does not indicate that larger or smaller firms are more or less likely to participate in initiatives. Finally, it may be noted that, as per interview data, the presence of the determinants perceived level of competition and antitrust apprehension, unlike the presence of the remaining determinants, is expected to be indicative of a lower participation likelihood.

As previously explained, in order to generate insights using QCA, different samples of the data were analyzed. For every sample, the total number of configurations was found, followed by the visual inspection of the coincidence score and the sufficiency and necessity matrix. This inspection confirmed that the variables overlap with the outcome measure, namely, participation, and that the variable sets are related. Then, reduced common sets were analyzed. These were obtained after specifying two conditions - that the y-consistency score be above 0.7 and above the n-consistency score. Below, the results for the entire sample are discussed, and references to subsamples are made, where relevant.

Considering the entire sample, results indicate that different firms and initiatives have different configurations, although there is some overlap, with five out of 21 configurations appearing twice. Overall, there are 16 common sets in total, reduced to 10 configurations, with a total coverage score of 0.864 (see Table 3). Seven of the configurations include a mix of firm- and industry-level contextual determinants.

[Insert Table 3 about here]

Of the 10 configurations, three relate solely to the services sector. These include customer overlap, once in combination with antitrust apprehension, once in combination with sustainability regulation, and once in combination with firm size. Based on additional analyses, while both firm and initiative employees underscored the importance of customer overlap in the services sector in the decision to participate in initiatives, it is the firms that emphasized regulatory concerns. Another configuration highlights the presence of regulatory concerns further, combining the presence of antitrust apprehension, sustainability regulation, and firm size. It appears that, while issues related to antitrust apprehension are acknowledged, they do not necessarily prevent firms from participating in initiatives. Rather, participating firms are likely to take measures to mitigate this risk.

All of the remaining six configurations include influence over suppliers, which appeared as a key determinant in both firm and initiative professionals' interviews. Influence over suppliers appears on its own, but most frequently it appears in combination with supply chain awareness. In one configuration, these two determinants are coupled together, in another they appear together with sustainability regulation, and yet in another they are combined with antitrust apprehension and the perceived level of competition. Of the remaining two configurations, one links influence over suppliers with antitrust apprehension again, and one links it with the perceived level of competition, stigma, and firm size. Hence, supply chain related determinants, especially influence over suppliers, but also supply chain awareness, as well as regulatory factors, which combine together in different ways, appear to play key roles in understanding firm motivation to participate in initiatives, and are especially relevant for the goods sector.

While, ultimately, the QCA provides a relatively long list of reduced configurations, it enables a better understanding of which of the contextual determinants uncovered by the

interviews are most central in explaining firm participation in initiatives, and, importantly, how the different determinants combine together in influencing firm motivation to participate. The QCA also further emphasizes the differences between the data obtained from the goods and from the services sector, and underscores that, predominantly, both firm- and industry-level contextual determinants appear in the various configurations, highlighting the importance of both levels in firms' decision-making. Additionally, while the importance of customer overlap was highlighted in the initiatives data, it is firm professionals who coupled it with regulatory concerns. At the same time, it is initiative professionals who linked more strongly together supply chain determinants with regulatory concerns relative to firm professionals. Importantly, even though two of the determinants, namely, antitrust apprehension and perceived level of competition, are expected to reduce the likelihood of firm participation in initiatives, these determinants may be taken into account by firms without acting as a "deal breaker" for firm participation in initiatives.

DISCUSSION AND CONCLUSIONS

It is becoming increasingly difficult to argue against the need for firms to act responsibly by paying heed not only to their financial outcomes, but also to their social and environmental impacts. What tools do firms have at their disposal to achieve their sustainability goals? The intricate and systemic nature of sustainability concerns calls for collaborative efforts as a means to this end. This paper's findings reinforce the general notion that multi-stakeholder initiatives are an important tool for tackling various sustainability challenges (Seitanidi and Crane, 2014). More specifically, firms may find that they need to talk not only to stakeholders that are typically addressed in existing studies (i.e. suppliers, customers, regulatory bodies, financiers, civil society), but importantly also to their competitors, if they

wish to address some of their sustainability concerns and improve their social and environmental bottom lines.

This paper takes an explorative, cross-industry approach towards an enhanced understanding of the importance of firms' participation in multilateral collaborations with their competitors for their ability to address systemic sustainability challenges. It studies multi-stakeholder sustainability initiatives that bring together a number of competitors (although this does not preclude the participation of other stakeholders such as NGOs or regulatory bodies, often present alongside competing firms). The studied initiatives often try to tackle broad, industry-level concerns, going beyond the sole concerns of participating firms, enhancing the need for a multilateral approach.

In this paper, interviews were conducted with firm and multi-stakeholder sustainability initiative insiders deemed to be knowledgeable about sustainability and firm participation in initiatives aimed at tackling aforementioned challenges, as pertaining to their firm or as transpiring from their experience as sustainability initiative insiders. QCA was performed to complement qualitative findings.

Interviews with sustainability professionals working in both firms and sustainability initiatives point to firm collaborative activities with their competitors as being an important tool for tackling sustainability issues. Importantly, sustainability initiatives are said to address pre-competitive issues. Collaboration outputs ranging from information exchange, through the creation of a common view, to the elaboration of standards, enable firms to gain knowledge and learn about tools that are relatively "generic" in nature. It is often not enough for firms to participate in collaborative activities if they want to reap some benefits. They need to be able to implement the knowledge and tools provided by such activities inside the firm. It is the combination of the knowledge and tools with the firm's internal resources and

business model, and potentially the way that firms communicate their sustainability actions to relevant stakeholders, that can create a competitive advantage for firms from a corporate sustainability point of view.

In the sustainability context, it appears that firms that do partake in collaborations alongside their competitors follow a separation logic by making a clear distinction between a wide range of sustainability concerns and how they should be addressed, and the undertaking of other business activities. Sustainability issues on which firms collaborate are often referred to as being pre-competitive, as firms share more basic, non-strategic information.

Competition then takes place in arenas deemed strategic, such as product markets. Those firms that choose not to participate may be doing so because they are unable to separate the competitive and collaborative logics, focusing only on the competitive one.

While existing literature has acknowledged that an increase in collaboration between competitors may be due to growing interdependence among global competitors, similarities in issues that firms face, and a growing need for collective action, in the sustainability context it is important to highlight the indirect nature of the interdependence between competitors (i.e. the indirect ties between competitors, and the common use of resources), and the broad, systemic, and sometimes urgent nature of the issues that collective actions undertaken via multi-stakeholder sustainability initiatives aim to solve.

Firms may be more or less prone to participating in joint efforts to solve sustainability issues depending on various firm- and industry-level determinants. Firms' decisions are likely to be affected by firm-level determinants such as their size, supply chain awareness, customer overlap with other competitors, their perceived level of competition in the industry, and the apprehension of antitrust-related issues. Sustainability regulation, firm influence over suppliers, and industry stigma are industry-level determinants that are likely to play a role in

a firm's decision to collaborate with its competitors. It transpires that firms take into account both firm- and industry-level contextual determinants simultaneously when considering their participation in initiatives, underscoring the importance of both levels in firms' decision-making. Firm influence over suppliers is the central determinant in the goods sector, while customer overlap is the central determinant in the services sector.

One way that existing literature suggests to classify firm motivations to collaborate is by placing them in a framework, with one axis representing the degree to which firm motivations are altruistic (as opposed to self-interested), and a second axis representing the degree to which firm motivations are utilitarian (as opposed to idealistic) (Austin and Reficco, 2005). In line with expectations from the business sector, interview data underscores that firms' motivations are predominantly utilitarian and self-interested as they try to improve their triple bottom line (Austin and Reficco, 2005). This, however, does not prevent firm actions from potentially benefiting more generally the environment and society as a whole, creating a win-win situation.

According to Gray and Stites' (2013) classification, firms' motivations to collaborate in general, mainly with other sectors, can be classified into four categories: legitimacy-oriented, competency-oriented, resource-oriented, and society-oriented motivations. Sustainability-related regulatory concerns can be classified under the society-oriented motivations category, which includes firm willingness to influence and shape legislation. Several of the other contextual determinants uncovered by the analysis of interview data can be linked to the competency-oriented motivations category, according to which firms collaborate to gain knowledge to ultimately be able to better address certain sustainability issues. These include firms' need to better understand their supply chains (supply chain awareness), existing customer overlap, and firms' need to work together to influence

suppliers. The push towards collaborations with competitors is especially strong in stigmatized industries. The remaining two determinants - the perceived level of competition and antitrust concerns - are determinants that move firms away from collaborative activities, that may represent legitimacy-related concerns for why firms should not collaborate, rather than motivations to collaborate. In sum, when trying to understand why firms collaborate with their competitors in the sustainability context, predominantly competency- and society-related motivations were raised by interviewees.

Literature on partnerships for sustainability uses a range of theories. Ten main theoretical frameworks that have been used are institutional theory, resource dependence theory, stakeholder theory, the resource-based view, agency theory and transaction cost economics, environmental justice theories, network theory, critical theories, actor network theory, and deliberative democracy and dialogue theories, with the first three being the most often used theories (Gray and Stites, 2013). The use of a myriad of theoretical lenses in the literature stresses the complexity of the phenomenon. Accordingly, this paper's findings can be linked to a range of theoretical perspectives. Firms follow a range of logics and arguments when they make the decision to collaborate (or not to collaborate) with their competitors as part of their effort to tackle sustainability-related global challenges (see Table 4).

Findings related to the underlying reasons for collaboration refer to the fact that firms face similar issues relating to sustainability that are complex in nature (these are sometimes placed under the notion of grand challenges), to firms being indirectly connected to each other through other stakeholders, as well as to the existence of limited external resources. The reality in which firms face similar issues and their inability to address these issues on their own, makes firms reliant on other firms' assets, for the most part intangible ones, such as their knowledge, in line with resource dependence theory. The resource-based view may also

be relevant in this case when considering that, ultimately, firms wish to incorporate the knowledge that they have gained through their participation in initiatives in their own operations and activities, creating unique firm resources.

Firms' indirect reliance on other firms through relationships with their direct stakeholders can be linked to the stakeholder theory, which considers how firms affect and are affected by their stakeholders, which may be direct or indirect. It can also be associated with dialogue theories, as it requires firms to communicate with each other, share their points of view, and try to create a common view and approach to tackling various issues. Finally, given that the external resources that firms can use in their operations are limited, firms face an issue that is raised by the theory of the commons, where firms may find that the resources that they need may be depleted if they do not work together to limit the use of the resources.

Similarly, the logic behind the contextual determinants may be connected to a number of theoretical perspectives. Arguments behind firm size affecting collaboration efforts may be associated with a nuanced version of resource dependence depending on timing, as, while firms of all sizes may benefit from collaborating with similar firms, different types of knowledge can be gained by firms of different sizes, and potential benefits may differ. Similarly, institutional theory arguments are relevant for all sizes, however, larger firms may be driven more strongly by societal expectations, whereas smaller firms may be driven by societal expectations as well as the need to conform to what other firms are already doing.

Assuming that in the given context, network theory refers to the need for firms to consider their supply chain relationships (Gray and Stites, 2013), firms' awareness of the degree of sustainability along their supply chains, which may push firms towards taking action, may be associated with network theory, as is the firms' realization that if they wish to improve their suppliers' sustainability level they need to work together. In addition, the

stakeholder theory is relevant when considering firms' need to work together to influence their suppliers. Stakeholder theory arguments are applicable also when considering customer overlap, as firms work together due to the ability of other firms' actions to affect a focal firm's outcomes, as are dialogue theory arguments, as discussed above. A firm's lack of willingness to collaborate with competitors when its perceived level of competition is high, may be attributed to resource-based view arguments, as firms' hesitation to collaborate stems from possible over-sharing of information, which could harm the uniqueness of their resources and perhaps their competitive advantage.

Regulatory concerns may be associated with institutional theory. In the case of antitrust apprehension, firms wish to make sure that they conform with social expectations and safeguard their legitimacy. This is similar in the case of existing sustainability regulation, which firms need to conform with. When considering the pre-emption of regulation, resource dependency may be relevant, as firms may need access to other firms' knowledge in order to better understand the issues to be addressed, which also calls for dialogue between the various parties, bringing into the picture dialogue theories. Resource dependency and dialogue theories may also be relevant once new regulation is enacted, as firms try to understand how to address new regulatory requirements. Finally, industry stigma may also be associated with resource dependency, in addition to stakeholder theory, as firms find that they are unable to address sustainability concerns either on their own or by working with stakeholders outside the industry, and therefore need to work together with competing firms.

[Insert Table 4 about here]

From a managerial perspective, this paper emphasizes that collaborations between competitors can serve as a tool to help firms address some of their sustainability concerns – those that cannot be addressed by firms single-handedly. It also provides some insights into

the benefits and risks that participation entails. Importantly, contextual determinants are discussed for managers to consider when contemplating entry into a collaboration with their competitors in the sustainability context.

This study has various limitations. First, interviews were conducted with firms and initiatives that, although they are international, are headquartered in Europe or the U.S. This may create a bias in the interviewees' perception and understanding of matters investigated in this paper. Second, overall, the data analyzed is likely to be more relevant for large-sized organizations than small- and medium-sized ones. Further discussions with sustainability experts in smaller-sized firms may unveil additional perspectives. Third, even though multiple industries were addressed via the interviews, not all industries were covered, and the list of determinants highlighted is likely not exhaustive. In particular, in addition to more generally-applicable ones, findings focus on the textile/apparel, food and beverages, and finance industries. It is acknowledged that different industries and sectors have different dynamics, and that some insights are more relevant for some than they are for others.

Additional fine-tuning at the initiative level may also be fitting, as there are different types of initiatives. For example, initiatives may include only peers or additional stakeholders as well, be led by the industry or a third party, and be formal or informal. Distinguishing between different types of initiatives may help us understand whether different initiative types are preferred by different types of firms or industries, and whether they are used to address different issues. This paper therefore represents an initial step towards a better understanding of the phenomenon discussed, and it appears that much more about this phenomenon and its implications for firms has yet to be uncovered.

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Table 1 – Interview overview

Interview #	Organization type	HQ location	Industry	Organization age (in years)	Firm size (2016 revenues in billions of USD)	Management level/location within firm
1	MSI	Europe	Cross-industry	Between 51-99		
2	Firm	Europe	Healthcare	20 or below	20 or below	Senior/Main office
3	Firm	US	Diversified industrials	Over 100	Over 100	Middle/HQ
4	MSI	Europe	Cross-industry	20 or below		
5	Firm	US	Diversified industrials	Over 100	Over 100	Middle/Subsidiary
6	Firm	Europe	Finance	20 or below	20 or below	Senior/HQ
7	Firm	US	Tobacco	Over 100	Between 51 and 99	Middle/HQ
8	Firm	Europe	Food & beverages	Over 100	Between 51 and 99	Senior/HQ
9	Firm	US	Food & beverages	Between 51-99	Between 21 and 50	Middle/Regional office
10	MSI	US	Cross-industry	Between 21-50		
11	Firm	Europe	Finance	Over 100	Between 21 and 50	Senior/HQ
12	MSI	Europe	Single industry	20 or below		
13	MSI	Europe	Cross-industry	Between 51-99		
14	MSI	Europe	Single industry	20 or below		
15	MSI	Europe	Single industry	20 or below		
16	MSI	US	Cross-industry	Between 21-50		
17	Firm	US	Finance	Over 100	Between 51 and 99	Senior/HQ
18	MSI	Europe	Cross-industry	Over 100		

Note: MSI stands for multi-stakeholder initiative; in the Industry column, the industry is provided for firms, and only an indication of whether the initiative covers one or more industries is provided for initiatives. This is to help preserve responders' anonymity.

Table 1 – Interview overview (continued)

Interview #	Organization type	HQ location	Industry	Organization age (in years)	Firm size (2016 revenues in billions of USD)	Management level/location within firm
19	Firm	Europe	Food and beverages	Over 100	20 or below	Senior/HQ
20	Firm	US	Apparel	Over 100	20 or below	Middle/Regional office
21	Firm	US	Finance	Over 100	Between 51 and 99	Senior/Main office
22	Firm	Europe	Retail	Between 51-99	20 or below	Middle/HQ
23	MSI	Europe	Single industry	Over 100		
24	MSI	Europe	Cross-industry	Over 100		
25	MSI	Europe	Single industry	Over 100		
26	MSI	US	Cross-industry	Over 100		

Note: MSI stands for multi-stakeholder initiative; in the Industry column, the industry is provided for firms, and only an indication of whether the initiative covers one or more industries is provided for initiatives. This is to help preserve responders' anonymity.

Figure 1 – Simplified view of the firm's world

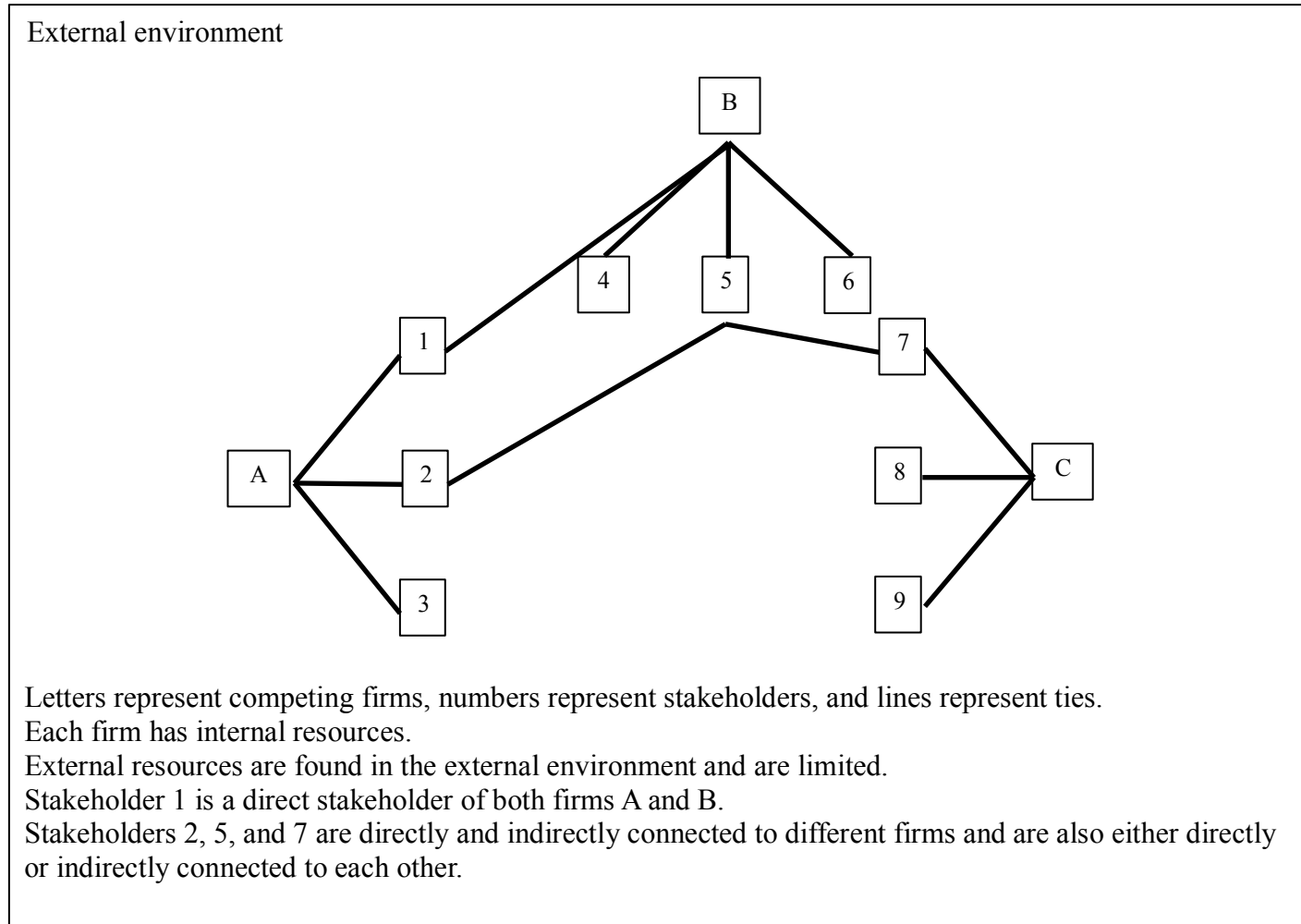


Table 2 – Contextual determinants by industry

Industry	Firm-level determinant					Industry-level determinant		
	Size	Supply chain awareness	Common customers	Competitive intensity	Antitrust apprehension	Sustainability regulation	Influence over suppliers	Stigma
General	✓	✓		✓	✓	✓	✓	
Textile/ Apparel	✓	✓			✓	✓	✓	
Food and beverages				✓	✓		✓	✓
Finance	✓		✓		✓	✓		
Other		✓				✓	✓	✓

Note: A ✓ sign appears when a particular contextual determinant is important in an industry, as per the interview data.

Table 3 – Final reduction set – entire sample

Set	Raw coverage	Unique coverage	Solution consistency
r*t*U*v*W*x*y*z	0.045	0.045	1.000
r*T*u*V*W*x*Y*z	0.045	0.045	1.000
R*t*u*v*W*X*y*z	0.045	0.045	1.000
R*t*u*V*w*x*Y*Z	0.045	0.045	1.000
t*u*v*W*x*Y*z	0.091	0.091	1.000
t*U*v*w*X*y*z	0.091	0.045	1.000
r*T*u*v*w*X*Y	0.091	0.045	1.000
R*t*U*v*w*y*z	0.091	0.045	1.000
r*u*v*w*Y*z	0.273	0.182	1.000
T*u*v*w*Y*z	0.227	0.136	1.000

Note: R=firm size, T=supply chain awareness, U=customer overlap,
V=level of competitive intensity, W=antitrust apprehension, X=sustainability regulation,
Y=influence over suppliers, Z=stigma
Total Coverage = 0.864

Table 4 – Overview of findings and relevant theoretical lenses

Key finding	Relevant theoretical lenses
Key underlying collaboration reasons	
Firms face similar issues that are complex in nature	Resource dependence theory Resource-based view
Interdependency between firms arising from indirect links between them	Stakeholder theory Dialogue theories
External resources are limited	Theory of the commons
Contextual determinants	
Firm size (timing)	Institutional theory Resource dependence theory
Supply chain awareness	Network theory
Customer overlap	Stakeholder theory Dialogue theories
Perceived level of competition	Resource-based view
Antitrust apprehension	Institutional theory
Sustainability regulation	Institutional theory Resource dependence theory Dialogue theories
Firm influence over suppliers	Network theory Stakeholder theory
Industry stigma	Stakeholder theory Resource dependence theory

**False or kept promises:
Do multi-stakeholder sustainability initiatives help firms rise to the challenge(s)?**

ABSTRACT

This paper examines the relationship between firm participation in four characteristically different collaborative multi-stakeholder sustainability initiatives and firm social and environmental performance. Social performance is measured using indicators reflecting the firm's management of fundamental human rights along the supply chain and its community performance. Environmental performance is measured using indicators reflecting resource reduction along the supply chain and green product innovation. The paper aims to highlight the importance of considering (i) the learning and knowledge-sharing activities that take place within the framework of an initiative, and (ii) which sustainability issues the initiative focuses on, when anticipating whether firm participation may be positively associated with performance. Hypotheses are tested using panel data ranging from 2006-2016, and qualitative interview data is used to support the suggested learning mechanism. When assessing the individual initiatives, the obtained results corroborate most, albeit not all, anticipated relationships.

Keywords: Multi-stakeholder initiatives, sustainability, social performance, environmental performance, learning

INTRODUCTION

Sustainability-related issues are often global in nature. Resolving them therefore requires coordination and regulation at the global level. Often, finding and implementing solutions to sustainability issues requires cooperative agreements that are self-regulating and (potentially) self-enforcing (King, Prado, and Rivera, 2012). Indeed, given economic globalization and the global nature of sustainability issues, both traditional command-and-control and individual firm-level approaches may prove insufficient. In order to remedy global governance gaps, more encompassing, global governance initiatives have been established to try to regulate global business (Voegtlin and Pless, 2014), and actors from different sectors started referring to the need for a cooperative paradigm (Lund-Thomsen and Lindgreen, 2014). Whether trying to address social (e.g. Lin-Hi and Blumberg, 2017) or environmental concerns (e.g. Buysse and Verbeke, 2003), collective action is required (Lin-Hi and Blumberg, 2017). As such, over recent decades a large number of multi-stakeholder initiatives have been developed to support firms in their sustainability efforts (Runhaar and Lafferty, 2009).

Multi-stakeholder initiatives are “underexplored in theory and often criticized and dismissed in practice” (Baumann-Pauly, Nolan, van Heerden, and Samway, 2017: 2). Knowledge is still lacking regarding participation benefits, the types of outcomes that develop from firm participation, and the effectiveness of such initiatives (Arevalo and Aravind, 2017; Lin-Hi and Blumberg, 2017). Concerns have been raised regarding the theoretical rigor of existing literature given the prevalent use of single case studies or comparative case studies with a small number of cases, limiting generalizability (King et al., 2012; Zeyen, Beckmann, and Wolters, 2016). Furthermore, it is rare to find different types of initiatives being considered at the same time when evaluating initiatives’ performance (Baumann-Pauly et al., 2017). Finally, research has for the most part examined the

manufacturing and extractive industries, with not much emphasis being placed on other industries, such as the finance industry (King et al., 2012).

This study attempts to provide an answer to the question: Does firm participation in collaborative multi-stakeholder sustainability initiatives result in better firm-level social and environmental performance? It does so while trying to address some of the issues that have been raised in existing literature. First, it examines a variety of multi-stakeholder initiatives. The four examined initiatives range from a broad, cross-industry, cross-sector initiative to an industry-specific, firm-only initiative. Second, this paper takes a quantitative approach, using longitudinal data that includes firms from all over the world and from a variety of industries, while qualitative data is used to support the suggested mechanism. Third, this paper examines a range of participation outcomes, addressing both social and environmental performance, whereas existing literature is for the most part much more limited in scope. While it is sometimes suggested that initiatives may fail to provide expected benefits to stakeholders in general (King et al., 2012), by considering performance indicators that can be linked to firm suppliers, community, the environment, and customers, this study relates the effect of firm participation in certain initiatives to a range of specific stakeholders.

As previously indicated, this paper sets out to examine the relationship between firms' participation in a range of multi-stakeholder initiatives and their social and environmental performance. As both social performance and environmental performance are broad notions, for social performance, firm performance as it relates to the management of human rights along the supply chain as well as community performance are considered. To narrow down environmental performance, firm efforts to reduce the use of resources along the supply chain as well as green product innovation are considered. Firm participation in four distinct collaborative multi-stakeholder sustainability initiatives is examined. The first one, the UN's

Global Compact (GC), is the largest and broadest initiative that exists today. The second one is the cross-sectoral, cross-industry, yet more limited-in-scope, World Economic Forum's Partnership Against Corruption Initiative (PACI). The third one is the chemical industry's Responsible Care Initiative (RC), which tries to address a range of sustainability issues, yet is limited to a single industry. The fourth and final initiative is the most specific, as it is limited to a single industry and firm-only participation – the financial industry's Equator Principles initiative (EP).

In this study, the link between firm participation and performance indicators is tested using panel data for the years 2006-2016 obtained from Thomson Reuters' Asset4 database. Qualitative, interview-based evidence is used to underscore the importance of the proposed mechanism – learning within the framework of initiatives – via which firm participation in an initiative is expected to be associated with enhanced performance. Findings indicate that by taking into account that an initiative fosters learning and knowledge-sharing amongst participants, and whether the initiative aims to address sustainability issues that are relevant for the type of performance assessed, it may be for the most part possible to anticipate whether firm participation will be associated with higher performance. With that said, not all results are as expected, with some results even showing a negative association between participation and performance.

Overall, the results of this study imply that firms are likely to benefit from their participation in collaborative multi-stakeholder sustainability initiatives regardless of the type of initiative assessed (e.g. how broad or narrow it is). The attention drawn to the importance of learning and knowledge-sharing within the initiative and to that of an enhanced understanding of the initiatives' objectives may assist firms in choosing among the many initiatives that are available to them.

The rest of the paper is organized as follows. A literature review and hypotheses development section is followed by a methods section. Then, a results section provides a description of the obtained regression results, and a discussion of the mechanism that makes use of qualitative data. The paper ends with a section dedicated to the discussion of the results and conclusions.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Multi-stakeholder sustainability initiatives

Multi-stakeholder sustainability initiatives are located between command-and-control regulatory approaches and single firm undertakings to address sustainability issues. They help address governance gaps generated by the inability or unwillingness of governments to regulate certain sustainability issues (Baumann-Pauly et al., 2017). Being voluntary in nature, these initiatives try to enforce “soft law”. Such initiatives can be found around the world, and they try to address a variety of social and environmental issues across and between industries (Castka and Corbett, 2016).

Within the framework of a multi-stakeholder initiative, multiple stakeholders, often from different sectors (e.g. businesses, NGOs, governments), work together to solve sustainability-related business, social, and environmental issues that cannot be solved at an individual level, by creating governance solutions for social and environmental problems (Baumann-Pauly et al., 2017; Moog, Spicer, and Böhm, 2015). These initiatives have gained in popularity over the last couple of decades as firm-level solutions started being considered inadequate, while the understanding of the usefulness of the inclusion of additional stakeholders started gaining traction (Baumann-Pauly et al., 2017). These initiatives are an important phenomenon in global governance, have high practical relevance, and are

important building blocks in new governance arrangements, responding to pressing global sustainability challenges (Zeyen et al., 2016). Through these initiatives, firms can, for example, co-create and voluntarily commit to new sustainability standards, compensating for existing governance gaps while going beyond existing regulation (Zeyen et al., 2016). Participation can ultimately help firms achieve some of their economic, as well as environmental (Baek, 2017) and social objectives.

While self-regulation through initiatives is intended to help create value to society as well as firms, firms may be tempted to seek benefits at the expense of society (King et al., 2012). Two problems that may arise are information asymmetry between different stakeholders such as producers and consumers, and the externality of the costs of environmental (and social) harm, such that they are not borne by those causing them (King et al., 2012). King et al. (2012) therefore classify self-regulatory approaches in a two-by-two matrix according to the presence of information asymmetry and externalities.

When there is no information asymmetry nor externalities, no self-regulation is needed. Certifications are said to be appropriate in case there is asymmetric information but no externalities. Third-party accreditations and certifications provide signals to stakeholders as they represent the views of potentially objective external parties rather than the organizations' (Desai, 2018). Certification-based initiatives are not addressed in this paper as certification adoption is undertaken and evaluated on a firm-by-firm basis and requires third-party audits (Baek, 2017), limiting greatly the need for ongoing interaction between firms and other initiative participants. Next, when there are externalities, self-regulation may take the form of collective responsibility (in case there is no information asymmetry), or a mixed-methods approach (in case there is information asymmetry). These last two approaches are

the most relevant in this paper, as they call more clearly for continuous interaction among initiative participants.

Included in the last two approaches are different types of multi-stakeholder sustainability initiatives. Some are very broad in nature, and others are very specific. Broad, principles-based, non-industry-specific initiatives address a variety of topics, and are often seen as a first step in firm participation in multi-stakeholder voluntary sustainability initiatives (Arevalo and Aravind, 2017; Baumann-Pauly et al., 2017). Such initiatives tend to focus on fostering dialogue and learning between participants, without the implementation of strong monitoring mechanisms (Baumann-Pauly et al., 2017). These initiatives have weakly governed, unrestricted entry standards, and are more popular than ones with restricted entry standards, as they tend to provide greater participation flexibility (Simpson, Power, and Klassen, 2012).

In comparison to the more restricted industry self-regulating initiatives (discussed below), proponents of the broad, cross-sector, cross-industry initiatives perceive the collaboration between different sectors as enabling more stable governance, leading to better cooperation, dialogue, interdependence, and conveying an image of neutrality (Mele and Schepers, 2013). While firms may not always be the initiators or the leaders of initiatives, firm participation remains essential for initiatives to have an impact (Mele and Schepers, 2013). One example of such an initiative is the United Nations' Global Compact (GC). A more restricted initiative in terms of the topics addressed is the World Economic Forum's Partnering Against Corruption Initiative (PACI).

Firms may gain a range of benefits by participating in broad, cross-sector, cross-industry initiatives. These include economic and reputational benefits, reduced transaction costs and enhanced processes, as well as improved data quality (Arevalo and Aravind, 2017;

Sullivan, 2005). Participation in broad initiatives can also help organizations improve their regulatory compliance performance (Sullivan, 2005), make better decisions regarding strategic emphases and resource allocation, and foster the creation of an enabling framework (Arevalo and Aravind, 2017).

Critics of these broad initiatives point out that there is no consistent evidence that such initiatives help improve the performance of participating firms (Simpson et al., 2012). It has been suggested that firms participating in said initiatives may or may not have the capacity to implement adopted standards, due to a problem of “fit” between institutional requirements and actual firm capabilities (Arevalo and Aravind, 2017; Simpson et al., 2012). Moreover, participation may be used to hide poor performance and encourage opportunism (Simpson et al., 2012). Other critics highlight that the lack of specific rules and strong enforcement mechanisms may lead to the decoupling of firm behavior (Wijen, 2014; Zeyen et al., 2016), resulting in free-riding (Sullivan, 2005). Furthermore, a broad representation of stakeholders may increase the likelihood of information asymmetries and power struggles (Mele and Schepers, 2013).

Moving on, industry self-regulation is the voluntary association of firms to control their collective action by establishing behavioral rules and norms that foster responsible business within an industry (Lin-Hi and Blumberg, 2017; King and Lenox, 2000). It may result from the collaboration of some key members in the industry (Lin-Hi and Blumberg, 2017), or it may be created by “non-industrial” actors, and may not be fully self-regulated (King et al., 2012). Therefore, industry-specific initiatives may (e.g. Responsible Care, or RC, in the chemical industry) or may not (e.g. the Equator Principles, or EP, in the finance industry) include stakeholders besides firms, such that firms may or may not unilaterally develop standards and best practices (Mele and Schepers, 2013). These initiatives are

expected to set and sometimes enforce rules or standards created for groups of competitors, and are increasingly used to address sustainability concerns, enabling firms to fulfil their social responsibility more efficiently (Baumann-Pauly et al., 2017; Lin-Hi and Blumberg, 2017). They are also sometimes used in an effort to address stakeholder concerns, and preempt government regulation (Lenox, 2006).

Some proponents of industry-specific initiatives believe that they are the most likely to be successful in addressing the global governance gaps pertaining to sustainability issues, as the industry level may be the most promising one for generating and enforcing standards (Baumann-Pauly et al., 2017). Industry-specific initiatives can help control firm behavior (King and Lenox, 2000). Even if there are free-riders (including non-participants), firms may still want to join such initiatives because they expect that they can help improve industry performance as a whole, that the industry would be harmed if the program were to fail, and because they perceive participation benefits as being greater than participation costs (King and Lenox, 2000; Lenox, 2006).

Participating firms may enjoy, for instance, economic benefits, as well as increased legitimacy, the transfer of best practices, and overall better collective performance (Baumann-Pauly et al., 2017; King and Lenox, 2000; Lenox, 2006). Enhanced governance can lower the risk of a lack of fit between firms' capabilities and initiative requirements, and the legitimacy of such initiatives may be higher when relatively more rigorous enforcement mechanisms are implemented (Baumann-Pauly et al., 2017; Simpson et al., 2012). At the same time, while some believe that industry self-regulation can help address managerial shortcomings and institutional deficits, it is not clear whether this is true not only in theory, but also in practice (Lin-Hi and Blumberg, 2017). For instance, some industry self-regulation critics suggest that sanctions are needed to avoid opportunism (King and Lenox, 2000).

Over time it has become clear that, regardless of the amount of effort, time, and money spent by single firms to address sustainability issues, even the largest, most resourceful, and most advanced firms in the world cannot address sustainability concerns that are global, systemic, and intricate in nature, on their own. Much needs to be understood, knowledge is often fragmented, and coming up with viable and useful solutions may require substantial resources. In addition, firms' interdependency is pushing firms towards working together as they try to elevate their individual (and collective) sustainability performance levels.

Below, an argument is made explicating the general anticipated effect of firm participation in initiatives on firms' social and environmental performance, resulting in the generation of the overarching hypothesis of this paper. This is followed by a more in-depth argumentation of the anticipated firm participation effect on firm performance, focusing on the nature of the outcomes and four specific initiatives (representing different types of initiatives), resulting in the four hypotheses of this paper.

As previously mentioned, within the framework of initiatives, firms get together with other firms, and often additional relevant stakeholders. The initiatives therefore facilitate the interaction between the various parties. This enables and enhances communication between the various participants, thus reducing interaction and communication costs. The interaction and communication between participants is crucial because, often, even if firms become aware of sustainability concerns, they may not be knowledgeable enough about the topics and know how to go about addressing them. Koschmann, Kuhn, and Pfarrer (2012) suggest that the value of the initiatives can be increased not by simply connecting between the various participants, but in inducing action to influence people and issues through collective agency, hence influencing outcomes in a way that individual participants could not have on their own.

Whether the initiative is of a broader or narrower nature, multi-stakeholder initiatives can help firms overcome resource gaps. These resources are often intangible, including knowledge, skills, and expertise (Pinkse and Kolk, 2012). While firms may enjoy reputational and legitimacy benefits even if they only adopt initiatives symbolically, as well as benefits arising from the pooling together of financial resources aimed at facilitating the generation of solutions, it is argued that, ultimately, the key driver behind the ability of firms to benefit from their participation in initiatives and any subsequent improvement in their individual sustainability performance is learning. Continual learning within the framework of initiatives is also important as a means for strengthening collaboration and the value that can be generated from the initiative (Austin, 2000).

Firms that participate in initiatives can benefit from various types of learning opportunities. They can leverage on the various perspectives and resources of participating organizations, including those from different sectors (Clarke and MacDonald, 2016; Pinkse and Kolk, 2012), to help them overcome an existing learning gap (Pinkse and Kolk, 2012). This can result in knowledge transfer, mutual learning, the generation of new knowledge, and the co-creation of value (Clarke and MacDonald, 2016; Pinkse and Kolk, 2012). Indeed, by participating in multi-stakeholder initiatives, firms can learn in a number of ways. First, firms can attend various activities (e.g. annual meetings). Within the framework of these activities, firms can learn in two ways. One is by hearing about other firms' experiences and learning from their successes (and sometimes also failures). Another one is by sharing knowledge with other firms, creating aggregated knowledge, which can then facilitate an understanding of the issue that the firms are collectively trying to address, as well as the generation of possible solutions that firms could undertake to resolve the issue. Second, often initiatives are set up in such a way that there is a "central body" (e.g. secretariat) that coordinates the

initiative, collects information about best practices from firms, and disseminates this information to other participating firms. Through learning and knowledge-sharing activities, participating firms gain a better understanding of the issues that they are facing and how they can be addressed in a more efficient and effective way.

Essentially, if firms only join initiatives in a symbolic manner for reputational and legitimacy reasons, they will not be able to benefit from the initiatives in the sense of truly becoming more sustainable, as this requires internal firm actions towards more sustainable approaches. Indeed, participation in initiatives may complement and enhance, but not replace, effective individual firm internal operations. This can encourage firm learning within the framework of initiatives (Arya and Salk, 2006). In order to understand the issues and how to address them, firms need to actively participate in the initiatives, at the very least through exposure to and the implementation of best practices or learning from others' experience, to improve their own operations. Importantly, in order to benefit on the reputational or legitimacy front, firms need to communicate their participation to external stakeholders, who are increasingly scrutinizing firm actions. This means that "greenwashing" firms increasingly run the risk of exposure and stakeholder backlash in the case of purely symbolic participation. Additionally, firms often join initiatives following an internal approval process, are often required to become more transparent with regards to their sustainability efforts, and are held to minimal participation requirements, all of which are costly and non-trivial.

Next, simply pooling together tangible, often financial, resources as part of the initiative, is also not likely to help individual participating firms improve their sustainability performance without the learning element. In order for tangible resources to be put to beneficial use, participants first need to clarify together what the issues that they are trying to address are, and how to go about trying to address them. This is done through learning and

knowledge-sharing, whether by creating new knowledge together, or building on participants' existing knowledge. Once firms acquire useful knowledge and/or learn about implementable solutions generated within the initiative, firms need to implement their newly-found knowledge in their own activities and operations in order for their participation to help them improve their sustainability performance.

In sum, initiatives aim to address social and environmental challenges that are complex, systemic, and often global in nature, and that no firm (or any other entity) can address single-handedly. They provide a means to lowering interaction and communication costs for firms and additional stakeholders, who need to work together if they are to understand sustainability issues and advance towards a potential (even partial) resolution of said issues. Initiatives are an entity through which knowledge-sharing and learning that facilitate the understanding of sustainability issues and what might be done to address them - both at the individual firm level and at the collective level - take place. The knowledge-sharing and learning that take place within these initiatives would be difficult to achieve without the existence of such entities, which help overcome governance gaps, and are meant to help firms mitigate their negative social and environmental impacts by behaving more sustainably. Knowledge of the outcomes of the knowledge-sharing and learning activities that are generated through the communication and interaction that take place within the initiatives should ultimately be brought back into the individual firms by firm representatives. Then, firms need to act in accordance with the newly-gained knowledge that can help them advance their sustainability agendas. Given that different initiatives may emphasize different sustainability issues, knowledge-sharing and learning is expected to be linked to those topics that the initiative highlights.

Consequently, regardless of the type of multi-stakeholder initiative examined (excluding certification schemes) and assuming that, as is often the case, initiatives have mechanisms in place to foster participating firms' learning and knowledge-sharing within the framework of the initiative, the overarching hypothesis of this paper is the following: There is a positive relationship between firm participation in an initiative and firm sustainability performance driven by firm learning within the framework of the initiative, and the sustainability dimensions that will be positively affected will be aligned with the initiative's focus.

More concretely, after introducing the four initiatives in this paper, the next section links firm participation in the specific initiatives and the sustainability dimensions that the initiatives focus on, in order to anticipate whether firm participation in an initiative is likely to positively affect firm performance along the various dimensions.

The four initiatives

Table 1 below provides an overview of the four initiatives referred to in this paper. They are all formal (as opposed to informal) and global (as opposed to local or regional) initiatives, but they differ on other attributes. Given that there are different types of initiatives, the four initiatives in this paper were chosen because each one is deemed to be a representative example of one type of initiative. Below is a description of each of the four initiatives followed by a discussion of how participation in these initiatives may affect social and environmental firm performance. Social performance is represented by (i) firm actions related to the safeguard of basic human rights along the supply chain, and (ii) community performance as transpiring from firms' "good" or "bad" citizenship and ethical behavior. Environmental performance is represented by (i) firms' efforts to reduce the use of natural resources along the supply chain and any negatively ensuing impact, and (ii) environmentally

sustainable green product innovation efforts. The GC is introduced first, followed by PACI, RC, and the EP.

[Insert Table 1 about here]

GC – The United Nations’ Global Compact

The GC was founded in the year 2000 (GC, 2017), and is currently the largest global sustainability initiative (Baumann-Pauly et al., 2017). The initiative is led by the UN (GC, 2017), where it was launched with the support of firms, trade unions, and civil society (Kell, 2005; Rasche and Waddock, 2014) as a response to globalization challenges (Williams, 2014). This global initiative has firm and non-business signatories from more than 160 countries. It includes a wide array of non-business entities as well as a range of industries (GC, 2017).

Participating firms are expected to include in their strategy, operations, policies, and procedures, voluntary principles pertaining to a range of sustainability topics (GC, 2017). The initiative advocates for firm implementation of ten principles in a range of areas - from human rights, to labor rights, the environment, and finally, anti-corruption (GC, 2017). The GC principles are broad and therefore open to interpretation by the various participants and stakeholders (Janney, Dess, and Forlani, 2009). The GC purposefully does not have high barriers to entry, as it wants to attract a variety of firms from all over the world, and is not meant to act as a monitoring, accrediting, and enforcement vehicle (Rasche and Waddock, 2014).

The aim of the GC is to provide a worldwide network for a range of stakeholders to help foster relevant dialogue and collaboration, and act as a learning platform for working on issues that are relevant for all businesses and contexts (Baumann-Pauly et al., 2017; Kell, 2005; Rasche and Waddock, 2014; Williams, 2014). It is expected to enable collective action

and transparency, ultimately resulting in concrete actions, systemic change, and convergence around the principles (Kell, 2005).

In addition to participating in global meetings, participating firms can join over 100 country and regional networks and meetings, and more specific working groups targeted at specific issues, where dialogue, learning, and projects take place as part of the initiative (GC, 2017; Williams, 2014). According to Runhaar and Lafferty (2009), the most important contribution of the GC to firms arises through learning in networks.

Some consider the GC to be the best existing initiative for generating global consensus on moral norms. They believe that, while the GC's mission has not yet been accomplished, it is in the process of being accomplished (Williams, 2014). Existing literature on the GC, however, tends to lean in one of two ways. Proponents perceive the GC's headquarters as a "nurturant parent", emphasizing empathy, learning, and support of firms, while focusing on the initiative's consensus-building role (Haack and Scherer, 2014; Rasche and Waddock, 2014). They believe that it will fundamentally change firm sustainability practices (Berliner and Prakash, 2014), and that firms can benefit from their participation through better reputation and branding, network opportunities, lower regulatory threats and liability of foreignness, and potentially even improved market performance (Cetindamar and Husoy, 2007; Mele and Schepers, 2013). Firms may also participate in the initiative for ethical and economic reasons, as well as due to pressure from industry peers and other stakeholders (Cetindamar and Husoy, 2007; Janney et al., 2009; Mele and Schepers, 2013). The exposure to the principles and the requirement for disclosure on progress increase firm transparency and potentially stakeholder pressure, which may initiate internal learning processes (Voegtlin and Pless, 2014).

Proponents advocate for the importance of maintaining low barriers to entry as it is believed that it is often firms that are not doing well in terms of sustainability that are the ones that can benefit the most in terms of learning (Haack and Scherer, 2014; Rasche and Waddock, 2014; Voegtlin and Pless, 2014). They suggest that following a “strict father” approach could be detrimental to the implementation of the GC’s principles (Haack and Scherer, 2014). GC critics, however, say that the headquarters should, in fact, act as a “strict father”, disciplining and punishing non-complying firms. Critics advocate stricter compliance and monitoring to ensure conformity to the principles, and claim that affiliation with the GC leads to the “bluwashing” of firms violating the GC’s norms (Haack and Scherer, 2014; Janney et al., 2009; Rasche and Waddock, 2014). Critics perceive the GC as being “flawed” because firms’ implementation of the principles is not verified (Berliner and Prakash, 2014). If outside stakeholders cannot observe the implementation of sustainability policies, firms may freeride, enjoying the benefits of being considered a participant, without actually making substantial changes to their operations (Berliner and Prakash, 2014; Berliner and Prakash, 2015).

Critics suggest that GC participants may only be making superficial, or symbolic, improvements to their sustainability performance, while actually doing worse than non-participants on issues that are costlier, or core to their operations (Berliner and Prakash 2015; Perez-Batres, Doh, Miller, and Pisani, 2012). Additionally, firms may decouple their sustainability performance from what they report on (Voegtlin and Pless, 2014). Overall, critics suggest that the GC has not been able to improve the sustainability performance of firms beyond what they would have achieved without the initiative, and that the credibility of the initiative could be undermined (Berliner and Prakash, 2014).

PACI – The World Economic Forum’s Partnering Against Corruption Initiative

Corruption is an international phenomenon (Argandoña, 2007). It can lead to the inefficient use of resources, higher costs, lower overall production levels, a lower product quality, less competition, transparency, and more uncertainty in a given market (Argandoña, 2007). Firms have a strong business case to avoid corruption (Hess, 2009). Corruption is harmful for business (and society by, for example, helping create irresponsible working conditions (Lin-Hi and Blumberg, 2017)), and needs to be tackled in a collaborative and coordinated manner. At the same time, some firms perceive the undertaking of corruption practices as helping their competitiveness, as they may lose business if they refuse to “play along” while their competitors continue to do so. This further underscores the need for collective action (Hess, 2009).

The PACI platform tries to enable companies to “maximize their collective impact in the fight against corruption” (PACI, 2017). Having an initiative that is solely dedicated to issues related to corruption can facilitate the garnering of support for the initiative, as the expectations may be less open to interpretation and “small wins” more easily attainable (Hess, 2009).

PACI was formed in 2004 by a group of CEOs whose firms are members of the WEF. It is a global, cross-industry, collaborative, agenda-setting platform involving a range of stakeholders including governments, civil society, and other international organizations. It is led by the business sector. The aim of the initiative is to fight corruption, transparency, and emerging-market risks, with the main focus being the implementation of a “global anti-corruption agenda” functioning on industry, regional, country, and global levels to enable systemic change (PACI, 2017).

By fighting corruption, a level playing field and fairer markets for businesses can be created, and trust in businesses can be increased. Fighting corruption is expected to make businesses stronger, more able to handle risk, more ethical, and overall more sustainable. By participating in the initiative, signatories can influence actions taken to mitigate corruption in a visible way, while building an internal commitment within the company to fight corruption. Some expected outputs of the initiative are the “harmonization” of legal frameworks and the increase of public awareness to corruption issues. The initiative provides a safe space for firms to engage with their peers, as overall business compliance and standards are raised. Businesses can share emerging and best practices at the organizational level. Specific industry initiatives within PACI have also been created, such as the ones focusing on the infrastructure and real estate industries. These initiatives aim to obtain CEO-level commitment to jointly-developed collective action to be taken in accordance with sector priorities. PACI signatories are expected to adhere to the initiative’s principles and code of conduct, and to participate in meetings (PACI, 2017). The assessment of whether the initiative is helpful in reducing corruption levels or not remains difficult, as the number of participating firms remains limited, and there are a number of factors influencing corruption levels.

RC – Responsible Care (the chemical industry)

The RC is a global self-regulatory initiative founded in Canada in 1985 with signatories from over 60 countries (RC CEFIC, 2017). It was created by and is aimed at the global chemical industry (RC ICCA, 2017). In this initiative, the industry association acts as the mediator between the individual firms (Druckrey, 1998).

The initiative has multiple aims. It tries to improve firms’ social and environmental performance by addressing health, safety, security, and environmental concerns. It also tries

to enhance firm reporting on performance, along with communication and collaboration with stakeholders. Firms are expected to follow agreed-upon principles that delineate broad objectives (King and Lenox, 2000; RC CEFIC, 2017).

All participating firms have CEO-level commitments to the initiative's program, and hence to the improvement of environmental, health, safety, and security performance throughout their operations, as firms are expected to consider the performance of their facilities, processes, and products. Participating firms need to publicly report on specific performance measurements including specific environmental, energy, safety, and accountability (community outreach and emergency response initiatives) metrics (RC US, 2017). In 2002, the Responsible Care Management System was introduced in the US to improve firms' community awareness and emergency response, security, distribution, employee health and safety, pollution prevention, and process and product safety. A mandatory, independent third-party certification of the management system was also implemented (Vidovic, Khanna, and Delgado, 2013).

Firms participating in the initiative have been recognized by socially responsible investing financial indexes, such as the FTSE4Good index. By participating in the initiative, firms can interact with other chemical manufacturers and create a common language (terminology) to improve communication between participants and with communities on pertinent issues. Speaking with one, strong, "voice" fosters more favorable business and political climates for the industry (RC US, 2017).

Initiative proponents perceive participation as being part of "good citizenship" behavior, and as having a positive impact on participating firms' economic performance. More specific firm benefits include improved efficiency and stakeholder relationships, and lower costs (Druckrey, 1998). Lenox (2006), however, posits that participating firms may not

gain as much in terms of financial performance, as measured by Tobin's Q, compared to non-participants. Similarly, King and Lenox (2000) submit that participants' environmental performance may improve more slowly than non-participants'. It was suggested that effective industry regulation should include explicit sanctions to counter possible opportunistic firm behavior (King and Lenox, 2000). However, it was also found that the environmental performance of participants relative to that of non-participants has not improved further in light of the implementation of third-party monitoring (Vidovic et al., 2013).

EP – The Equator Principles (the finance industry)

Many interdependencies exist among financial institutions, as large projects are often co-financed by various institutions. Given the large size of projects, each project can potentially have a significant impact on the environment and local communities (Haack, Schoeneborn, and Wickert, 2012). Launched in 2003, the EP are an industry-led, voluntary initiative of the financial sector (EP, 2017; Haack et al., 2012). It is a risk management framework created and used by financial institutions to help them determine, assess, and manage environmental and social risks encompassed in projects financed by the institutions. It currently includes signatories from almost 40 countries. The EP Association was founded in 2010, and is in charge of the management, administration, and development of the EP (EP, 2017). The initiative was created to address stakeholder concerns about the environmental and social implications of project financing (King et al., 2012).

The EP are designed around ten broad principles (Haack et al., 2012), and signatories are required to report about their implementation (EP, 2017). By adhering to the EP, institutions ensure a minimum standard for project due diligence. Project due diligence ranges across sectors and is applied globally. Signatories commit to not finance projects that do not comply with the EP. The EP have not only increased attention to the importance of

having some minimal social and environmental standards for project financing, they have also helped create sectorial convergence around common standards (EP, 2017).

In addition, the EP initiative provides signatories with opportunities to collaborate and learn from peers about how they implement the EP, leading to the development, implementation, and spreading of best practices, as well as a platform for signatories to engage with a range of stakeholders such as NGOs and clients. By implementing the EP, signatories are able to better assess and monitor both project credit and reputation risk resulting from project financing, and mitigate potential harm to ecosystems and communities (EP, 2017).

The EP are thought to be in a state of flux and to continue evolving in the future. Furthermore, the projects financed by the various financial institutions require a long-term perspective as they are undertaken over several years or decades, such that some of the outcomes are still unknown. It is therefore difficult to measure the outcome effectiveness of this initiative (Meyerstein, 2013). Implementation outcomes remain uncertain, and not many analyses of the implementation of the EP and resulting impacts on both projects and firms exist (Weber and Acheta, 2014).

Critics of the initiative suggest that despite the adoption of the principles, their implementation warrants improvement. EP critics propose that the EP may represent only symbolic efforts made by participating firms if fundamental implementation efforts and enforcement are not undertaken. While proponents find that the EP are useful, critics submit that their implementation and related firm learning are slow. Whether issues are rooted in the EP themselves or in implementing firms is not clear. Some wonder whether the EP represent only a reactive measure required for project legitimation and firm reputation enhancement, or whether they can also effectively eliminate or reduce project sustainability-related impacts

(Weber and Acheta, 2014). At the same time, it was shown that any decoupling between principle adoption and implementation may be temporary, and that there might be a time lag between adoption and implementation as perceived by internal as well as external stakeholders. Furthermore, the diffusion of the initiative's principles is likely to benefit from low barriers to entry, even if it means that proper implementation may take some time (Haack et al., 2012).

Connecting between participation in an initiative and the various performance indicators, the GC's principles 1-6 are all relevant as far as fundamental human rights performance along the supply chain is concerned. These principles ask participating firms to protect human rights, and address issues such as human rights abuses, forced labor, child labor, discriminatory practices, and freedom of association (GC, 2017). Human-rights-related issues are present in PACI's requirements as well. Participating firms are required to respect human dignity and adhere to non-discrimination, fair treatment, labor, and health and safety practices (PACI, 2017).

The RC also seems to strongly focus on improving sustainability throughout the supply chain. For example, firm facilities should be designed and operated in a safe and secure manner, and products should be manufactured safely (RC US, 2017). Nevertheless, the need to safeguard basic human rights by ensuring the removal of forced labor, child labor, and guaranteeing the freedom of association is not highlighted. It is therefore likely that learning opportunities regarding how to address fundamental human rights concerns will be scant.

Finally, with regards to the EP, as far as social and environmental performance indicators go, this particular initiative is different from the others. In this case, it is the firms' clients that are expected to ensure the social and environmental performance of their

operations, with the participating firms being in charge of the verification of clients' performance (EP, 2017). Therefore, the EP does not address participating firms' direct need to tackle fundamental human rights issues. In light of the above, the following hypothesis can be made:

Hypothesis 1: Firm participation in the GC and PACI will be positively related to human rights performance.

Starting again with the GC, with reference to the firm's community performance, principle 10, which discusses corruption, is relevant (GC, 2017). While topics relevant for firms' community performance are not as predominant in the initiative as are issues pertaining to human rights performance, the issue of corruption remains a central one in the initiative.

Moving on, the bulk of PACI's requirements are associated with community performance. The initiative highlights the importance of not just fighting corruption, but also firm adherence to fair competition, business integrity, and ethical business conduct (PACI, 2017). Looking at the RC, in relation to their community performance, participants are expected to improve their communication with local communities and their community awareness and emergency response. Furthermore, participating firms are expected to behave in an ethical manner, and aim for zero accidents, injuries, or harm caused to individuals' health from products and operations (RC US, 2017).

Lastly, it is possible for firm participation in the EP to affect its community performance. This is because participation in the initiative speaks to the firms' ethical behavior and the prevention, or at the very least reduction, of potential negative impact on communities in general (EP, 2017). Hence, it stands to reason that firm participation in this

initiative may be related to community performance. The second hypothesis is therefore the following:

Hypothesis 2: Firm participation in the GC, PACI, RC, and EP will be positively related to community performance.

Considering resource reduction performance, principles 7-9 of the GC all refer to the firms' need to improve the environmental efficiency of their operations. These principles refer to the need for firms to take a precautionary approach and work to prevent environmental degradation, and to the benefits of investing in more sustainable production methods, using cleaner and more efficient processes, as well as "environmentally sound technologies" (GC, 2017).

Next, while PACI mentions the need for firms to protect the environment (PACI, 2017), this issue does not come across as being central to the initiative. Hence, the learning opportunities and benefits that firms may gain from their participation with reference to their environmental performance, which includes resource reduction performance, are not expected to be consequential.

On the contrary, the RC seems to prioritize environmental performance. This includes resource reduction along the supply chain. Participants are expected to address environmental concerns along the supply chain as they examine the performance of their facilities and processes. They are expected to work on pollution prevention, waste minimization, energy conservation, and the environmentally-friendly design and operations of facilities (RC US, 2017).

In the case of the EP, as previously discussed, the environmental performance of participants is not expected to be affected by their participation. In particular, the initiative

does not address the resource reduction of participating firms (EP, 2017). The following is therefore proposed:

Hypothesis 3: Firm participation in the GC and RC will be positively related to resource reduction performance.

With regards to green product innovation, principles 7 and 9 of the GC are both relevant as firms are urged to conduct research and development related to more environmentally-friendly products, and the possibility of creating new business opportunities through technology innovation is highlighted (GC, 2017). Nevertheless, the GC's principles focus mostly on the environmental performance of firms along the supply chain, and only to a much lesser extent are they concerned with the impact on customers. Similarly, as previously mentioned, PACI does not seem to emphasize the need for firms to protect the environment. This includes environmentally-friendly product innovation efforts.

According to the RC, participants should try to improve the performance of their products, including product safety, by designing and developing products that can be disposed of or recycled safely. Furthermore, participants are expected to support research activities linked to environmental effects and product security (RC US, 2017).

Finally, green product innovation appears to be irrelevant in the case of the EP. In this case, the firms are not so much innovating their products as adding requirements or restrictions to existing products, which third parties need to abide by (EP, 2017). The final hypothesis is the following:

Hypothesis 4: Firm participation in the RC will be positively related to green product innovation performance.

METHODS

Data sources

This paper uses longitudinal quantitative data from Thomson Reuters' Asset4 database along with qualitative interview data. Asset4 is a corporate-sustainability-focused database, covering over 6,000 public firms from all major industries and regions of the world. The data analyzed by Asset4 is said to be objective, relevant, and auditable, and is collected from public sources. The Asset4 database provides more than 250 measures of sustainability performance, encompassed within 18 categories, which are grouped into four key sustainability pillars (the economic, environmental, social, and governance pillars) (ASSET4, 2017). The data used span the years 2006-2016, and cover 47 countries: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Czech Republic, Denmark, Dubai, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, and the US.

Whereas the initial dataset includes all firms covered by Asset4 in the years 2006-2016, the analyses in this paper ultimately include around 2,200 firms. This is due to missing observations in the Asset4 database. Of the remaining firms, only around one quarter of the firms have participated in any one of the four initiatives at any point in time during the years covered in this paper (about 80% of total firm-year observations are of firms that have not participated in any one of the four initiatives in a given year).

Furthermore, the paper makes references to 19 interviews conducted with sustainability professionals working in firms or collaborative multi-stakeholder sustainability initiatives headquartered in the US or Europe, deemed to be knowledgeable about firm

participation in said initiatives. Interviewees cover a number of industries (see Table 2 for an overview of interview data). Interviewing professionals that work in firms as well as professionals working in initiatives resulted in the exposure to complementary views about the phenomenon. Professionals working in firms have a better insider's view of firm decision-making and internal processes, while those working for initiatives have a broader view and insights related to participating firms, their industries, and initiative-level outcomes. The interviews were held between October 2016 and May 2017. They were transcribed and then coded and analyzed using the NVivo software. Data from the interviews is used to discuss the suggested learning mechanism and alternative views.

[Insert Table 2 about here]

Measures

Dependent variables

Firms' social and environmental performance includes multiple aspects. Sustainability-related performance measures in existing studies range from very specific ones, such as the measurement of CO₂ emissions (e.g. Delmas and Montes-Sancho, 2010), to the broad measure of cumulative abnormal returns (e.g. Janney et al., 2009). This paper takes an intermediate approach by considering environmental and social measures that are neither very narrow, nor very broad (by not using, for example, an overall aggregate measure for firm environmental or social performance), when examining firm performance. This approach is thought to help provide an indication of the impact of firm participation in an initiative on considerably well-defined central areas of corporate sustainability. The selected measures were chosen as they are indicative of the firms' strategic direction and actual firm performance in relation to a number of key salient sustainability areas of concern to firms. In the case of social performance, these areas are the consideration given to human rights along

the firms' supply chain, and the firms' relations with the communities that are affected by the firms' activities along with ethical behavior considerations. In the case of environmental performance, these areas are, on one end of the spectrum, firms' efforts to reduce the use of resources along the supply chain, and, on the other end, the firms' development of eco-efficient products and services, which is a customer-oriented measure. The four different dependent variables were also chosen so as to reflect social and environmental concerns that multi-stakeholder sustainability initiatives often aim to address.

Human rights performance: A measure of firm management's commitment and effectiveness towards respecting fundamental human rights conventions in a given year ranging from 0 to 100. It is indicative of a firm's ability to maintain its license to operate by addressing human rights concerns such as guaranteeing the freedom of association, and making efforts to exclude child and forced labor along the firm's supply chain. More concretely, this measure primarily considers whether the firm claims to comply with fundamental human rights conventions/declarations, undertakes relevant policies, monitoring activities and processes, and the number of known controversies that the firm was involved in related to human rights, freedom of association, and child labor issues.

Community performance: A measure of firm management's commitment and effectiveness towards maintaining the firm's reputation within the community (local, national, and global) in a given year ranging from 0 to 100. It is indicative of a firm's ability to maintain its license to operate by being a good citizen, protecting public health, and respecting business ethics. More concretely, this measure primarily considers the firm's undertaking of relevant policies and codes of conduct, the number of known controversies that the firm was involved in related to the health and safety of third parties, business ethics, political contributions, bribery and corruption, tax fraud, parallel imports or money laundering, and anti-competitive

behavior, as well as any relevant firm penalties or fines, in addition to whether the firm has received a sustainability award.

Resource reduction performance: A measure of firm management's commitment and effectiveness towards achieving an efficient use of natural resources in the production process in a given year ranging from 0 to 100. It is indicative of a firm's ability to reduce the use of materials, energy or water, and find eco-efficient solutions by improving supply chain management. More concretely, this measure primarily considers the firm's undertaking of relevant processes and objectives in place, and the number of known controversies that the firm was involved in related to the environmental impact of the firm's operations on natural resources or local communities.

Green product innovation performance: A measure of firm management's commitment and effectiveness towards the development of eco-efficient products or services in a given year ranging from 0 to 100. It is indicative of a firm's ability to reduce environmental costs for customers, and to create new market opportunities through the use of eco-friendly technologies, processes, and designs. More concretely, this measure primarily considers whether the firm has an environmental product innovation policy, the total amount of environmental research and development (R&D) costs, the total amount of environmental R&D costs divided by sales, and the number of known controversies that the firm was involved in related to the environmental impact of the firm's products.

Independent variables

GC: Equals 1 if a given firm participated in the Global Compact initiative in a given year; 0 otherwise.

PACI: Equals 1 if a given firm participated in the Partnership Against Corruption Initiative in a given year; 0 otherwise.

RC: Equals 1 if a given firm participated in the Responsible Care Initiative in a given year; 0 otherwise.

EP: Equals 1 if a given firm participated in the Equator Principles initiative in a given year; 0 otherwise.

Controls

Lagged dependent variable: Regressions include a one-year-lagged dependent variable to address concerns that the dependent variable in year_t is auto-correlated with its year_{t-1} level.

Size: Logged revenue in US dollars obtained by a given firm in a given year to control for firm size.

Liquidity: A firm's current ratio (total current assets/total current liabilities) in a given year. It is used to control for the effect that short-term funds availability may have on a firm's likelihood or ability to address sustainability concerns.

Capital expenditure: The average of the last five years of a firm's capital expenditures divided by revenue. It is used to control for the effect that long-term firm investment may have on its likelihood or ability to address sustainability concerns.

R&D expenditure: A firm's R&D costs divided by revenue in a given year. It is used to control for the effect that firm investment in innovation efforts may have on its likelihood or ability to address sustainability concerns.

Statistical model specification

A panel fixed effects model was run in order to test if there is an association between firm participation in a given initiative and the various performance measures. The dependent variables were winsorized (5% of observations, or the lowest and highest 2.5% of observations, were removed to account for any outliers in the data). Control variables were standardized (except for the lagged dependent variable). Models include firm and year fixed

effects, and two-way cluster-robust standard errors (firm and year) such that the standard errors allow for intragroup correlation, relaxing the requirement that the observations be independent.

The Hausman test was run to confirm the suitability of using a fixed effects model. Results indicate that the preferred model is indeed a fixed effects model (and not a random effects model). Additionally, variance inflation factors (VIF) were checked to detect whether there are high levels of multicollinearity among the variables that could affect the results. The independent variables' VIF in all of the models are below 1.5.

Robustness checks

Robustness checks including the use of non-logged dependent variables, running a regression specification that also controls for autocorrelation, and a regression specification that includes lagged controls, were conducted. Results remain for the most part robust to the main specification whose results are provided in the section below (results remain qualitatively similar).

RESULTS

The statistical results indicate that, overall, there is a positive relationship between firm participation in a multi-stakeholder initiative and relevant dependent variables. Some results, however, point to a non-statistically-significant relationship, or even a negative one. While some of the non-significant relationships were expected, no negatively significant result was anticipated. Tables 3 and 4 below contain descriptive statistics (Table 3), and an overview of the results (Table 4).

[Insert Tables 3 and 4 about here]

It may be noted, that while there is a relatively high correlation between the performance measures, they are theoretically different. As previously explained, human rights performance is primarily concerned with the way in which the firm addresses basic human rights along the supply chain, and is therefore most relevant for suppliers. Community performance is predominantly concerned with the relationship between the firm and the community resulting from the firm's demonstration of relatively good or bad citizenship and ethical behavior. Resource reduction performance is most closely related to the environment, as it points to a firm's use of natural resources along the supply chain and any negatively ensuing impact. Green product innovation looks at a firm's final products and services, and the effect on customers and business opportunities, along with any negative environmental impact resulting from the use of final products, and is therefore most closely associated with customers.

Moving on to regression results, with reference to the GC, the results indicate that there is a positive relationship between firm participation and human rights performance, community performance, and resource reduction performance, while there is no significant association with green product innovation performance. More precisely, the results show that human rights performance is expected to be 3.5% higher, community performance is expected to be 9.5% higher, and resource reduction performance is expected to be 1.9% higher for participating firms.

Results for the PACI show a positive association between firm participation and all four performance indicators. In particular, human rights performance is expected to be 7.8% higher, community performance is expected to be 9.8% higher, resource reduction performance is expected to be 3.6% higher, and green product innovation performance is expected to be 6.3% higher for participating firms.

Next, firm participation in the RC is negatively associated with human right performance and positively associated with resource reduction and green product innovation performance, while the results are not statistically significant for community performance. More explicitly, human rights performance is expected to be 7.6% lower, resource reduction performance is expected to be 12.9% higher, and green product innovation performance is expected to be 4.6% higher for participating firms.

Finally, in the case of the EP, there is no statistically significant relationship between firm participation and human rights performance, resource reduction performance, and green product innovation performance, while the relationship between firm participation and community performance is negative and statistically significant such that community performance is expected to be 39.7% lower for participating firms.

Complete regression results according to the various dependent variables are found in Tables 5-8 below. Results for human rights performance are found in Table 5, results for community performance are found in Table 6, results for resource reduction performance are in Table 7, while results for green product innovation performance can be found in Table 8.

[Insert Tables 5-8 about here]

Learning – Qualitative evidence

This section discusses the proposed mechanism linking firm participation in an initiative and the various performance outcomes. The suggested mechanism is learning, and the discussion is based on qualitative, interview-generated, evidence.

The interviews, conducted with both firm and initiative sustainability professionals, highlight the importance of learning and knowledge-sharing activities undertaken within the framework of the initiatives. One of the interviewees, for instance, explained that “the

important thing about these collaborations is what [the firms] are doing, why they're doing it, but then what they learn from it and what they take back to their companies and do differently" (Interview 16), while another one said that "there's plenty of collaborations where it's more about sharing and learning" (Interview 10). The role of learning in the specific context of sustainability was underscored by one of the interviewees who said: "When I look at all of the collaborations that I'm familiar with [...] it's because it's new topics, [firms] need to pilot things, try things out, learn from each other," amongst other things (Interview 16).

Indeed, from the firms' perspective, learning appears to be central to participation as "[collaborating] gives you the opportunity to share best practices and learn from each other" (Interview 17). This was echoed by other interviewees. One said: "I go to conferences and initiatives to see if I learn something new that could help us in solving issues" (Interview 22). Along the same lines, another interviewee said that participation is useful for "getting to know others, learning from others, sharing information, bringing back information into your own company that can help you, others, understand a particular topic" (Interview 11). An additional interviewee explained: "I think that the motivation [for companies] is to learn from others. Other businesses that have been perhaps dealing with similar challenges" (Interview 13). Similarly, another interviewee felt that participation is "really important because there you can share your experience first of all with others, and you can hopefully learn from the others, and I can tell you it is really important to do that [...] when you have an organization that you are a part of and you have the opportunity to understand what others are doing" (Interview 19). This is because "on the topics in the sustainability space, you really need to share expertise and knowledge because that's how you basically get a better grip on a topic" (Interview 11).

From the initiatives' perspective, some initiatives clearly "see a lot of exchange of ideas, how do [participating firms] do it, and how do they approach certain problems they have. So it's sharing, definitely a sharing benefit" (Interview 18). Initiatives perceive "a clear wish of brands to have meetings, opportunities to learn from each other" (Interview 14). Furthermore, "the smallest [companies] certainly benefit from joining forces because alone they are too small and they don't have the time or experience in learning about sustainability. [...] For the big ones, the initial motivation is to find a way to learn from peers, improve their own systems because they [...] would like to hear from others and also from [the initiative] where and how they could improve whatever they have" (Interview 18). Some of the initiatives are aware of the fact that "the multinationals, they discuss amongst themselves a lot when we have our annual conferences for example, or, you know, any kind of gathering or scheduled phone calls when they're all on there" (Interview 25). Some initiatives proactively try to "encourage companies to share information that's not necessarily in the public domain because that's a good way to actually learn, for companies to learn from each other" (Interview 13), and stimulate learning by, for example, setting up "a kind of living wage incubator with a smaller group of brands where they can work together and learn from each other on pilot projects related to living wage so that we also stimulate their learning process amongst them" (Interview 14). As one interviewee put it, "people want to learn from each other, sharing experiences is the link to learning" (interview 11).

A more collective perspective of knowledge sharing to generate better understanding, knowledge, and/or solutions, transpires from the following interviewee's point of view that by collaborating "you have the opportunity to develop a joint course. When you are in those organizations [...] it's a way to understand together which are the challenges and problems that we have as a whole industry, but try to find common solutions. [...] So I think that the

important thing of these organizations is that we work together with others on topics that are both important for us and for [others]” (Interview 19). Some activities are expressly set up for the generation of collective knowledge, as suggested by an interviewee who mentioned “a working group where the mission of the working group and the core activity is knowledge sharing” (Interview 6). The inability of single firms to have all of the relevant knowledge is evident in the following interviewees’ statements: “We source a lot of things, right? And there’s no way that we could say that we’re experts in what is the real solution for the producers of those products, right? And we don’t have the knowledge, I mean it’s with other people. So we need to bring together people to come up with solutions to learn” (Interview 9), and “there’s so much to be done and so much to be digested. [...] I mean who has all the knowledge in animal welfare? In plant functions? And so on” (Interview 8). More generally, one interviewee observed that “most of [the companies] don’t have enough knowledge, and basically there is a need to build capacity and understanding” (Interview 23).

Finally, “central bodies” (e.g. initiative secretariats) may “try to extract as much learning and good practices as possible [from participants] so that other companies and players could benefit” (Interview 13). They may also organize various events such as “a yearly conference for our members and stakeholders [...] We want to stimulate brands to share their successes with each other” (Interview 14). Initiatives may bring firms “together sometimes by sector where we put light on specific topics. Knowledge sharing is a very important part which happens during these forums” (Interview 4).

While it is evident from the interview data that firm participation in an initiative can help firms improve their performance through learning, self-selection of firms into the initiative may raise some doubts as to the importance of learning. In particular, concerns may relate to firms possibly choosing to participate because they are inherently more willing to

make an effort towards the resolution of sustainability concerns, which ultimately results in improved performance, and to the participation decision being linked to existing relative performance levels.

Starting with the willingness of firms to make an effort as an explanation of their choice to participate in an initiative and their ability to benefit from it, it is true that joining an initiative goes beyond the simple signing of a document. Often, before a firm can participate in an initiative it goes through an internal approval process. Once a firm is committed, it is at the very least more exposed, and is expected to participate, as well as report on the efforts it makes. Reporting is required even in the case of the GC, which is an initiative that does not monitor member performance. Hence, firms need to invest resources into their participation. However, this does not suggest that firms that do not participate do so because they are less willing to make an effort to address sustainability concerns. In fact, some non-participants may end up making more of an effort than they would have if they had chosen to participate in existing initiatives. For instance, a firm from the textile industry chose not to participate in existing initiatives and “develop its own tool to regulate chemicals [...] and to phase out of them” (interview 20). It did so as it considered this approach to be “not only very effective but also very cost efficient” (interview 20). In this case, the firm did not perceive learning opportunities provided by initiatives as useful for tackling the particular issue of chemicals. Instead, the firm considered the fact that it could lose some control and that it would need to pay a fee (interview 20). Furthermore, the effort argument seems irrelevant in the case of industry regulation initiatives such as the RC. This is because all of the firms that are part of an industry association are required to join the initiative. Hence, firms do not self-select into the sustainability initiative, but they join the industry association instead.

Participation may also not be linked to particularly good or bad firm performance. Regardless of existing performance levels, firms can potentially benefit from their participation. Relatively high-performing firms may have already solved the sustainability issues that they could have solved on their own, leaving them with only the complex, systemic ones that they cannot solve at an individual firm level. They need to work with others to move forward. Relatively low-performing firms may potentially enter at an earlier stage as far as their sustainability efforts are concerned, and “leapfrog” in relation to their sustainability efforts through their exposure to the experience of others (interview 10).

In reality, reasons for the non-participation of particular firms vary. Firms may choose not to participate because they want to maintain their reputation. In effect, when participating in an initiative, participants link their reputation to the reputation of other members, as well as the reputation of the initiative. While some firms may expect their participation to help them improve their reputation, participation could also be risky. This is because a tainted reputation of some of the participants can taint the reputation of other participants. As suggested by an interviewee, “initiatives are vulnerable to the weakest link in the initiative [...] The companies in initiatives are exposed to bad reputation because of bad apples in the initiative” (interview 1). Therefore, some firms choose not to participate to safeguard their reputation.

As suggested above, some firms do not want to participate in an initiative because they want to have control over and influence the principles and guidelines that they are implementing and are relevant for them, and they feel that they will not be able to do so as part of an initiative. Relatedly, some firms want to have “their own stamp and it needs to be their program” (interview 9). Some firms want to be able to say that the actions that they are taking are exclusively firm-related. Firms may also want to maintain a certain position in the

eyes of stakeholders, such as having a leadership or first-mover role, which could be harmed if the firm were to join forces with others (interview 22). Such firms can end up exerting more effort than firms participating in existing initiatives because they create and implement solutions that are relevant for them on their own. These firms may also eventually share their solutions, which could be in the form of standards, for example, with other firms.

Additionally, firms may choose not to participate in initiatives because they do not think that any of the existing initiatives are a good fit for their firm. This may be because the firm's business model is too complex for there to be a good match. As recounted by one interviewee with regards to their firm, "the [firm] is very complicated. [...] It has so many different business models. So I think for [the firm] it is always hard to find an initiative that would fit all" (interview 22).

Moreover, firms may choose not to participate in initiatives because they perceive a high level of competitive intensity in their industry, and they are unable or unwilling to separate between competitive logics and collaborative logics needed to address some sustainability issues. It can be "difficult to imagine to sit with the people you battle so hardily and brutally every day in the commercial [side]" (interview 8). Firm perception in relation to antitrust concerns can also act as a barrier to participation. This is because some firms worry that participating in initiatives alongside their competitors may be perceived by some stakeholders as a possible breach of antitrust laws. This is why in some cases "when there is a meeting [as part of the initiative], we sign the antitrust agreement [...]. That kind of means that [...] it's purely a non-competitive environment" (interview 12). Still, participating in an initiative can "raise a lot of questions, so maybe that's also something that is not quite clear yet that it's not price fixing or that this is not a cartel" (interview 22).

Hence, a range of managerial considerations accompany a firm's decision to join or not to join multi-stakeholder initiatives, which are unrelated to firms' willingness to make an effort to resolve sustainability concerns, nor to the initial level of firms' performance. In this particular context of sustainability, often firms need to join initiatives because this is the only way for them to advance their sustainability efforts due to the nature of the issues that need to be addressed.

DISCUSSION AND CONCLUSIONS

The statistical results described in the previous section indicate mixed findings. Most of the results are in line with the hypothesized relationships, whereas some were unexpected, pointing to possible decoupling between initiative aims and outcomes. Starting with the GC, all four regression results are as anticipated. Firm participation is positively associated with human rights, community, as well as resource reduction performance, while there is no significant relationship between participation and green product innovation performance. Interestingly, despite the very strong emphasis of the GC's principles on human rights performance, it is only moderately positively affected by participation (an increase of 3.5%) compared to the positive effect on community performance (an increase of 9.5%), which was not as strongly emphasized. At the same time, the positive effect on resource reduction performance, which is mentioned or alluded to in three out of the ten principles, is quite small (an increase of 1.9%). These results may indicate that the new knowledge that can be obtained through learning opportunities available to participating firms on the topics of basic human rights and resource reduction is more limited compared with knowledge on community topics, and that knowledge on these topics is more widely held and accessible also to non-participating firms. Another explanation could be that it is not necessarily how

strongly an initiative underscores certain issues that counts, but the fact that the issues are underscoring coupled with participating firms' interests. It is plausible that participating firms have been feeling strongly about addressing increasing stakeholder calls for firms to show "good citizenship" and behave more ethically, and that they have been taking advantage of learning opportunities on this topic and implementing what they have learned to a larger extent than in relation to basic human rights or the reduction of the use of natural resources.

The latter explanation could also help explain the results obtained for PACI. It was anticipated that participation in this anti-corruption initiative would help improve participants' social performance - both their human rights and their community performance. It was also expected that the effects for community performance would be greater (indeed, for human rights performance there is an increase of 7.8%, while for community performance there is an increase of 9.8%). It was not, however, envisaged that participation in PACI would also be positively associated with environmental performance, given that the emphasis on environmental protection was quite weak. Nevertheless, regression results point to a positive association of participation with both resource reduction and green product innovation performance.

A more surprising result is the one obtained for the association between firm participation in the RC and human rights performance. This association, which was expected to be non-significant, is actually negative. As previously explained, the initiative does not emphasize the need for participating firms to safeguard basic human rights by ensuring the removal of forced labor, child labor, and guaranteeing freedom of association. It is possible that participating firms' efforts to address and adhere to the RC's guidelines may distract their attention away from dealing with what are regarded as basic human rights concerns, as they focus on the fulfillment of the expectations of this industry-wide initiative. At the same

time, non-participating firms may “start with the basics” and place more attention on addressing fundamental human rights concerns along their supply chains. Furthermore, community performance, which was expected to be positive, is non-significant. This may suggest that knowledge regarding how to address community concerns is widespread, such that participation in the initiative does not provide participants with any particular advantages as far as community performance is concerned (i.e. there is a level playing field). Finally, the association between firm participation in the RC and environmental performance is positive as anticipated.

Moving on to the final initiative, whereas the association between firm participation in the EP and human rights, resource reduction, and green product innovation performance is non-significant as expected, the relationship between firm participation and community performance is negative (while it was expected to be positive), and the effect size is large. It may be worth keeping in mind that firms that participate in the EP are often large, very well-known, industry front-runners. It is possible that firms that join the EP (which is exclusive to the finance industry) are relatively more visible and subject to external stakeholder scrutiny. These firms are therefore also more likely to be involved in known controversies, and/or they may need to pay relatively more penalties/fines for past actions, which would negatively affect their community performance. Especially considering the crisis of 2008, there can be a time lag between the time that firms “misbehaved” and when firms actually pay (whether literally or figuratively) for their misbehavior. Additionally, previous research suggested that there is a time lag between the adoption of the EP and the implementation of the principles (Haack et al., 2012).

Overall, results indicate that the association between firm participation in the examined cross-industry initiatives and social performance is positive, whereas it is non-

significant or even negative for firms participating in industry-specific initiatives. Results also indicate that firm participation in both cross-industry and industry-specific initiatives can, for the most part, help firms improve their environmental performance. While this was not the case for firms participating in the EP, the EP is a special initiative that is not only very specific (single-industry, firms-only), it also belongs to the services-based financial industry. The principles of the EP do not address the sustainability performance of the signatories directly, but are rather more preoccupied with the impact of projects financed by the signatories that are carried out by their clients. Hence, it makes sense that the environmental performance of EP signatories would remain unaffected.

The results also suggest that specific stakeholders may or may not benefit from firm participation in particular initiatives. In the case of cross-industry initiatives, suppliers, the community, the environment, and to a lesser extent, customers, are likely to benefit from firm participation. In the case of industry-specific initiatives, as per the results, suppliers and the community are not likely to benefit from firm participation in these initiatives, while participation could be beneficial for the environment and customers.

Regarding the preference of some types of initiatives over others found in the literature (e.g. some prefer the broad, GC-like initiatives, while others prefer a narrower, industry-focused approach), the results do not single out any particular type as being better. On the whole, the data analysis suggests that by understanding the aims of the initiatives and whether they are relevant for the evaluated performance indicator, as well as whether the initiatives foster an environment that is conducive to participating firms' learning and knowledge-sharing, it may be possible to anticipate whether, on average, firm participation will be associated with enhanced performance.

In effect, qualitative findings suggest that the main driver of participation value perceived by both initiative participants (represented by firm sustainability professionals) and the initiatives themselves (represented by initiative employees) are the various learning and knowledge-sharing opportunities that participants are exposed to through their participation. Firms need to be receptive and involved with the initiative if they wish to improve their individual social and environmental performance, and move beyond the symbolic adoption of initiative guidelines or principles.

While existing studies on multi-stakeholder sustainability initiatives tend to focus on a single initiative or type of initiative, are more limited in scope in terms of the type of performance evaluated, and are often qualitative in nature, this study tries to provide a relatively broader view, both in terms of the range of types of initiatives examined, as well as the range of performance indicators considered. It combines quantitative analyses with qualitative, interview-based evidence, in an attempt to get a better understanding of the proposed mechanism. The results of this study may be helpful in guiding firms as they consider which initiatives to join based on their needs, moving away from any assumptions that have been made in existing literature advocating for one type of initiative over other types.

This study has various limitations. First, the data used pertains to large public firms, whereas SMEs also participate in collaborative multi-stakeholder sustainability initiatives. Future research may take a closer look at SMEs. Second, it is difficult to completely rule out reverse causality, even though attempts have been made to address this issue through various robustness checks, as well as through the presentation of qualitative evidence. Third, in addition to trying to see if the results hold using other data sources, this study is broad in nature, such that additional research could take a more fine-grained approach. This could be

done by considering, for example, different firm and industry attributes, as well as different institutional contexts that firms evolve in, in order to better understand to what extent different types of firms may or may not benefit from participation in collaborative multi-stakeholder sustainability initiatives. Moreover, caution should be taken with the generalization of the findings, as these are based on results obtained for four out of many existing initiatives, and further probing and understanding of the reasons behind the apparent decoupling between initiative aims and outcomes may be worthwhile.

Finally, existing literature proposes that different initiatives can complement more traditional regulatory approaches, as well as each other. For example, the GC and RC in particular, and industry self-regulation in general, have been said to be complementary to government regulation (Druckrey, 1998; Kell, 2005; King and Lenox, 2000). At the same time, the GC, for example, is also seen as a complement to other voluntary standards (Rasche and Waddock, 2014). The GC has been referred to as being only one of many initiatives that firms participate in, as many of the sustainability issues that firms try to address are industry-specific (Runhaar and Lafferty, 2009), and may require firm participation in industry-specific initiatives. Future quantitative studies could try to test this idea of complementarity (and substitutability), moving beyond the testing of individual initiatives one at a time.

In sum, while firms undertake a variety of actions to try to address their sustainability concerns, participation in collaborative multi-stakeholder initiatives is an increasingly popular approach taken by firms to try to improve their social and environmental performance in light of the systemic, intricate, and global nature of many sustainability issues. The outcomes of this study suggest that, overall, firm participation in initiatives can be positively associated with sustainability-related firm performance, regardless of the type of multi-stakeholder initiative assessed, and that different sustainability outcomes and firm

stakeholders may be affected in different ways by a firm's choice to partake in an initiative. It is argued that the results obtained for the association between firm participation in an initiative and the various performance outcomes are related to the learning opportunities provided to firms through their participation in the initiative. All in all, the results of this study suggest that firm participation in collaborative multi-stakeholder sustainability initiatives can assist participating firms in rising to some of the many sustainability challenges that they are called upon to address.

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Table 1 – Initiative overview

	Issue breadth	Sector breadth	Industry breadth	Leadership	Fees
GC	Very broad	Multi-sector	Multi-industry	The UN	Yes
PACI	Specific (corruption)	Multi-sector	Multi-industry	The business sector	No
RC	Broad but relevant for the industry	Multi-sector (due to industry associations)	Single-industry	Key role of industry associations	Yes
EP	Specific (project financing)	Peers	Single-industry	The business sector	Yes

Table 2 – Interview overview

Interview #	Organization type	HQ location	Industry	Organization age (in years)	Firm size (2016 revenues in billions of USD)	Management level/location within firm
1	MSI	Europe	Cross-industry	Between 51-99		
4	MSI	Europe	Cross-industry	20 or below		
6	Firm	Europe	Finance	20 or below	20 or below	Senior/HQ
8	Firm	Europe	Food & beverages	Over 100	Between 51 and 99	Senior/HQ
9	Firm	US	Food & beverages	Between 51-99	Between 21 and 50	Middle/Regional office
10	MSI	US	Cross-industry	Between 21-50		
11	Firm	Europe	Finance	Over 100	Between 21 and 50	Senior/HQ
12	MSI	Europe	Single industry	20 or below		
13	MSI	Europe	Cross-industry	Between 51-99		
14	MSI	Europe	Single industry	20 or below		
16	MSI	US	Cross-industry	Between 21-50		
17	Firm	US	Finance	Over 100	Between 51 and 99	Senior/HQ
18	MSI	Europe	Cross-industry	Over 100		
19	Firm	Europe	Food and beverages	Over 100	20 or below	Senior/HQ
20	Firm	US	Apparel	Over 100	20 or below	Middle/Regional office
21	Firm	US	Finance	Over 100	Between 51 and 99	Senior/Main office
22	Firm	Europe	Retail	Between 51-99	20 or below	Middle/HQ
23	MSI	Europe	Single commodity	Over 100		
25	MSI	Europe	Single commodity	Over 100		

Note: MSI stands for multi-stakeholder initiative; In the Industry column, the industry is provided for firms, and an indication of whether the initiative covers one or more industries is provided for initiatives. This is to help preserve responders' anonymity.

Table 3 – Descriptive statistics

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Human Rights	1.00										
2. Community	0.53 (0.00)	1.00									
3. Resource Reduction	0.64 (0.00)	0.66 (0.00)	1.00								
4. Green product Innovation	0.48 (0.00)	0.45 (0.00)	0.63 (0.00)	1.00							
5. GC	0.4 (0.00)	0.3 (0.00)	0.36 (0.00)	0.28 (0.00)	1.00						
6. PACI	0.1 (0.00)	0.06 (0.00)	0.07 (0.00)	0.05 (0.00)	0.15 (0.00)	1.00					
7. RC	0.03 (0.00)	0.05 (0.00)	0.07 (0.00)	0.07 (0.00)	0.02 (0.00)	0.03 (0.00)	1.00				
8. EP	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	0.03 (0.22)	0.00 (0.17)	1.00			
9. Size	0.1 (0.00)	0.07 (0.00)	0.12 (0.00)	0.09 (0.00)	0.11 (0.00)	0.05 (0.00)	0.01 (0.12)	0.00 (0.00)	1.00		
10. Liquidity	-0.14 (0.00)	-0.16 (0.00)	-0.17 (0.00)	-0.16 (0.00)	-0.09 (0.00)	-0.02 (0.04)	-0.02 (0.2)	0.02 (0.14)	-0.04 (0.00)	1.00	
11. Capex	-0.02 (0.01)	-0.02 (0.00)	-0.03 (0.01)	-0.02 (0.00)	-0.01 (0.18)	0.00 (0.76)	0.00 (0.8)	0.00 (0.97)	0.00 (0.54)	0.03 (0.00)	1.00
12. R&D Expense	-0.02 (0.02)	-0.02 (0.01)	-0.02 (0.03)	0 (0.57)	-0.01 (0.34)	0 (0.81)	0 (0.83)	0 (0.97)	0 (0.72)	0.03 (0.00)	0.08 (0.00)

Note: Correlation significance is in parentheses

Table 3 – Descriptive statistics – Continued

	Mean	S.D.	Min	Max
Human rights	55.838	31.633	5.48	99.62
Community	53.449	30.89	2.74	97.18
Resource reduction	58.1	31.537	6.52	96.83
Green product innovation	58.792	32.135	9.04	99.25
GC	0.179	0.383	0	1
PACI	0.014	0.115	0	1
RC	0.011	0.104	0	1
EP	0.01	0.016	0	1
Size	1.39E+10	8.06E+10	2973.2	4.51E+12
Liquidity	2.293	3.513	0.06	230.19
Capex	0.62	27.08	0	3154.97
R&D Expense	1.667	99.005	0	11509

Table 4 – Results overview

	Human rights	Community	Resource reduction	Green product innovation
GC	0.0345***	0.0906***	0.0187**	n.s.
PACI	0.0754**	0.0939***	0.0356*	0.0613**
RC	-0.0790**	n.s.	0.1214***	0.0446**
EP	n.s.	-0.5054***	n.s.	n.s.

Note: *** p<0.01, ** p<0.05, * p<0.1, n.s. are non-significant results

Table 5 – Human rights

Dependent variable: Human Rights	(1) Controls only	(2) GC	(3) PACI	(4) RC	(5) EP
Human rights lagged	0.5401*** (0.0125)	0.5383*** (0.0125)	0.5397*** (0.0125)	0.5395*** (0.0125)	0.5401*** (0.0125)
Size	0.0324*** (0.0106)	0.0320*** (0.0106)	0.0320*** (0.0106)	0.0332*** (0.0106)	0.0324*** (0.0106)
Liquidity	0.0003 (0.0023)	0.0004 (0.0023)	0.0004 (0.0023)	0.0003 (0.0023)	0.0003 (0.0023)
Capex	0.0643** (0.0275)	0.0628** (0.0276)	0.0639** (0.0275)	0.0650** (0.0276)	0.0643** (0.0275)
R&D expenditure	-0.0000 (0.0005)	-0.0001 (0.0005)	-0.0001 (0.0005)	0.0000 (0.0005)	-0.0000 (0.0005)
GC		0.0345*** (0.0100)			
PACI			0.0754*** (0.0168)		
RC				-0.0790** (0.0320)	
EP					-0.0244 (0.1727)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Number of firms	2,214	2,214	2,214	2,214	2,214
Adjusted R ²	0.3852	0.3857	0.3856	0.3857	0.3852

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 6 – Community

Dependent variable:	(1)	(2)	(3)	(4)	(5)
Community	Controls only	GC	PACI	RC	EP
Community lagged	0.3019*** (0.0123)	0.2990*** (0.0123)	0.3016*** (0.0123)	0.3019*** (0.0123)	0.3020*** (0.0123)
Size	0.0917*** (0.0205)	0.0904*** (0.0205)	0.0911*** (0.0206)	0.0914*** (0.0205)	0.0911*** (0.0205)
Liquidity	-0.0112 (0.0075)	-0.0111 (0.0075)	-0.0112 (0.0075)	-0.0112 (0.0075)	-0.0112 (0.0075)
Capex	0.0550 (0.0956)	0.0509 (0.0954)	0.0544 (0.0956)	0.0547 (0.0956)	0.0542 (0.0956)
R&D expenditure	-0.0101*** (0.0026)	-0.0102*** (0.0026)	-0.0101*** (0.0026)	-0.0101*** (0.0026)	-0.0101*** (0.0026)
GC		0.0906*** (0.0149)			
PACI			0.0939*** (0.0326)		
RC				0.0302 (0.0366)	
EP					-0.5054*** (0.1377)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Number of firms	2,214	2,214	2,214	2,214	2,214
Adjusted R ²	0.1948	0.1967	0.1952	0.1949	0.1952

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 7 – Resource reduction

Dependent variable: Resource reduction	(1) Controls only	(2) GC	(3) PACI	(4) RC	(5) EP
Resource reduction lagged	0.4234*** (0.0137)	0.4227*** (0.0137)	0.4232*** (0.0137)	0.4221*** (0.0137)	0.4234*** (0.0137)
Size	0.1360*** (0.0157)	0.1358*** (0.0157)	0.1358*** (0.0157)	0.1351*** (0.0157)	0.1360*** (0.0157)
Liquidity	-0.0021 (0.0054)	-0.0021 (0.0054)	-0.0021 (0.0054)	-0.0021 (0.0054)	-0.0021 (0.0054)
Capex	0.0645 (0.0636)	0.0636 (0.0637)	0.0642 (0.0636)	0.0637 (0.0635)	0.0645 (0.0636)
R&D expenditure	0.0004 (0.0014)	0.0004 (0.0014)	0.0004 (0.0014)	0.0003 (0.0014)	0.0004 (0.0014)
GC		0.0187** (0.0095)			
PACI			0.0356* (0.0198)		
RC				0.1214*** (0.0203)	
EP					-0.0078 (0.0382)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Number of firms	2,214	2,214	2,214	2,214	2,214
Adjusted R ²	0.3095	0.3096	0.3096	0.3104	0.3095

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 8 – Green product innovation

Dependent variable:	(1)	(2)	(3)	(4)	(5)
Green product innovation	Controls only	GC	PACI	RC	EP
Green product inn. lagged	0.3456*** (0.0134)	0.3455*** (0.0134)	0.3453*** (0.0134)	0.3454*** (0.0134)	0.3452*** (0.0134)
Size	0.0518*** (0.0114)	0.0517*** (0.0114)	0.0514*** (0.0114)	0.0514*** (0.0114)	0.0521*** (0.0114)
Liquidity	-0.0007 (0.0024)	-0.0007 (0.0024)	-0.0007 (0.0024)	-0.0007 (0.0024)	-0.0007 (0.0024)
Capex	0.0781** (0.0311)	0.0778** (0.0311)	0.0776** (0.0310)	0.0777** (0.0310)	0.0785** (0.0312)
R&D expenditure	0.0002 (0.0007)	0.0002 (0.0007)	0.0002 (0.0007)	0.0002 (0.0007)	0.0002 (0.0007)
GC		0.0062 (0.0093)			
PACI			0.0613** (0.0281)		
RC				0.0446** (0.0224)	
EP					0.2570 (0.2042)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Number of firms	2,214	2,214	2,214	2,214	2,214
Adjusted R ²	0.2215	0.2215	0.2219	0.2217	0.2218

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Context matters: Does the location of a firm's headquarters affect its ability to benefit from its participation in multi-stakeholder sustainability initiatives?

ABSTRACT

Global multi-stakeholder initiatives have become increasingly prevalent over time as a means for firms to tackle sustainability concerns, yet individual country contexts may vary widely. This paper assesses the link between firms' participation in said initiatives and their social and environmental performance, taking into consideration the institutional context of the countries in which firms are headquartered, by evaluating the moderating effect of corruption levels on performance. Three characteristically different initiatives are examined to cover a range of initiative types: The United Nations' (UN) Global Compact, the World Economic Forum's (WEF) Partnership Against Corruption Initiative, and the mining and metals industry's International Council on Mining and Metals. The hypothesized relationships are tested using annual firm-level panel data for the years 2006-2016. Obtained results indicate mixed findings, which partially support the hypothesized relationships. The findings point to the importance of taking country context into account when evaluating the effect of firm participation in multi-stakeholder initiatives on both its social and environmental performance.

Keywords: Sustainability, multi-stakeholder initiatives, corruption, institutional context, social performance, environmental performance

INTRODUCTION

Institutional contexts vary greatly between countries. As such, similar actions taken by firms headquartered in different countries can result in different outcomes. As firms from all over the world join global multi-stakeholder sustainability initiatives created in an effort to address global governance gaps (Voegtlin and Pless, 2014), the context of the country in which they are headquartered may affect participation outcomes.

Over recent decades, a large number of cooperative agreements that are self-regulating and (potentially) self-enforcing (King, Prado, and Rivera, 2012) have been founded to assist firms in their sustainability efforts (Runhaar and Lafferty, 2009). These cooperative agreements, which are often referred to as multi-stakeholder initiatives, while prevalent, are said to be underexplored (Baumann-Pauly, Nolan, van Heerden, and Samway, 2017). A better understanding of participation benefits, outcomes, as well as the effectiveness of the initiatives is called for (Arevalo and Aravind, 2017; Lin-Hi and Blumberg, 2017) in light of mixed findings.

Additionally, a recent literature review of the international sustainability literature points not only to the need to further examine specific actors or organizations such as multi-stakeholder initiatives, but also to the need to examine different geographical contexts (Pisani, Kourula, Kolk, and Meijer, 2017). For example, as it stands, most empirical studies looking at industry self-regulation (a type of multi-stakeholder initiative) have considered developed country contexts. The need for additional research on the effectiveness of different types of initiatives in developing country contexts has been raised (King et al., 2012).

Furthermore, concerns regarding the rigor and generalizability of existing studies have been expressed due to the widespread use of single case studies or comparative case studies with a small number of cases (King et al., 2012; Zeyen, Beckmann, and Wolters,

2016), as well as the design of studies based on a comparison between a small number of countries, such as two or three. It has been suggested that a minimum of seven to ten countries should be considered for the generation of credible generalizations. Hence, the use of larger samples of countries has been recommended (Franke and Richey, 2010). Finally, it is rare to find different types of multi-stakeholder initiatives being considered at the same time when evaluating initiatives' performance (Baumann-Pauly et al., 2017).

This paper's aim is to start answering the following question: Is the relationship between firm participation in multi-stakeholder sustainability initiatives and its social and environmental performance affected by the location of firm headquarters? In order to do so, the relationship between firm participation in three distinct multi-stakeholder sustainability initiatives and firms' social and environmental performance is examined considering country corruption levels. Corruption levels are seen as a proxy for the institutional context in which firms headquartered in different countries evolve, and as a factor that is likely to affect firms' sustainability approach. The three initiatives considered in this paper are the United Nations' Global Compact (GC), the World Economic Forum's Partnership Against Corruption Initiative (PACI), and the mining and metals industry's International Council on Mining and Metals (ICMM). Two indicators of social performance are taken into account. One measures the firm's basic human rights performance along the supply chain, and the second measures the firm's community performance. Similarly, two indicators of environmental performance are taken into account. The first looks at resource reduction along the supply chain, and the second at green product innovation.

This paper aspires to contribute to a better understanding of the benefits of firm participation in multi-stakeholder sustainability initiatives. It does so in a number of ways. First, this study takes into account different types of multi-stakeholder initiatives. Second, it

considers a number of both social and environmental performance measures that are related to firms' suppliers, community, the environment, and customers, exploring the effect of firm participation in certain initiatives on a range of stakeholders. Third, taking a quantitative approach, this longitudinal study includes a relatively large sample of countries to help assess the importance of geographical context by distinguishing between firms headquartered in countries with different corruption levels.

In order to test the proposed relationships, a fixed effects model is run on annual firm-level panel data for the years 2006-2016. Data is obtained from Thomson Reuters' Asset4 database and the World Bank's Worldwide Governance Indicators project. The results point to mixed findings, which partially support the hypothesized relationships. Overall, the variability in country contexts seems to matter in the case of social, as well as environmental performance. The findings underscore the importance of paying attention to the institutional context that firms participating in multi-stakeholder initiatives evolve in when assessing initiative participation outcomes.

The rest of this paper is organized in the following manner. The next section includes a literature review along with hypothesis development. This is followed by a methods section. Then, a results section including a description of the results, followed by a discussion and conclusions section that includes a discussion of the results, can be found.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Country competitiveness is thought to be determined by innovation, human resources, unit cost economies, firm-level determinants, demand-side factors, and institutional/policy environmental factors. The implementation of sustainability strategies can help improve the quality of human resources and business environments, resulting in the enhancement of

country competitiveness via a differentiation-based competitive advantage (Boulouta and Pitelis, 2014).

At the firm level, sustainability has been gaining in strategic importance, and firms have been increasingly adopting standards and practices to help them tackle sustainability challenges and improve their performance (Aqueveque and Encina, 2010). Corporate sustainability enhancement can go hand in hand with economic interests, as it may result in better market access, better communication with stakeholders, enhanced intangible assets such as reputation and firm credibility, as well as reduced regulatory risk. In order to become more sustainable, firms may need to restructure their operations and innovate their processes, which could lead to better productivity and efficiency, and ultimately, help firms improve their own competitiveness, as well as their country's (Gugler and Shi, 2009; Park, Song, Choe, and Baik, 2015).

Within firms, key sustainability programs may be managed centrally in order to effectively link them to the firms' competitive strategy (Park et al., 2015). Indeed, while different approaches to sustainability may exist within a single firm (Gugler and Shi, 2009), firms following a strategic sustainability approach should ideally be able to develop firm-wide competencies and combine strategic capabilities at headquarters with local knowledge (Park et al., 2015).

Ordinarily, headquarters play an important role in firm governance. They have three critical functions. They are in charge of activities related to being the legal domicile of the firm, central monitoring and control functions (including the assessment of worldwide operations), and they also have an entrepreneurial function (which includes the establishment and alteration of the firm's boundaries, and resource allocation decision-making). Even if some activities are delegated to regional, divisional, or country-level head offices, the

headquarters nevertheless remain in charge of a substantial set of functions. Only seldom are headquarters, whose location determines the firm's nationality, moved to a different country (Coeurderoy and Verbeke, 2016).

The role of firm headquarters in addressing systemic-level sustainability issues has been growing in importance, alongside the increasing importance of the role of the business sector in addressing said sustainability concerns. It is believed that in order to improve their social and environmental responsibility outcomes, firms need to collaborate with additional public and private stakeholders such as governments, international institutions, other firms, and non-governmental organizations (NGOs) (Bardy, Drew, and Kennedy, 2012; Beschorner and Müller, 2007; Boddewyn and Doh, 2011). These collaborations are often referred to as multi-stakeholder (sustainability) initiatives. When firms join multi-stakeholder initiatives, they do so at the headquarters' level, including sometimes direct firm CEO involvement. Additionally, firm representatives at these initiatives sit at headquarters or in other firm head offices that are closely linked to the firm's top management.

Multi-stakeholder initiatives try to address a variety of social and environmental issues across and between industries (Castka and Corbett, 2016), and are increasingly popular. Within the framework of a multi-stakeholder initiative, multiple stakeholders (e.g. businesses, NGOs, governments) work together to solve sustainability-related business, social, and environmental issues that are neither solved at the governmental level, nor can they be solved at an individual firm level, by creating governance solutions for social and environmental problems (Baumann-Pauly et al., 2017; Moog, Spicer, and Bohm, 2015). These initiatives are an important phenomenon in global governance, have high practical relevance, and are important building blocks in new governance arrangements, responding to pressing global sustainability challenges (Zeyen et al., 2016).

Multi-stakeholder initiatives are a favored strategy to address sustainability problems. An important value of these initiatives seems to lie in their ability to connect between various actors and in influencing them to act, as well as in influencing relevant issues (Koschmann, Kuhn, and Pfarrer, 2012). This is possible because these initiatives exhibit collective agency, which is defined as “the capacity [of the initiative] to influence a host of relevant outcomes beyond what individual organizations could do on their own” (Koschmann et al., 2012: 332). Through these initiatives, firms can, for example, co-create and voluntarily commit to new sustainability standards, compensating for existing governance gaps while going beyond existing regulation (Zeyen et al., 2016).

There are different types of multi-stakeholder initiatives. Some are very broad in nature, and others are very specific. Broad, principles-based, non-industry-specific initiatives address a variety of topics, and are often seen as a first step in firm participation in multi-stakeholder initiatives (Arevalo and Aravind, 2017; Baumann-Pauly et al., 2017). Such initiatives tend to focus on fostering dialogue and learning between participants, without the implementation of strong monitoring mechanisms (Baumann-Pauly et al., 2017). These weakly-governed, unrestricted entry standards tend to provide greater participation flexibility (Simpson, Power, and Klassen, 2012), and may be governed and led by different types of stakeholders (Mele and Schepers, 2013). While firms may not always be the initiators nor the leaders of an initiative, firm participation remains essential for the initiative to have an impact (Mele and Schepers, 2013).

Firms may gain a range of benefits by participating in broad initiatives. These include economic and reputational benefits, improved data quality, and enhanced enforcement processes (Arevalo and Aravind, 2017; Sullivan, 2005). Participation in broad initiatives can also help organizations improve their regulatory compliance performance (Sullivan, 2005),

and make better decisions regarding strategic emphases and resource allocation (Arevalo and Aravind, 2017).

Critics of these broad multi-stakeholder initiatives point out that firms participating in these initiatives may or may not have the capacity to implement the adopted standards, due to a problem of fit between institutional requirements and actual firm capabilities, resulting in failure to improve performance (Arevalo and Aravind, 2017; Simpson et al., 2012).

Moreover, participation may be used to hide poor performance, encourage opportunism, and lead to the decoupling of firm behavior (Simpson et al., 2012; Wijen, 2014; Zeyen et al., 2016).

Industry self-regulation initiatives are less broad in nature. These are voluntary associations of firms to control their collective action by establishing behavioral rules and norms that foster responsible business within an industry (King and Lenox, 2000; Lin-Hi and Blumberg, 2017). The initiatives may be created by non-industrial actors, and may not be fully self-regulated (King et al., 2012). They are expected to set and sometimes enforce rules or standards created for groups of competitors, and are increasingly used to address sustainability concerns, enabling firms to fulfil their responsibility more efficiently (Baumann-Pauly et al., 2017; Lin-Hi and Blumberg, 2017). They are also sometimes used in an effort to address stakeholder concerns, and pre-empt government regulation (Lenox, 2006).

The industry level is seen by some as the most promising one for generating and enforcing standards. Participation enables a more specific application of standards, while peer control creates incentives for firms to adhere to standards (Baumann-Pauly et al., 2017).

Therefore, industry-specific multi-stakeholder initiatives can help control firm behavior (King and Lenox, 2000). Participating firms may enjoy, for instance, economic benefits,

enhanced legitimacy, the transfer of best-practices, learning, and overall better collective performance (Baumann-Pauly et al., 2017; King and Lenox, 2000; Lenox, 2006). Enhanced governance can lower the risk of a lack of fit between firms' capabilities and initiative requirements, and the legitimacy of such initiatives may be higher when relatively more rigorous enforcement mechanisms are implemented (Baumann-Pauly et al., 2017; Simpson et al., 2012). Yet, it is still not clear whether industry self-regulation can help address managerial shortcomings and institutional deficits not only in theory, but also in practice (Lin-Hi and Blumberg, 2017).

Corporate governance systems are the result of a combination of regulatory, normative, and cognitive schemes (Haxhi and Aguilera, 2017). Hence, corporate governance is affected by an array of factors, including legal, economic, societal, cultural, and ethical ones. It is a social construct, such that behavior that may be acceptable in one country, may not be acceptable in other countries (Aguilera, Florackis, and Kim, 2016). Representing formal and informal behavioral norms, national institutions make up a large part of the context that firms are embedded in (Fainshmidt, Judge, Aguilera, and Smith, 2018).

Country-level governance forces can impact the effectiveness of firm-level governance mechanisms. National institutional environments influence firm-level choice of governance mechanisms, and interact with these mechanisms, affecting firm performance (Schiehll and Martins, 2016). Institutional domains vary across countries in their composition and in the way in which relevant stakeholders interact with each other, affecting corporate governance practices, as institutional diversity across countries affects firms' organizational and strategic behavior (Haxhi and Aguilera, 2017).

Country-level institutions can affect firms' corporate sustainability performance.

Firms are more or less likely to undertake sustainability activities depending on the

institutional context (Ioannou and Serafeim, 2012). Heterogeneity in national institutions can result in institutional advantages for firms located in certain countries (Ioannou and Serafeim, 2012). The political system, labor and education system, and the cultural system may all affect corporate social performance (Ioannou and Serafeim, 2012).

Acknowledging that there are many differences between countries arising from differences in cultural, social, political, regulatory, technological, and economic environments (Gugler and Shi, 2009; Jamali and Mirshak, 2007; Robertson, 2009), it has been suggested that it may not be possible to apply uniform frameworks to sustainability approaches all over the world. It has also been argued that sustainability approaches could standardize globally due to the presence of multinational firms, and the prominence of global communication and monitoring means. The integrative social contracts theory provides an intermediate view where sustainability can be both *consistent* across countries with regards to *overall objectives and general norms*, and *differ* in accordance with *local factors* such as social norms (Robertson, 2009). Hence, while firms may participate in global multi-stakeholder initiatives and agree to follow guidelines or principles with global overall objectives and norms, specific views on those objectives or norms, the importance given to particular objectives or norms, and the implementation of relevant practices, may therefore differ across countries in accordance with local contexts.

Existing literature taking into account differences in country-level factors often distinguishes between developed and developing countries. While some drivers of corporate sustainability are similar across developed and developing countries, others are more specific (Beckman, Colwell, and Cunningham, 2009). Similarities arise because, often, sustainability initiatives and actions taken by firms in developing countries are driven by concerns of stakeholders from Western countries, with stakeholders in developing countries taking a

more passive, reactive, approach. Additionally, the presence of multinational enterprises (MNEs) from developed countries in developing countries has led to the integration of Western initiatives. Concurrently, developing-country MNEs who want to participate in developed markets are expected to adhere to accepted sustainability principles. It is thought that MNEs in developed countries usually face pressures to act responsibly from stakeholders within their home country, while MNEs in developing countries experience pressures from external stakeholders (Gugler and Shi, 2009).

With that said, it is increasingly acknowledged that the developing countries' approach to sustainability is different from the developed countries' approach (Jamali and Neville, 2011). Developed countries' notions of sustainability and understanding of how to address various topics may not be the same as developing countries' (Bardy et al., 2012). Stakeholders in developed and developing countries are likely to perceive the role of businesses in different ways (Gugler and Shi, 2009). Issues that firms may be expected to address in developing countries may not be relevant in developed countries where the issues are different, and hence the importance given to sustainability in general and to more specific issues in particular, may vary (Aqueveque and Encina, 2010).

Developing countries, for instance, usually have informational and institutional deficiencies. These could be related to training and education, a lack of political stability, and poor government effectiveness (Bardy et al., 2012). Overall, social challenges facing firms in developing countries are different from challenges found in countries where governments and markets function effectively and provide adequate services. Indeed, many countries are facing social, economic, and political unrest, poverty, have poor healthcare and education systems, and underdeveloped infrastructure, while at the same time, social problems are less and less likely to be addressed by governmental regulations. It has been suggested that there

are around 40 countries that are unable to provide basic government services such as security, water, electricity, health, education, and transportation to their population, with around 90 additional countries being almost unable to do so. The business sector is therefore increasingly called upon to help solve complex societal issues (Van Cranenburgh and Arenas, 2014).

For instance, expectations of firms to undertake community development projects are increasing and are especially high in developing countries. These can help communities reach social and economic goals that cannot otherwise be reached given lacking social infrastructures. Undertaken initiatives may be in the domains of education, infrastructure development, and healthcare provision (Eweje, 2006). In Latin America, for example, Multilatinas are expected to help solve social problems, including the prevention of human rights infringements (Fiaschi, Giuliani, and Nieri, 2017). Latin American firms have generally been paying increasing attention to the communities in which they are embedded, which can be seen in the growing number of socially-oriented programs (Aqueveque and Encina, 2010).

Additional differences between developed and developing countries may be perceived in different attitudes towards work and authority, and negotiation and bargaining styles. In developing countries, national labor laws are often not enforced, and workers' rights are not well protected. There can be a big difference between what the labor law dictates and actual firm practice (Egels-Zandén, 2009). For example, some Latin American and Caribbean countries have labor law regulations that generally conform to the International Labor Organization's conventions, yet labor law enforcement is ineffective (Montgomery and Maggio, 2009). Furthermore, some actions may be considered acceptable in some contexts while they may be unacceptable in other contexts (Bird and Smucker, 2007). In certain

developing countries, for instance, the existence of sweatshops may be indicative of their tacit approval by both regulators and societies (Radin and Calkins, 2006). Nevertheless, it has been suggested that, in an effort to improve their competitive positions through sustainability actions, developing countries have, over time, been taking a more proactive approach to sustainability (Gugler and Shi, 2009).

In sum, countries' approaches to sustainability may be converging for a number of reasons. These include globalization pressures, governmental interest to attract investment, increasing business sector interest, and civil society development (Yin and Zhang, 2012). Convergence may be apparent in the adoption of a general sustainability discourse. Divergence, however, can be perceived in ongoing patterns of behavior representative of local institutions. Hence, both global and local institutional pressures are likely to concurrently affect individual firms (Jamali and Neville, 2011).

This study considers firm participation in global multi-stakeholder sustainability initiatives. Initiative participants are expected to comply with a set of guidelines or principles that are global in nature (in line with convergence arguments). However, as advanced and portrayed in existing literature, there are many differences in local country contexts. These differences in local contexts could affect the relationship between firm participation in an initiative and its social and environmental outcomes, and hence the benefits that participating firms headquartered in different countries may perceive.

Despite the fact that existing literature often makes a distinction between developed and developing countries, this distinction is likely too coarse. Not only are there many differences between developed and developing countries, there are also many differences within these two groups. This calls for the consideration of more specific country-level contextual factors that could affect sustainability outcomes. Existing sustainability literature

has considered specific factors such as the openness of a country's economy (Robertson, 2009), different countries' levels of speech and press freedoms (Fiaschi et al., 2017), and how the ethical behavior of firms changes when moving from more to less advanced countries (Ekici and Onsel, 2013). This study aims to shed some light on the importance of corruption levels and how they may affect the social and environmental performance benefits that may result from firm participation in multi-stakeholder sustainability initiatives.

Corruption

Corruption may be broadly defined as “the abuse of entrusted power for private gain” (Cuervo-Cazurra, 2016: 36). It is the result of an exchange between two parties that can influence present or future allocation of resources (Kwok and Tadesse, 2006). Corruption can occur in different types of entities including governments, firms, international organizations, non-profit, and non-governmental organizations (Cuervo-Cazurra, 2016), and at different levels, including the organizational, industry, and national levels (Ashforth, Gioia, Robinson, and Treviño, 2008).

Political, legal, economic, and socio-cultural environments affect national corruption (Judge, McNatt, and Xu, 2011). Corruption may exist due to competitive pressures, the acceptance of corrupt behavior, bureaucratic systems that are prone to bribery, and ineffective legal frameworks (Ashforth et al., 2008). Firms' experiences of working in a corrupt environment may depend both on the amount of corruption (pervasiveness), and the uncertainty levels related to the undertaking of corrupt actions (arbitrariness) that exist (Rodriguez, Uhlenbruck, and Eden, 2005).

Corruption is sometimes viewed positively and sometimes negatively. It is viewed positively because it can help “grease the wheels of commerce”, facilitating transactions and procedures (Cuervo-Cazurra, 2006), and helping firms overcome bureaucratic obstacles and

political risks (Krammer, 2017). In effect, in order to overcome institutional voids that cause inefficiencies and increased costs, firms may act in an unethical manner (Luiz and Stewart, 2014). Furthermore, managers may perceive corruption as a source of competitive advantage in corrupt environments (Cuervo-Cazurra, 2016). Firms may use corruption strategically in response to local competitive and constraining conditions (Martin, Cullen, Johnson, and Parboteeah, 2007).

Corruption is viewed negatively because it can put “sand in the wheels of commerce”, resulting in resource waste (Cuervo-Cazurra, 2006). There is a strong business case for firms to avoid corruption, as it can increase their costs, risks, and damage their reputation (Hess, 2009). Being the suppliers of bribes, firms can influence the corruption levels in the environments in which they operate (Ashforth et al., 2008; Kwok and Tadesse, 2006). Firms can help reduce corruption especially when they cooperate and increase their collective bargaining power (Chen, Yasar, and Rejesus, 2008). While incentives to bribe are stronger when there is a lack of monitoring and a weak legal environment (Jeong and Weiner, 2012), corruption is less helpful when the quality of existing institutions is relatively high, in light of the existence of formal mechanisms such as penalties and informal mechanisms such as reputational harm (Krammer, 2017).

Corruption is often perceived as harming many social and economic outcomes, and as negatively affecting societal ethics and morals (Bryant and Javalgi, 2016). Corruption may hamper a country’s economic growth, welfare, and competitiveness, and decrease the credibility of and confidence in local financial institutions (Kwok and Tadesse, 2006; Venard and Hanafi, 2008). Existing studies point to a connection between weak governmental institutions and economic development and corruption (Venard and Hanafi, 2008).

Corruption can result in an inefficient allocation of resources, encourage unproductive

behavior, undermine governmental legitimacy, and weaken institutions (Bryant and Javalgi, 2016; Kwok and Tadesse, 2006). The better the business environment (e.g. legal framework, enforcement, and quality of financial markets), the lower the corruption (Venard and Hanafi, 2008).

Even though corruption can be found everywhere, some countries are more accepting of corruption than others (Venard and Hanafi, 2008). Individuals embedded in corrupt environments are more likely to accept corruption and act accordingly (Lewellyn and Bao, 2017). Additionally, seeing as stakeholders have limited attention, sometimes firms go unpunished for noticeable misconduct (such as unethical behavior). Misconduct can especially go unnoticed when this type of behavior is common (Barnett, 2014).

Corruption levels can be thought of as resulting from a combination of regulatory schemes that are enacted and enforced in a given country, and some normative and cognitive norms of behavior that exist in the given country. Based on Fainshmidt et al.'s (2018) framework, country-level institutional environments are made up of the role of the state, financial markets, human capital, social capital, and corporate governance institutions. It is argued below that corruption levels are reflected in the various dimensions.

Starting with the role of the state, both indirect intervention in the private sector through mechanisms such as capital provision, favoritism, and participation in corporate governance, as well as the type of state, which ranges from regulatory, to welfare, developmental, and predatory, are likely to be reflected in corruption levels. The more indirect intervention there is in a country and the more it looks like a predatory state, the higher the corruption levels are expected to be.

As far as the type of financial market is concerned, whether firms get their funding from the equity or the credit market may not be easily associated with corruption levels.

However, when family wealth or the state substitute for underdeveloped financial markets, this can be an indication of an environment with high corruption levels.

The human capital dimension is expected to be reflected in corruption levels.

Countries with more efficient labor markets where labor is organized, and in which strategic investment time horizons related to human capital are longer, are also likely to be relatively less corrupt compared to countries where the labor market is less efficient and labor is less protected. In countries with lower levels of labor coordination, labor is often organized in accordance with political or elite family connections (Fainshmidt et al., 2018), institutional realities that are often associated with corruption. Additionally, countries with high knowledge capital have populations with high literacy rates, high education levels, and advanced health care services, as opposed to countries where the knowledge is held by an elite minority, and where corruption can take place more easily (Fainshmidt et al., 2018).

The social capital dimension is representative of the level of trust in a society, both the extent to which individuals in a given society trust each other, and the extent to which they trust society in general. In developing and emerging markets, trust tends to be relatively low due to corruption and state inefficacy. When the trust levels are low, managers may rely more on informal than formal ties (Fainshmidt et al., 2018), further facilitating opportunities for corruption.

Finally, the corporate governance dimension, which is representative of the way in which firms are controlled and managed in a given country, can also be linked to corruption levels. High ownership concentration levels, for example, can mostly be found in countries with weak formal institutions and weak financial markets (Fainshmidt et al., 2018), where corruption is more likely to be widespread. Similarly, high family ownership levels and family intervention in management can be found in many emerging and developing countries

(Fainshmidt et al., 2018), where institutional voids are more likely to occur. The occurrence of these factors can therefore also enable corruption.

All in all, linking the five dimensions to corruption levels suggests that when there is indirect state intervention in the private sector, the type of state associated with a given country is similar to a predatory state, funding is provided mainly by the state or wealthy families, there are weak labor markets and low knowledge capital levels, a relatively low level of trust, and a high ownership concentration and family intervention level, corruption levels are likely to be relatively high. Concurrently, relatively low corruption levels are likely to be associated with countries in which the state does not indirectly intervene in the private sector, that can be classified as having a non-predatory state, where labor markets are strong and (potentially) knowledge capital is high, trust levels are high, and the ownership concentration and family intervention levels are low. Hence, corruption levels can be used as a proxy for the institutional environment that can be found in a given country.

While corruption levels can act as a proxy for the institutional environment that exists in a country, it is argued that they are also particularly relevant in the context of corporate sustainability as they facilitate the understanding of (i) firm willingness to address various sustainability issues, and (ii) firm ability to address various sustainability issues. This, in turn, can affect not only which initiatives firms choose to participate in, but also (i) how much focus they are likely to place on the various sustainability issues addressed by the initiative, (ii) the amount of effort that firms are willing to make to learn about how to address various issues, and (iii) firm ability to implement initiative outcomes. It is therefore submitted that differences in corruption levels of the countries in which participating firms are headquartered can affect the performance benefits that firms can expect to gain as a result of their participation in initiatives.

When country corruption levels are high, weak institutions can support and perpetuate low levels of corporate sustainability actions and performance. For instance, when labor is weak, it is easier for employers to take advantage of the employees, which can result in human rights violations, and poor social and environmental conditions for employees. What may be perceived as inappropriate behavior in countries with lower corruption levels may be seen as acceptable, as even at lower managerial levels, managers may help sustain human rights violations. Countries run by a relatively small and powerful elite, which also tend to have high corruption levels, may prioritize power and economic success (which may be perceived as independent from social and environmental concerns by the ruling elite), resulting in poor social conditions, and a disregard for the natural environment. In such countries, stakeholder pressure for enhanced sustainability performance, such as civil society or consumer pressure, is also likely to be less effective, as the ruling elite sets the rules of the game which it controls. Finally, when trust levels are low and informal ties take precedence, it may be difficult for firms to change behavior through top-down instructions.

A priori, it may seem that firms participating in initiatives and originating from countries with high corruption levels have potentially more to gain from their participation than firms from countries with low corruption levels. Firms may use non-market legitimation strategies to substitute for institutional voids in their country of origin. For example, institutional voids may push firms towards the adoption of globally legitimate sustainability practices, such as sustainability reporting, as firms try to overcome legitimacy challenges resulting from the institutional voids in the countries in which they are headquartered. By adhering to such practices, firms try to signal that they are adhering to global norms and expectations (Marano, Tashman, and Kostova, 2017).

Similarly to sustainability reporting, participation in multi-stakeholder initiatives can

help firms dissociate themselves from the institutional conditions found in the countries in which they are headquartered. National institutions affect the types of resources and capabilities that firms have, and hence also have an impact on the ways in which firms compete and the types of competitive advantages that they may seek (Fainshmidt et al., 2018). Initiatives are a means for firms to gain additional, sustainability-related resources and capabilities, which may not be available in their country of origin, and that may be available in countries with low corruption levels. In low-corruption countries, awareness of the importance of sustainability actions is likely to be higher, and more advanced sustainability approaches are more likely to be implemented, such that firms may already possess relatively more resources and capabilities to address sustainability concerns. Hence, potentially, firms from high-corruption countries may have more to gain from initiatives relative to firms from low-corruption countries, such that they may benefit more from their participation.

Indeed, the initiatives may act as a means to expose firms from high-corruption countries, where institutions tend to be weak, to knowledge-sharing and learning opportunities that are lacking in their local environment, giving them a “push” towards a more sustainable approach, by increasing their awareness of key issues, while at the same time exposing them to knowledge and tools to help them start addressing key concerns. These firms may be able to take advantage of some of the individual and collective experience of firms that originate from countries with more advanced sustainability practices. Hence, participation in initiatives may act as a substitute in the case of weak local institutions.

While firms operating in countries with high corruption levels may be expected to step in and fill institutional voids, their priorities may not necessarily be aligned with a sustainability agenda, and if they are, firms may find it difficult to implement one, along with any learning benefits obtained through their participation in initiatives. For example, if

bribery is a prevalent and acceptable way to conduct business, firms may not be willing to give up any of their business or potentially an existing competitive advantage to tackle what in some countries may be perceived as unethical behavior, while in their countries of origin, it is considered to be the norm. Even if firms want to tackle bribery, if they are the only ones trying to do so, they may be unsuccessful in their endeavor, unless other firms join them and norms change.

Similarly, even if firms decide to try tackling concerns related to labor rights, such as poor working conditions (e.g. long working hours, unfairly low wages, health-hazardous working environments), their efforts may not reach the lower-level employees if the firm is unsuccessful in conveying the importance of addressing this issue and providing the relevant tools and incentives for managers to push for the implementation of new practices. This may be the case if managers' priorities are not aligned with the new sustainability outlook as they may be concerned with the financial bottom line, which may conflict (at least in the short term) with the implementation of new sustainability practices. At the same time, any regulatory frameworks that may be in place may prove ineffective such that it may be difficult to take relevant legal action in case of known violations. This conflict of interest may also exist in countries ruled by a social elite, which is not easily influenced by other stakeholder pressures to improve corporate sustainability levels and may not perceive the importance of addressing social and environmental concerns. A final example of differing priorities relates to child labor concerns. While, from a more "Western" or developed countries' point of view, child labor practices should be abolished, in countries where there is child labor, children's work may provide their families with much-needed financial support, such that the abolition of child labor may, in fact, help perpetuate poverty, and child labor may not be seen as an issue to be rectified.

Additionally, in high-corruption environments, firms may not mind that they may be signaling that they care about social and environmental concerns through their participation in an initiative without following through. This may be because their relationships with their stakeholders may be opaquer, and relatively strong stakeholders in low-corruption countries, such as employees or civil society, may not be powerful enough in high-corruption countries for firms to take them into consideration, such that they may not be able to push firms towards a truly more sustainable approach. Repercussions for purely symbolic initiative participation may therefore be relatively inconsequential for firms in high-corruption countries.

Existing research suggests that high levels of corruption may make it difficult for firms to have high sustainability performance, while firms in countries with low levels of corruption are more likely to have high levels of sustainability performance (Ioannou and Serafeim, 2012). When corruption levels are low, and institutions tend to be strong, there is likely to be relatively high awareness of sustainability concerns. This may be reflected in the regulatory environment, and firms are more likely to be exposed to multiple stakeholder pressures (e.g. from regulators, civil society, consumers) to become more sustainable, as well as more likely to be more accountable to stakeholders. In such environments, the relationships between firms and their stakeholders may also be more transparent than in high-corruption countries. Firms may be more reluctant to join initiatives only symbolically, as they evolve in relatively transparent environments in which they are accountable to stakeholders, who have been increasingly scrutinizing firms and the sustainability activities that they undertake, exposing multiple discrepancies between what firms claim that they do and what they actually do.

Concurrently, in low-corruption environments, firms may be relatively

knowledgeable about sustainability concerns and may have already started addressing some of the issues that they could address on their own. Furthermore, in these more transparent environments, firms can more easily gain access to and share information with other firms, as well as learn from other firms about the ways in which they have been addressing sustainability issues. This familiarity with sustainability topics and concerns, and the experience gained on the sustainability front as a whole, may make it easier for firms to actively participate in initiatives and learn from others. Such low-corruption environments may also facilitate and be more favorable to the implementation of firm sustainability activities resulting from their participation in initiatives, in light of the various institutional forces pushing firms towards a more sustainable approach. Therefore, participation in initiatives may act as a complement in the case of strong local institutions.

Consequently, overall, firms in low-corruption environments are likely to be more aware of sustainability concerns, more willing to take action to address a breadth of sustainability concerns, and be more successful at implementing solutions towards the resolution of said concerns. With higher awareness and willingness to address sustainability concerns, higher familiarity and experience with the implementation of corporate sustainability activities and practices, firms in countries with low-corruption levels may be more efficient learners and seem to be better placed to benefit from their participation in initiatives through exposure to knowledge, best practices, and initiative outputs.

Hence, participation in initiatives may act as a tool for firms to improve their sustainability performance. However, the potential for corporate sustainability improvement encompassed in firm participation in initiatives may not be realized if firms are either not willing to address certain issues or are not able to learn about and then implement sustainability practices in light of country-level institutional factors. Following from the

arguments above, while firms participating in initiatives that are headquartered in high-corruption countries may, a priori, have higher potential to benefit from their participation in initiatives, their willingness and ability to drive a sustainability agenda forward may be limited by institutional constraints and realities, which firms in low-corruption countries are less likely to face. In addition, high corruption levels may reduce the trust in, credibility of, and any signaling value of firms' sustainability efforts (Montiel, Husted, and Christmann, 2012). Therefore, firms that are headquartered in countries with low levels of corruption, and are likely to already be more familiar with sustainability issues and the implementation of sustainability practices, may in fact be able to benefit more from their participation in initiatives than participating firms that are headquartered in high-corruption countries. It is anticipated that the relative social and environmental performance of participating firms headquartered in countries with relatively low levels of corruption will improve to a higher extent relative to participating firms headquartered in countries with relatively high levels of corruption (and that the performance of participating firms will be higher than the performance of non-participating firms). Thus, this paper hypothesizes the following:

H1: Firms that participate in multi-stakeholder initiatives and are headquartered in countries with relatively low corruption levels will benefit more from their participation as reflected in their social and environmental performance relative to participating firms headquartered in countries with relatively high corruption levels.

Three multi-stakeholder initiatives and four sustainability performance indicators

This paper focuses on three distinct multi-stakeholder initiatives. The UN's Global Compact (GC), the WEF's Partnering Against Corruption Initiative (PACI), and the International Council on Mining and Metals initiative (ICMM). The GC is the largest, broadest, and most encompassing of the three initiatives as it includes a wide array of industries and

sustainability topics. The PACI is a much smaller initiative that claims to focus on a single sustainability issue, namely, corruption. The ICMM is limited to a single industry, although it tries to address a range of sustainability issues. This paper also considers four performance indicators – two social and two environmental indicators. The social ones measure human rights performance along the supply chain, and community performance. The environmental ones measure resource reduction along the supply chain and green product innovation. Table 1 below provides a quick overview of key aspects of the initiatives. It is followed by an explanation of how the initiatives relate to the social and environmental indicators. Brief descriptions of the initiatives can be found in the Appendix.

[Insert Table 1 about here]

The first initiative to be assessed in this paper, the GC, which has ten principles, places particularly high importance on basic human rights through principles 1-6. These principles ask participating firms to protect human rights by addressing issues related to human rights abuses, forced labor, child labor, discriminatory practices, and freedom of association. Community performance is addressed via principle 10, which discusses corruption. Resource reduction performance is addressed in principles 7-9, which refer to the improvement of firms' operational environmental efficiency. Whereas green product innovation is referred to in both principles 7 and 9, the focus remains on the environmental performance of firms along the supply chain, and only to a much lesser extent does the impact on customers seem to matter (GC, 2017).

The second initiative assessed in this study is the PACI. As far as human rights performance is concerned, participating firms are required to respect human dignity and adhere to non-discrimination, fair treatment, labor, and health and safety practices. Such issues are particularly salient along the supply chain. The bulk of the PACI's requirements

are associated with community performance. The initiative highlights the importance of not just fighting corruption, but also firm adherence to fair competition (compliance with antitrust/competition laws), business integrity, and ethical business conduct. The initiative also mentions the need for firms to protect the environment (PACI, 2017).

Finally, taking a close look at the ICMM's ten principles, it is possible to see that principle 3 is particularly relevant for human rights performance, as it addresses basic human-rights-related issues, such as forced or child labor, and fair remuneration practices and work conditions. It also transpires that several principles are related to community performance. Principle 1, for example, discusses the need for firms to behave ethically and prevent bribery and corruption. Whereas principle 2 is very broad in nature, it also relates specifically to community performance as it mentions the need for more open and competitive markets. Next, principle 3 discusses not only human rights but also the importance of respecting and having good relationships with the communities located in the areas in which members operate. Finally, principle 5, which mentions the importance of the health and safety of both internal and external stakeholders, is also relevant for community performance (ICMM, 2018).

Moving on to environmental performance, principles 6 and 7 can be linked to resource reduction performance. Principle 6 urges firms to assess all environmental impacts of a project, from beginning to end. Its requirements are particularly pertinent to issues that can arise along the supply chain. Principle 7 is also related to environmental concerns along the supply chain as it emphasizes the importance of the conservation of biodiversity and land-use planning. Lastly, principle 8 is concerned with the responsible design, use, recycling, and disposal of products, and is therefore applicable in the case of green product innovation performance. Products and technologies used should be safe and efficient (ICMM, 2018).

METHODS

Data sources

This paper uses data from Thomson Reuters' Asset4 database and the World Bank's Worldwide Governance Indicators (WGI) project. The data span the years 2006-2016.

Asset4 is a corporate-sustainability-focused database, covering over 6,000 public firms. This database includes firms from all major industries and regions of the world. The information analyzed by Asset4 is collected from public sources such as corporate annual and sustainability reports, company websites, proxy filings, non-governmental organizations, the Carbon Disclosure Project, and news providers. The database aims to provide objective, relevant, auditable, and systematic data. The Asset4 database contains more than 250 measures of sustainability performance, encompassed within 18 categories, which are grouped into four key sustainability pillars (the economic, environmental, social, and governance pillars). An overall corporate sustainability score is also available (ASSET4, 2017). Measures for the dependent variables, independent variables, and controls were obtained from this database.

The measure for corruption was obtained from the World Bank's Worldwide Governance Indicators (WGI) project. This project looks at six country-level governance dimensions, one of which is control of corruption. It considers over 200 countries, with annually-reported measures being available starting from 1996. Measures obtained represent the views of firms, citizens, and experts of the various countries, and are based on the aggregation of data from over 30 sources (World Bank, 2017).

The data in this paper cover 44 countries: Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Malaysia,

Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, and the US.

Measures

Dependent variables

Firms' social and environmental performance includes multiple aspects. Sustainability-related performance measures in existing studies range from very specific ones, such as the measurement of CO₂ emissions (e.g. Delmas and Montes-Sancho, 2010), to the broad measure of cumulative abnormal returns (e.g. Janney, Dess, and Forlani, 2009). This paper takes an intermediate approach by considering environmental and social measures that are neither very narrow, nor very broad (by not using, for example, an overall aggregate measure for firm environmental or social performance), when examining firm performance. This approach is thought to help provide an indication of the impact of firm participation in an initiative on considerably well-defined central areas of corporate sustainability. The selected measures were chosen as they are indicative of the firms' strategic direction and actual firm performance in relation to a number of key salient sustainability areas of concern to firms. In the case of social performance, these areas are the consideration given to human rights along the firms' supply chain, and the firms' relations with the communities that are affected by the firms' activities along with ethical behavior considerations. In the case of environmental performance, these areas are, on one end of the spectrum, firms' efforts to reduce the use of resources along the supply chain, and, on the other end, the firms' development of eco-efficient products and services, which is a customer-oriented measure. The four different dependent variables were also chosen so as to reflect social and environmental concerns that multi-stakeholder sustainability initiatives often aim to address.

Human rights performance: A measure of firm management's commitment and effectiveness towards respecting fundamental human rights conventions in a given year ranging from 0 to 100. It is indicative of a firm's ability to maintain its license to operate by addressing human rights concerns such as guaranteeing the freedom of association, and making efforts to exclude child and forced labor along the firm's supply chain. More concretely, this measure primarily considers whether the firm claims to comply with fundamental human rights conventions/declarations, undertakes relevant policies, monitoring activities and processes, and the number of known controversies that the firm was involved in related to human rights, freedom of association, and child labor issues.

Community performance: A measure of firm management's commitment and effectiveness towards maintaining the firm's reputation within the community (local, national and global) in a given year ranging from 0 to 100. It is indicative of a firm's ability to maintain its license to operate by being a good citizen, protecting public health, and respecting business ethics. More concretely, this measure primarily considers the firm's undertaking of relevant policies and codes of conduct, the number of known controversies that the firm was involved in related to the health and safety of third parties, business ethics, political contributions, bribery and corruption, tax fraud, parallel imports or money laundering, and anti-competitive behavior, as well as any relevant firm penalties or fines, in addition to whether the firm has received a sustainability award.

Resource reduction performance: A measure of firm management's commitment and effectiveness towards achieving an efficient use of natural resources in the production process in a given year ranging from 0 to 100. It is indicative of a firm's ability to reduce the use of materials, energy or water, and find eco-efficient solutions by improving supply chain management. More concretely, this measure primarily considers the firm's undertaking of

relevant processes and objectives in place, and the number of known controversies that the firm was involved in related to the environmental impact of the firm's operations on natural resources or local communities.

Green product innovation performance: A measure of firm management's commitment and effectiveness towards the development of eco-efficient products or services in a given year ranging from 0 to 100. It is indicative of a firm's ability to reduce environmental costs for customers, and to create new market opportunities through the use of eco-friendly technologies, processes, and designs. More concretely, this measure primarily considers whether the firm has an environmental product innovation policy, the total amount of environmental research and development (R&D) costs, the total amount of environmental R&D costs divided by sales, and the number of known controversies that the firm was involved in related to the environmental impact of the firm's products.

Independent variables

GC: Equals 1 if a given firm participated in the Global Compact initiative in the given year; 0 otherwise.

PACI: Equals 1 if a given firm participated in the Partnership Against Corruption Initiative in the given year; 0 otherwise.

ICMM: Equals 1 if a given firm participated in the International Council on Mining and Metals initiative in the given year; 0 otherwise.

Moderator

Corruption: The measure for corruption was obtained from the World Bank's Worldwide Governance Indicators (WGI) project. The measure for control of corruption is indicative of the perceived "extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private

interests” (Kaufmann, Kraay, and Mastruzzi, 2011) in a given country in a given year. It is based on the averaging of data from 31 different sources. The measure ranges from 0 to 100 percent (representing a percentile rank among all countries), with higher values representing countries with higher scores for corruption control (such that higher scores are associated with lower levels of corruption) (World Bank, 2017).

Controls

Lagged dependent variable: Regressions include a one-year-lagged dependent variable to address concerns that the dependent variable in year_t is auto-correlated to (strongly determined by) its level in year_{t-1}.

Size: Logged revenue in US dollars obtained by a given firm in a given year to control for firm size.

Liquidity: A firm’s current ratio (total current assets/total current liabilities) in a given year. It is used to control for the effect that short-term fund availability may have on a firm’s likelihood or ability to address sustainability concerns.

Capital expenditure: The average of the last five years of a firm’s capital expenditures divided by revenue. It is used to control for the effect that long-term firm investment may have on its likelihood or ability to address sustainability concerns.

R&D expenditure: A firm’s R&D costs divided by revenue in a given year. It is used to control for the effect that firm investment in innovation efforts may have on its likelihood or ability to address sustainability concerns.

Statistical model specification

Panel fixed effects models were run in order to test whether there is an association between firm participation in a given initiative and the various performance measures, and whether country context moderates the direct relationships. The dependent variables were winsorized

(the lowest and highest 2.5% of observations were removed to account for any outliers in the data). Control variables were standardized (except for the lagged dependent variable). Models include firm and year fixed effects, and two-way cluster-robust standard errors (firm and year) such that the standard errors allow for intragroup correlation, relaxing the requirement that the observations be independent (observations are independent across groups (clusters) but not necessarily within groups). The Hausman test was run to confirm the suitability of using a fixed effects model. Results indicate that the preferred model is indeed a fixed effects model (and not a random effects model).

Robustness checks

A number of robustness checks were conducted. One model specification included non-logged dependent variables. An additional model specification included lagged controls. A final specification controlled for autocorrelation. Results remain for the most part robust to the main specification, the results of which are described below (results remain qualitatively similar).

RESULTS

The statistical results indicate that, overall, corruption levels matter when assessing the effect of firm participation in initiatives on firms' social and environmental performance. However, the hypothesis is only partially supported. The statistical results are described below and then discussed in the discussion and conclusions section. Table 2 contains the descriptive statistics, and Table 3 provides an overview of the regression results with and without the interaction of participation in initiatives with corruption levels.

[Insert Tables 2 and 3 about here]

Starting with the effect of corruption on social performance, regression results for human rights performance show that in the models that do not include corruption levels, firm participation in the GC, PACI, and ICMM is associated with a 3.5%, 7.8%, and 5.5% increase in firm human rights performance, respectively. However, when corruption is taken into account, the effect of participation disappears, the interaction term is non-significant, and corruption is negative and significant (see Table 4).

With respect to community performance, when corruption is not taken into account, firm participation in the GC, PACI, and ICMM is associated with a 9.5%, 9.9%, and 7.6% increase in firm community performance, respectively (see Table 5). Introducing corruption levels into the regressions, corruption seems to affect the community performance of firms participating in the GC as well as ICMM, albeit in different directions. Whereas the participation of firms headquartered in countries with relatively lower corruption levels is associated with higher community performance for firms participating in the GC, the opposite is true in the case of ICMM. In this latter case, it is the firms that are headquartered in countries with higher corruption levels that are expected to benefit more from their participation in the initiative (see Figures 1 and 2). In the case of PACI, firm participation, corruption, and the interaction terms are all non-statistically significant (see Table 5).

[Insert Figures 1 and 2 about here]

Moving on to environmental performance, when disregarding corruption, firm participation in the GC has a non-statistically significant relationship with resource reduction performance, while participation in the PACI and ICMM is associated with a 3.6% and a 9.7% increase in resource reduction performance, respectively (see Table 6). However, when adding corruption, in the case of the GC, as corruption levels decrease, a positive difference between the resource reduction performance of participating vs. non-participating firms

disappears, such that at low corruption levels participating firms might actually do worse than non-participating firms (see Figure 3). In the case of PACI it is the opposite. When the corruption level in a country is relatively low, the resource reduction performance of participating firms is high relative to the performance of firms headquartered in countries with higher corruption levels, as well as to the performance of non-participating firms (see Figure 4). Finally, in the case of the ICMM, adding corruption generates non-significant coefficients for the corruption and the interaction terms, while the participation coefficient remains positive and significant.

[Insert Figures 3-4 about here]

Finally, green product innovation performance is also affected by corruption levels. When not considering corruption, participation in the GC is not linked to better green product innovation performance, while firm participation in the PACI is associated with a 6.3% increase in performance, and participation in the ICMM is associated with a 9.4% increase in performance (see Table 7). Taking corruption into consideration, in the case of the GC, all three coefficients of participation, corruption, and the interaction term are non-significant. However, for both the PACI and the ICMM, lower corruption levels are associated with better performance of participating firms relative to the performance of participating firms headquartered in higher corruption countries, as well as relative to the performance of non-participating firms (see Figures 5-6).

[Insert Figures 5-6 about here]

The complete regression results according to the various performance measures are found in Tables 4-7 below. First, the results for human rights performance can be found in Table 4. Then, the results for community performance can be found in Table 5. The results

for resource reduction performance can be found in Table 6, and those for green product innovation performance can be found in Table 7.

[Insert Tables 4-7 about here]

DISCUSSION AND CONCLUSIONS

Multi-stakeholder initiatives are an increasingly prevalent and important means for firms to tackle a range of increasingly pressing and global sustainability concerns. They are an important phenomenon in global governance and have high practical relevance. Yet these initiatives are underexplored. The effectiveness of these initiatives and the benefits that participating firms can expect to gain are unclear in light of mixed findings.

This study aims to contribute to the understanding of which firm-level social and environmental benefits may arise as a result of firm participation in multi-stakeholder initiatives. It goes beyond the understanding of the direct relationship between participation and performance, as it focuses on the effect that contextual country-level factors may have on firm participation outcomes. The main contextual factor considered, namely, corruption level, is thought to be indicative of the strength of country-level institutions. The study considers different types of multi-stakeholder initiatives in reaction to the existing debate in the literature between proponents and critics of the various types. It also considers a range of sustainability outcomes, two of which are representative of social performance, and two of which are representative of environmental performance.

By and large, the regression models including only the direct relationship between firm participation in initiatives and sustainability performance suggest that firm participation in an initiative is positively associated with performance (with the exception of the link between participation in the GC and resource reduction performance, as well as green

product innovation performance). However, when corruption levels are added to the models, a range of different results are obtained. There are five different possible outcomes: (i) complementary effects when participating firms from low-corruption countries with strong institutional environments perform better than firms from high-corruption countries; (ii) substitutive effects when participating firms from high-corruption countries with weak institutional environments perform better than firms from low-corruption countries; (iii) no effect of corruption levels on firm participation outcomes; (iv) substitutive effect of context when the effect of firm participation disappears and the effect of corruption is significant; and (v) statistically insignificant results, in which case it is not clear what is driving the results. The results are generally neither consistent across initiatives, nor across firm sustainability performance outcomes.

In the case of human rights performance, the effect of corruption, which is different from the one that was anticipated, is consistent across the three initiatives. Corruption has a substitutive effect, given that, when corruption is added, the effect of firm participation on human rights performance disappears. The participation results change from being positive and significant to being non-significant, while the interaction term is non-significant, and the corruption term is negative and significant. These results therefore indicate that human rights performance of firms in countries with relatively low corruption levels is lower than the human rights performance of firms in countries with relatively high corruption levels, regardless of whether they are participating in an initiative or not. These results cast a doubt on the ability of initiatives to help drive firm human rights performance forward. They may suggest that, because human rights standards in lower-corruption countries have already reached acceptable levels and are better than those in countries with higher levels of

corruption, firms located in low-corruption countries do not make as much of an effort to address human rights concerns. At the same time, it may be noted that the effect size is small.

As far as community performance is concerned, the effect of corruption on performance differs across the three initiatives. The hypothesized effect, namely, a complementary effect of low-corruption levels and initiative participation, is found only in the case of firm participation in the GC. In this case, lower corruption levels are associated with better community performance. As anticipated, it is likely that firms from low-corruption countries pay more attention to and are more reactive to the needs and demands of a range of stakeholders. These include the communities in which firms operate. These firms may also have a more supportive environment for the implementation of new practices.

The addition of corruption levels to firm participation in PACI's case, however, removes the statistical significance of the direct effect of participation. The direct effect of corruption, as well as the interaction effect are also statistically non-significant. While it is clear that the introduction of corruption levels has an impact on the effect of firm participation on community performance, the lack of statistical significance leaves an explanation for the drivers behind the differences in the results to be desired, as the results of the full model suggest that neither corruption levels nor firm participation affect firm community performance.

Finally, the results for the ICMM are indicative of substitutive effects, as firm participation appears to act as a substitute for weak institutional environments. In this case, the participation of firms from higher-corruption countries is associated with better community performance. Moreover, in low-corruption countries, the community performance of participating and non-participating firms is the same, as the performance levels of participating and non-participating firms converge when moving from higher to lower

corruption levels. In this case, what might be pushing the performance of firms from high-corruption countries is the concentration of influential industry players within the ICMM, which creates peer pressure for firms to conform with industry expectations related to their community performance. Additionally, firms in the mining and metals industry are under great amounts of pressure to behave in a more sustainable and ethical manner from additional stakeholders, and local communities play a key role in this industry. Indeed, this industry is often very disruptive to local communities and it is important for firms to have a good relationship with these communities to enable and facilitate firm operations. It may be that participating firms headquartered in countries with relatively high corruption levels have been called upon to rectify their approach to a greater extent, whereas firms from countries with relatively low corruption levels have already been doing relatively well in relation to their community performance.

On the whole, with the exception of one case, the effects of corruption levels on social performance are not in line with the hypothesis, and include effects that were not previously considered. The effects of corruption on environmental performance, however, are more in line with expectations, with half of the outcomes being as anticipated.

Starting with resource reduction performance, the effects are not consistent across the initiatives. The results for the GC are indicative of a substitutive effect, given that the participation of firms from higher-corruption countries is associated with better resource reduction performance, such that firm participation may act as a substitute for weak institutional environments. Moreover, firms participating in the GC that are headquartered in countries with low levels of corruption do not only perform worse than participating firms headquartered in countries with higher corruption, they might actually perform worse than non-participating firms. Perhaps this may be because the breadth of participants exposes

participating firms from countries with well-functioning institutions to the approaches of firms that come from countries with less-developed institutions. These approaches may be below par relative to expectations in countries with low levels of corruption. The exposure to these below-par approaches may give participating firms from countries with more developed institutions the impression that their actions are sufficient as far as resource reduction along the supply chain is concerned.

The results for the PACI are consistent with the hypothesis, pointing to complementarity between the strength of local institutions and participating firms' resource reduction performance, as lower corruption levels are associated with better resource reduction performance. The results for the ICMM are not consistent with expectations, however, as according to the interaction model, the effect of corruption levels on resource reduction performance is not significant. In this case, the effect of participation remains positive and significant, suggesting that it is participation in the initiative that drives the improvement in firm resource reduction performance.

Lastly, in the case of green product innovation, again, the results are not consistent across the initiatives. A priori, the results for the GC are not in line with the hypothesized relationship, and are difficult to interpret, seeing as the participation, corruption, and interaction coefficients are all non-significant. However, these results are consistent with the results that were obtained in the model that considered only the direct relationship between firm participation in the GC and green product innovation, which generated non-statistically significant results. The results for both the PACI and the ICMM are as expected, showing that there are complementary effects, given that participating firms from low-corruption countries with strong institutional environments perform better than firms from high-corruption countries.

The results highlight the importance of taking into consideration country context for the enhancement of our understanding of the effect of firm participation in multi-stakeholder initiatives on firms' social and environmental performance. It is important to consider the context regardless of the type of initiative evaluated. The results point to the existence of a range of ways in which a country's context may impact the ability of participating firms to benefit from their participation in initiatives. They highlight the complexity of understanding how country context may affect firm performance in light of, not only the range of effects that variation in context may have on participating firm outcomes, but also the fact that country context can influence participating firm outcomes differently depending on both the initiative that firms participate in, and the sustainability outcome examined.

This study has various limitations. First, this study is limited in its consideration of one country-level contextual indicator, although it is arguably correlated with a range of other country-level contextual indicators. Second, even though this study tries to look at a range of initiatives, it is ultimately limited to three (each one of which is meant to be representative of a different type of initiative). Future research could consider other contextual indicators, as well as multiple measures of the same indicator, or differentiate between different types of the same indicator (see e.g. Montiel et al. (2012), who differentiate between policy-specific and general corruption), and additional initiatives. The study is also limited in its use of data pertaining to large and public firms, such that private and small to medium-sized firms are not represented in the sample used, although they are often represented in initiatives. Future research could use different datasets. Finally, it is difficult to rule out the possibility that firm participation in an initiative and its social and environmental performance may be endogenous.

Having provided some insights, this paper calls for a more in-depth exploration of the ways in which country-level factors can affect the outcomes of firm participation in multi-stakeholder sustainability initiatives in general, but also depending on initiative type and the type of sustainability performance examined, in order to further enhance our understanding of how context may affect potential firm participation benefits.

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Table 1 – Initiatives overview

	Foundation year	Leadership	Sector breadth	Industry breadth	Issue breadth	Guidelines	Main issues	Aim
GC*	2000	The UN	Multi-sector	Multi-industry	Very broad	Principles	Human rights, labor rights, corruption, the environment.	To provide a worldwide network for stakeholders to help foster relevant dialogue and collaboration, and act as a learning platform for working on issues relevant businesses and contexts.
PACI*	2004	The business sector	Multi-sector	Multi-industry	Various issues related to corruption	Principles and Code of Conduct	Human rights, labor rights, ethical behavior of firms, some environmental concerns.	Fight corruption, transparency, and emerging-market risks to enable systemic change.
ICMM*	2001	Mainly the business sector	Multi-sector	Single-industry	Broad but relevant for the industry	Principles and position statements	Human rights, labor rights, health and safety, corruption/ethical behavior of firms, the environment.	The establishment of global consensus on main industry-related sustainability concerns, and the enhancement of the social and environmental performance of the industry.

*Note: Information for all columns except for the “Aim” column was obtained from the respective initiatives’ websites (GC, 2017; ICMM, 2018; PACI, 2017). Information for the “Aim” column was obtained from Baumann-Pauly et al., 2017; Czoschke, Keefe, and Jarvie-Eggart, 2015; Kell, 2005; PACI, 2017; Rasche and Waddock, 2014; Williams, 2014.

Table 2 – Descriptive statistics

	Mean	S.D.	Min	Max
Human rights	56.012	31.727	5.48	99.62
Community	53.256	30.859	2.74	97.18
Resource reduction	58.045	31.512	6.52	96.83
Green product innovation	58.458	32.161	9.04	99.25
GC	0.176	0.381	0	1
PACI	0.014	0.116	0	1
ICMM	0.007	0.085	0	1
Size	1.39E+10	8.18E+10	2973.2	4.51E+12
Liquidity	2.314	3.549	0.06	230.19
Capex	0.637	27.514	0	3154.97
R&D expenditure	1.72	100.589	0	11509
Corruption	86.663	14.547	11.005	100

Table 2 – Descriptive statistics – Continued

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Human rights	1										
2. Community	0.53 (0.00)	1									
3. Resource reduction	0.63 (0.00)	0.65 (0.00)	1								
4. Green product innovation	0.48 (0.00)	0.45 (0.00)	0.62 (0.00)	1							
5. GC	0.40 (0.00)	0.30 (0.00)	0.35 (0.00)	0.28 (0.00)	1						
6. PACI	0.10 (0.00)	0.06 (0.00)	0.07 (0.00)	0.05 (0.00)	0.14 (0.00)	1					
7. ICMM	0.05 (0.00)	0.06 (0.00)	0.06 (0.00)	-0.04 (0.00)	0.10 (0.00)	0.18 (0.00)	1				
8. Size	0.10 (0.00)	0.06 (0.00)	0.12 (0.00)	0.09 (0.00)	0.11 (0.00)	0.05 (0.00)	-0.01 (0.51)	1			
9. Liquidity	-0.14 (0.00)	-0.16 (0.00)	-0.18 (0.00)	-0.16 (0.00)	-0.09 (0.00)	-0.03 (0.00)	0.00 (0.92)	-0.04 (0.00)	1		
10. Capex	-0.02 (0.02)	-0.03 (0.00)	-0.03 (0.00)	-0.02 (0.00)	-0.01 (0.27)	0.00 (0.80)	0.00 (0.89)	0.00 (0.67)	0.03 (0.00)	1	
11. R&D expenditure	-0.02 (0.02)	-0.02 (0.01)	-0.02 (0.03)	0.00 (0.59)	-0.01 (0.34)	0.00 (0.81)	0.00 (0.86)	0.00 (0.72)	0.03 (0.00)	0.08 (0.00)	1
12. Corruption	0.01 (0.07)	-0.06 (0.00)	-0.01 (0.07)	0.08 (0.00)	0.00 (0.72)	-0.01 (0.26)	0.01 (0.21)	-0.13 (0.00)	0.05 (0.00)	0.01 (0.31)	0.01 (0.40)

Note: Correlation significance is in parentheses

Table 3 – Results overview – Direct participation and interaction models with corruption levels

		Human rights	Community	Resource reduction	Green product innovation
		DIRECT RELATIONSHIP MODELS			
GC	<i>GC participation</i>	0.0348***	0.0910***	0.0142	0.0040
PACI	<i>PACI participation</i>	0.0756***	0.0975***	0.0350*	0.0600**
ICMM	<i>ICMM participation</i>	0.0533*	0.0733*	0.0924***	0.0897**
		INTERACTION MODELS			
GC	<i>GC participation</i>	0.0508	-0.0780	0.1778***	0.0451
	<i>Corruption</i>	-0.0022*	0.0004	-0.0013	0.0000
	<i>Interaction</i>	-0.0002	0.0019**	0.0019***	-0.0005
PACI	<i>PACI participation</i>	-0.0480	-0.0216	-0.1452	-0.2716**
	<i>Corruption</i>	-0.0022**	0.0012	-0.0018	-0.0002
	<i>Interaction</i>	0.0015	0.0014	0.0021**	0.0039**
ICMM	<i>ICMM participation</i>	0.0801	0.5348**	0.1948**	-0.3101
	<i>Corruption</i>	-0.0021*	0.0012	-0.0018	-0.0002
	<i>Interaction</i>	-0.0003	-0.0052**	-0.0011	0.0045*

Note: *** p<0.01, ** p<0.05, * p<0.1, and results without an asterisk (*) are non-statistically significant

Table 4 – Human rights performance

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Human Rights	Controls only	GC	GC & corruption	PACI	PACI & corruption	ICMM	ICMM & corruption
Human rights lagged	0.5421*** (0.0126)	0.5404*** (0.0127)	0.5403*** (0.0127)	0.5418*** (0.0126)	0.5418*** (0.0126)	0.5420*** (0.0126)	0.5420*** (0.0126)
Size	0.0324*** (0.0107)	0.0320*** (0.0107)	0.0331*** (0.0107)	0.0321*** (0.0107)	0.0333*** (0.0107)	0.0325*** (0.0107)	0.0337*** (0.0107)
Liquidity	0.0004 (0.0023)	0.0005 (0.0023)	0.0006 (0.0024)	0.0005 (0.0023)	0.0006 (0.0024)	0.0004 (0.0023)	0.0005 (0.0024)
Capex	0.0643** (0.0275)	0.0629** (0.0277)	0.0654** (0.0285)	0.0640** (0.0275)	0.0666** (0.0284)	0.0645** (0.0276)	0.0671** (0.0284)
R&D expenditure	-0.0000 (0.0005)	-0.0001 (0.0005)	-0.0000 (0.0005)	-0.0001 (0.0005)	0.0000 (0.0005)	-0.0000 (0.0005)	0.0000 (0.0005)
Corruption			-0.0022* (0.0011)		-0.0022** (0.0011)		-0.0021* (0.0011)
GC		0.0348*** (0.0102)	0.0508 (0.0585)				
GC*Corruption			-0.0002 (0.0007)				
PACI				0.0756*** (0.0173)	-0.0480 (0.1148)		
PACI*Corruption					0.0015 (0.0013)		
ICMM						0.0533* (0.0278)	0.0801 (0.0843)
ICMM*Corruption							-0.0003 (0.0012)
Constant	1.8334*** (0.0513)	1.8372*** (0.0514)	2.0261*** (0.1121)	1.8347*** (0.0513)	2.0224*** (0.1103)	1.8341*** (0.0513)	2.0191*** (0.1106)
Year & firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	2,128	2,128	2,128	2,128	2,128	2,128	2,128
Adjusted R ²	0.3867	0.3872	0.3874	0.3871	0.3873	0.3868	0.3870

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 5 – Community performance

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Community	Controls only	GC	GC & corruption	PACI	PACI & corruption	ICMM	ICMM & corruption
Community lagged	0.3036*** (0.0125)	0.3008*** (0.0125)	0.3008*** (0.0125)	0.3032*** (0.0125)	0.3030*** (0.0125)	0.3035*** (0.0125)	0.3033*** (0.0125)
Size	0.0897*** (0.0208)	0.0886*** (0.0208)	0.0888*** (0.0208)	0.0893*** (0.0209)	0.0887*** (0.0209)	0.0899*** (0.0208)	0.0901*** (0.0209)
Liquidity	-0.0111 (0.0075)	-0.0109 (0.0075)	-0.0110 (0.0075)	-0.0110 (0.0075)	-0.0110 (0.0075)	-0.0110 (0.0075)	-0.0111 (0.0075)
Capex	0.0526 (0.0957)	0.0488 (0.0954)	0.0484 (0.0953)	0.0522 (0.0956)	0.0508 (0.0956)	0.0529 (0.0956)	0.0527 (0.0956)
R&D expenditure	-0.0102*** (0.0026)	-0.0103*** (0.0026)	-0.0103*** (0.0026)	-0.0102*** (0.0026)	-0.0103*** (0.0026)	-0.0102*** (0.0026)	-0.0102*** (0.0026)
Corruption			0.0004 (0.0018)		0.0012 (0.0017)		0.0012 (0.0017)
GC		0.0910*** (0.0154)	-0.0780 (0.0813)				
GC*Corruption			0.0019** (0.0009)				
PACI				0.0975*** (0.0334)	-0.0216 (0.1405)		
PACI*Corruption					0.0014 (0.0016)		
ICMM						0.0733* (0.0412)	0.5348** (0.2190)
ICMM*Corruption							-0.0052** (0.0024)
Constant	2.7746*** (0.0511)	2.7775*** (0.0510)	2.7399*** (0.1627)	2.7761*** (0.0510)	2.6702*** (0.1603)	2.7751*** (0.0510)	2.6696*** (0.1602)
Year & firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	2,128	2,128	2,128	2,128	2,128	2,128	2,128
Adjusted R ²	0.1956	0.1975	0.1977	0.1959	0.1960	0.1957	0.1958

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 6 – Resource reduction performance

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Resource reduction	Controls only	GC	GC & corruption	PACI	PACI & corruption	ICMM	ICMM & corruption
Resource reduction lagged	0.4233*** (0.0138)	0.4229*** (0.0138)	0.4224*** (0.0138)	0.4232*** (0.0138)	0.4230*** (0.0138)	0.4229*** (0.0138)	0.4227*** (0.0138)
Size	0.1335*** (0.0159)	0.1334*** (0.0159)	0.1338*** (0.0159)	0.1334*** (0.0159)	0.1345*** (0.0159)	0.1337*** (0.0159)	0.1349*** (0.0159)
Liquidity	-0.0017 (0.0054)	-0.0017 (0.0054)	-0.0016 (0.0053)	-0.0016 (0.0054)	-0.0015 (0.0053)	-0.0016 (0.0054)	-0.0015 (0.0053)
Capex	0.0617 (0.0631)	0.0610 (0.0631)	0.0624 (0.0634)	0.0615 (0.0631)	0.0637 (0.0635)	0.0620 (0.0631)	0.0645 (0.0636)
R&D expenditure	0.0003 (0.0014)	0.0003 (0.0014)	0.0003 (0.0014)	0.0003 (0.0014)	0.0003 (0.0014)	0.0003 (0.0014)	0.0003 (0.0014)
Corruption			-0.0013 (0.0013)		-0.0018 (0.0013)		-0.0018 (0.0013)
GC		0.0142 (0.0096)	0.1778*** (0.0494)				
GC*Corruption			-0.0019*** (0.0006)				
PACI				0.0350* (0.0203)	-0.1452 (0.0928)		
PACI*Corruption					0.0021** (0.0011)		
ICMM						0.0924*** (0.0263)	0.1948** (0.0993)
ICMM*Corruption							-0.0011 (0.0013)
Constant	2.3452*** (0.0563)	2.3456*** (0.0563)	2.4607*** (0.1267)	2.3456*** (0.0563)	2.5046*** (0.1256)	2.3469*** (0.0563)	2.5088*** (0.1255)
Year & firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	2,128	2,128	2,128	2,128	2,128	2,128	2,128
Adjusted R ²	0.3099	0.3100	0.3105	0.3100	0.3102	0.3102	0.3104

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 7 – Green product innovation performance

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Green product innovation	Controls only	GC	GC & corruption	PACI	PACI & corruption	ICMM	ICMM & corruption
Green product inn. lagged	0.3472*** (0.0136)	0.3471*** (0.0136)	0.3471*** (0.0136)	0.3468*** (0.0136)	0.3465*** (0.0136)	0.3462*** (0.0135)	0.3461*** (0.0135)
Size	0.0477*** (0.0115)	0.0477*** (0.0115)	0.0476*** (0.0115)	0.0475*** (0.0115)	0.0478*** (0.0115)	0.0479*** (0.0115)	0.0472*** (0.0115)
Liquidity	-0.0007 (0.0024)	-0.0007 (0.0024)	-0.0007 (0.0024)	-0.0007 (0.0024)	-0.0006 (0.0024)	-0.0007 (0.0024)	-0.0007 (0.0024)
Capex	0.0724** (0.0298)	0.0722** (0.0298)	0.0721** (0.0298)	0.0721** (0.0297)	0.0725** (0.0298)	0.0726** (0.0298)	0.0718** (0.0297)
R&D expenditure	0.0000 (0.0007)	0.0000 (0.0007)	0.0000 (0.0007)	-0.0000 (0.0007)	-0.0000 (0.0007)	0.0000 (0.0007)	-0.0000 (0.0007)
Corruption			0.0000 (0.0012)		-0.0002 (0.0012)		-0.0002 (0.0012)
GC		0.0040 (0.0096)	0.0451 (0.0600)				
GC*Corruption			-0.0005 (0.0007)				
PACI				0.0600** (0.0289)	-0.2716** (0.1311)		
PACI*Corruption					0.0039** (0.0016)		
ICMM						0.0897** (0.0387)	-0.3101 (0.2434)
ICMM*Corruption							0.0045* (0.0027)
Constant	2.6170*** (0.0548)	2.6169*** (0.0548)	2.6132*** (0.1153)	2.6184*** (0.0548)	2.6413*** (0.1142)	2.6210*** (0.0548)	2.6361*** (0.1141)
Year & firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	2,128	2,128	2,128	2,128	2,128	2,128	2,128
Adjusted R ²	0.2226	0.2226	0.2227	0.2230	0.2234	0.2231	0.2233

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Figure 1

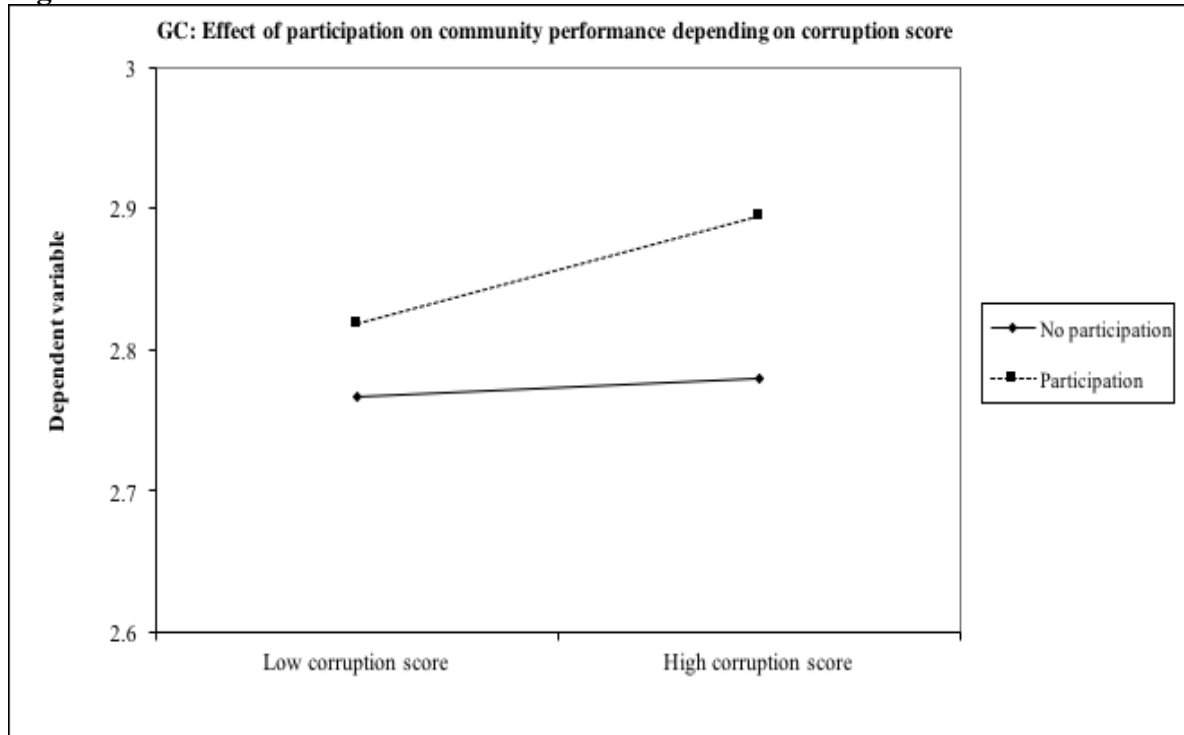


Figure 2

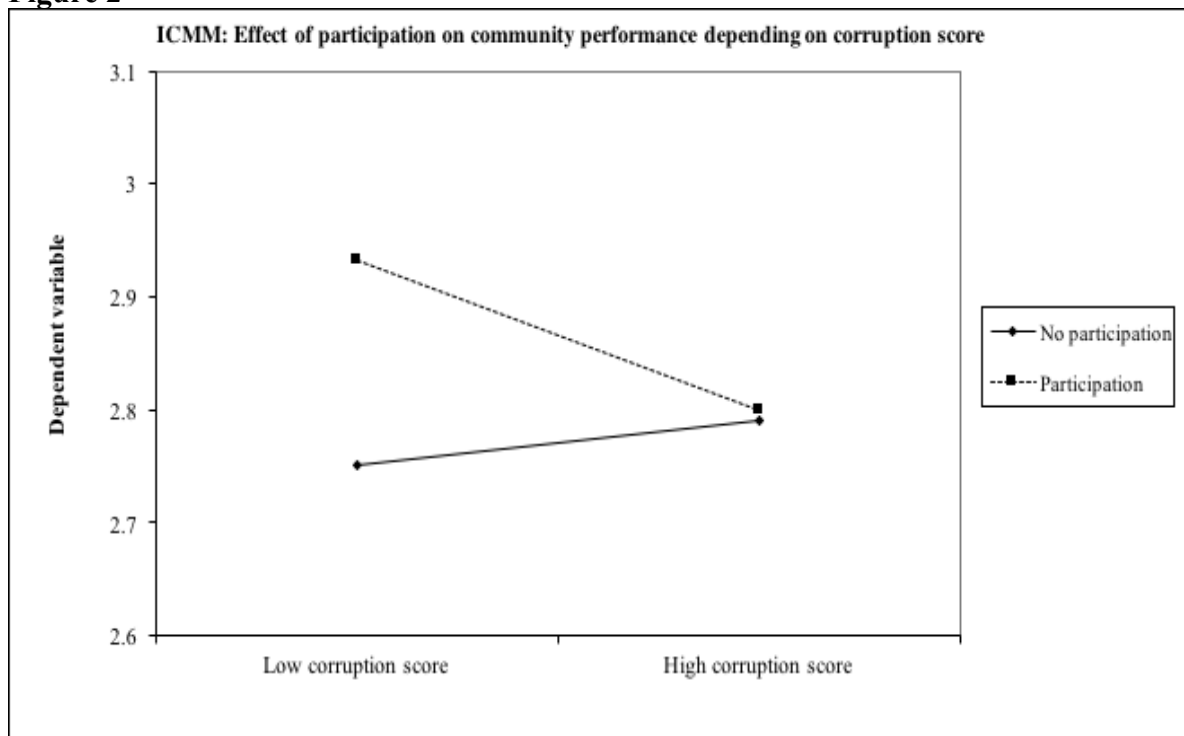


Figure 3

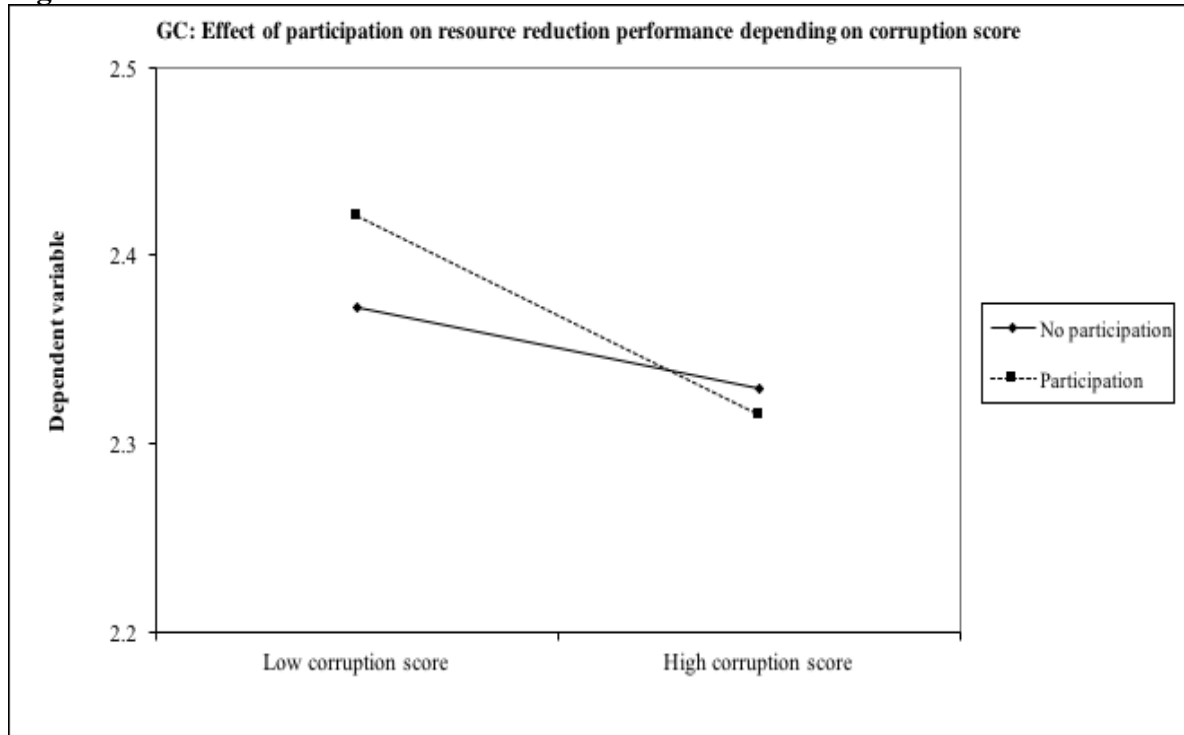


Figure 4

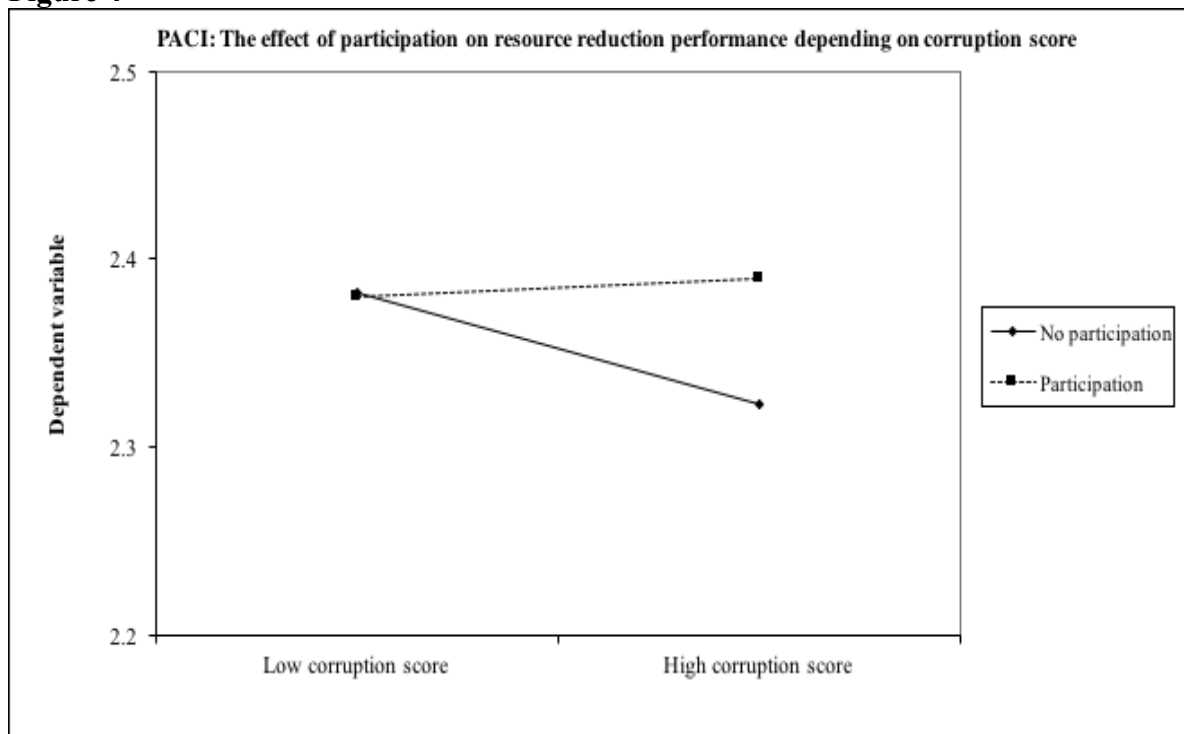


Figure 5

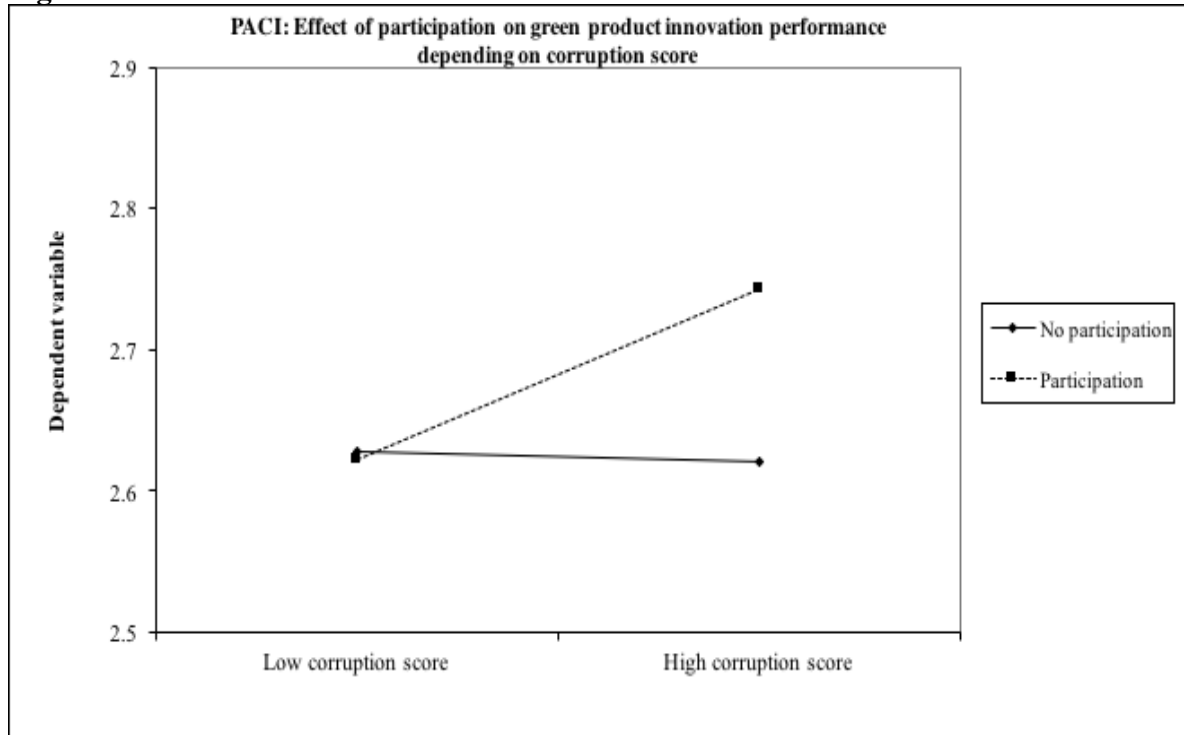
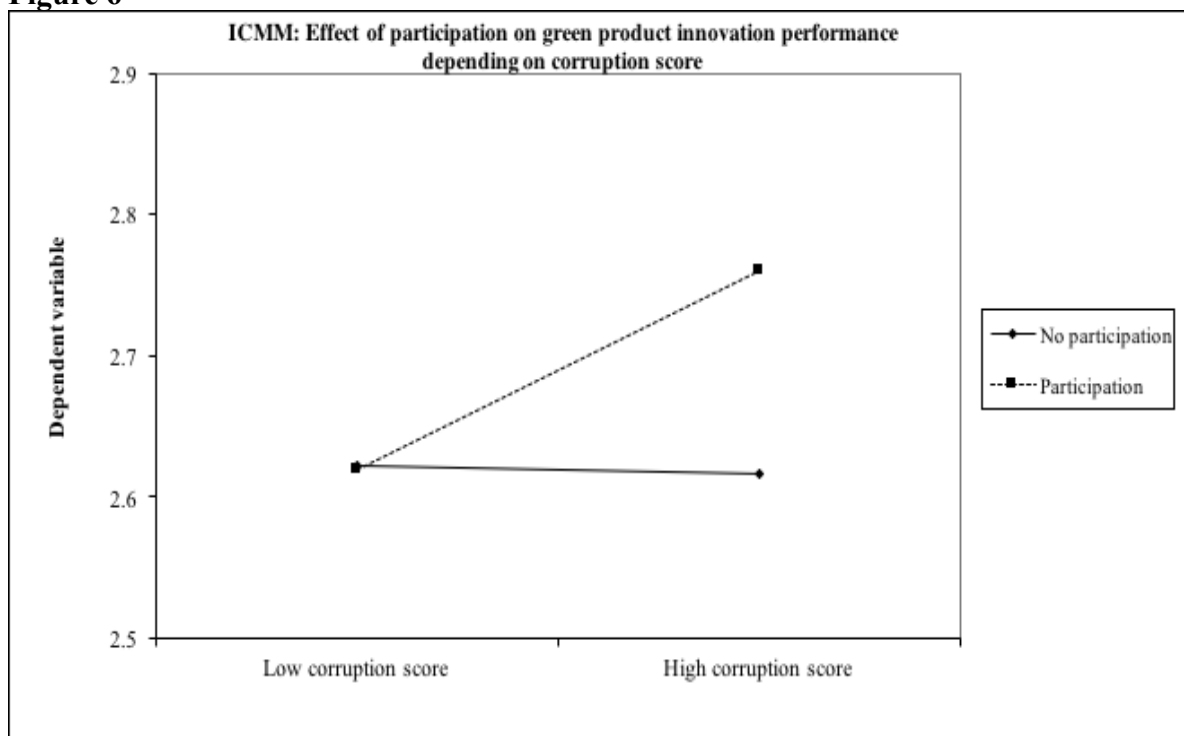


Figure 6



Appendix – Initiative descriptions

GC - The United Nations' Global Compact

The Global Compact (GC) was founded in the year 2000 (GC, 2017), and is currently the largest global sustainability initiative (Baumann-Pauly et al., 2017). The initiative is led by the UN. This global private-public initiative has company and non-business signatories from more than 160 countries. It includes a wide array of non-business actors such as NGOs, academia, business associations, and public sector organizations, as well as many industries (GC, 2017).

Participating firms are expected to include in their strategy, operations, policies, and procedures, ten voluntary principles pertaining to a range of sustainability topics - from human rights, to labor rights, the environment, and anti-corruption (GC, 2017). The aim of the GC is to provide a worldwide network for a range of stakeholders to help foster relevant dialogue and collaboration, and act as a learning platform for working on issues that are relevant for all businesses and contexts (Baumann-Pauly et al., 2017; Kell, 2005; Rasche and Waddock, 2014; Williams, 2014). It is expected to enable collective action and transparency, ultimately resulting in concrete actions, systemic change, and convergence around the principles (Kell, 2005).

GC proponents think that it will fundamentally change firm sustainability practices (Berliner and Prakash, 2014). Firms can benefit from their participation through better reputation and branding, network opportunities, lower regulatory threats and liability of foreignness, and potentially even improved market performance (Cetindamar and Husoy, 2007; Mele and Schepers, 2013). GC critics, on the other hand, say that there is a need for greater enforcement to ensure conformity to the principles, and that affiliation with the GC leads to the “bluewashing” of firms violating the GC’s norms (Janney et al., 2009; Rasche and Waddock, 2014). According to critics, GC participants may only be making superficial,

or symbolic, improvements to their sustainability performance (Berliner and Prakash 2015; Perez-Batres, Doh, Miller, and Pisani, 2012).

PACI – The World Economic Forum’s (WEF) Partnering Against Corruption Initiative

Corruption is an international phenomenon (Argandoña, 2007). While there is a strong business case for firms to avoid corruption, some firms perceive the undertaking of corruption practices as helping their competitiveness, as they may lose some business if they refuse to “play along” while their competitors continue to. Hence, collective action is needed, and should include the business sector, governments, and civil society, in order to have an impact (Hess, 2009). Having an initiative that is solely dedicated to issues related to corruption facilitates the garnering of support for the initiative (Hess, 2009).

The PACI was formed in 2004 to fight corruption, transparency, and emerging-market risks on industry, regional, country, and global levels to enable systemic change. It was formed by a group of CEOs whose firms are members of the WEF. The initiative is led by the business sector. It is a global, cross-industry, collaborative, agenda-setting platform involving a range of stakeholders including governments, civil society, and other international organizations. Within the initiative, firms can share emerging and best practices at the organizational level. By participating in the initiative, signatories can influence actions taken to mitigate corruption in a visible way, while building an internal commitment within the firm to fight corruption. Signatories are expected to adhere to the PACI’s principles and code of conduct (PACI, 2017).

ICMM – International Council on Mining and Metals (the mining and metals industry)

The ICMM was established in 2001 in response to the hostile socio-political environment that the mining and metals industry has found itself in (Sethi and Emelianova, 2006). It is focused on the sustainability of the mining and metals industry, aiming to help enhance both environmental and social firm and industry performance (ICMM, 2018). Its international

membership includes mining and metals firms, and national and regional associations (ICMM, 2018). ICMM members operate in over 60 countries around the world (Czoschke et al., 2015).

The ICMM has been working towards the establishment of a global consensus on main industry-related sustainability concerns (Czoschke, Keefe, and Jarvie-Eggart, 2015). One of this initiative's roles is to foster collaboration among industry leaders, which is needed in order for the initiative to achieve its goals. In addition, dialogue between the initiative and its participants and other stakeholders such as governments, communities, civil society, other industrial sectors, as well as international organizations, is also encouraged (ICMM, 2018).

The initiative stresses the responsibility that mining firms have to ensure the health and safety of employees, local communities, and society as a whole. Members are required to follow ten principles that were established in 2003. Additionally, an annual assurance procedure has been implemented in 2008 (Czoschke et al., 2015) to help ensure the credibility of participants' reported progress (ICMM, 2018). Work done within the framework of the ICMM has resulted in the creation of best practice guidelines and toolkits to help members address various sustainability issues. The ICMM provides support material and information to initiative participants, as well as to the mining community in general (Czoschke et al., 2015).

Whether the initiative is a successful one or not has not really been established. It has been criticized for having been created by and for the industry, and for lacking specificity, compliance requirements, and assurance (added at a later stage) (Sethi and Emelianova, 2011). Looking at the outcomes soon after the establishment of the principles, it has been suggested that the industry has not been able to achieve its objectives nor improve its public image (Sethi and Emelianova, 2006). A more recent look

at the initiative suggests that it has helped identify the main sustainability issues faced by the industry. It got firms to commit to tackling said issues, helping firms become more sustainable through knowledge-sharing. The initiative is believed to have increased the industry's credibility in the eyes of both internal and external stakeholders (Czoschke et al., 2015).