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**THE IMPACT OF THE  
SUSTAINABLE PRACTICES ON  
THE CORPORATE PERFORMANCE**

Doctoral Thesis in Business Management,  
supervised by Doctor Professor Arnaldo Coelho,  
presented to Faculty of Economics of Coimbra University

August 2019

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**To Alice, and for all those who seek knowledge on the other side of the mirror.**



## Acknowledgements

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There is no “one man's” job.

Behind him, there is a Pleiad of investigators, mentors and professors who contributed for the foundations of his work.

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## Abstract

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**Purpose:** In an increasingly interconnected world every action matters. Sustainable supply chain management is a field full of opportunities for deeper investigations, in order to understand how to use power and influence in a proper way to develop business in a responsible way, through an approach where all can win. The first goal of this investigation is to map academic publications on the subject and the intellectual knowledge contained therein, covering past research trends and identifying potential future paths of research in the fields of corporate social responsibility and supply chain management, through a systematic review and bibliometric analysis. The second goal was to investigate the impact of the supply chain leadership and supply chain followership on purchasing social responsibility, considering the mediator effects of information sharing and shared values, since these variables contribute to a better understanding of the leadership and followership phenomena as key drivers of a sustainable supply chain management. The third goal was to identify the impact of supply chain leadership and supply chain followership on corporate social responsibility, considering the mediating effects of shared values, information sharing and purchasing social responsibility. The fourth goal was to identify how corporate social responsibility affects firm value, specifically through the analyses of social responsible behaviours impact on shared value shared value creation, in order to achieve higher performances performance and greater competitive advantages. The fifth goal was to analyse how supply chain leadership and supply chain followership affects firm value, specifically, through the analyses of transformational leadership and followership behaviours on shared value creation, in order to higher performance and greater shared values alignment. By doing so, new insights on sustainable supply chain management to assure business sustainability are provided.

**Methodology:** The answers to the relationships proposed were drawn from the partial and cumulative results that were tested in the four partial and complementary models developed, corresponding to four empirical partial investigations produced. To test the proposed research hypotheses, this investigation uses a structured questionnaire to gather data from a cross-sectional sample of supply chain partners from the biggest Portuguese energy supplier. The initial three investigation models considered a sample of 425 partners, and the fourth later model considered a sample of 456 partners, since 31 additional responses had been fulfilled later in the investigation. Structural Equation Modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find how suppliers' dependency can impact the suggested relationships.

**Findings:** The main findings of this investigation are: (i) there is a growing academic appeal to perform empirical studies involving supply chain partners, with the objective of monitoring the performance of companies through robust indicators and understanding how actions taken by leading organisations are contributing to the creation of value and competitive advantages, in a multidimensional and holistic approach; (ii) supply chain leadership has a positive impact on supply chain followership, information sharing, shared value, shared values and purchasing social

responsibility, showing indirect effects on corporate social responsibility and performance through the proposed mediating variables; (iii) supply chain followership has a positive impact on information sharing, shared value, shared values and corporate social responsibility, showing indirect effects on performance; (iv) corporate social responsibility has a positive impact on competitive advantages, shared value and performance; (v) information sharing has a positive impact on performance and corporate social responsibility; (vi) shared values has a positive impact on purchasing social responsibility, corporate social responsibility and performance; (vii) shared value has a positive impact on performance; (viii) performance has a positive impact on corporate social responsibility; (ix) supply chain leadership dependency appears to moderate some of the proposed relationships.

**Implications/Originality:** This research provides empirical evidence on the influence of supply chain leadership, supply chain followership and corporate social responsibility on organizational value creation, contributing to a better understanding of the impacts of social responsible behaviours on business sustainability, filling the gaps identified on past literature. The overall results may support the importance of a social responsible leadership, identifying how a sustainable company may create value for itself, and for everyone with whom it interacts. Consequently, researchers conducting studies on business strategy can incorporate these conceptual approaches as key elements in strategic business planning. In addition, supply chain management researchers can evaluate the inclusion of supply chain leadership, supply chain followership and corporate social responsibility in the studies carried out, in order to evaluate how these variables can translate on tangible assets, life cycle management, time to market, quality and product innovation.

**Limitations:** The research only considers suppliers of one company. The relationships between variables need to be explored in other practical case studies and longitudinal investigations to improve the possibility of generalisation and establishing more reliable causal relationships.

**Keywords:** supply chain leadership, supply chain followership, corporate social responsibility, shared value, performance, competitive advantages, sustainable supply chain management.



## Resumo

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**Objetivo:** Num mundo cada vez mais interconectado todas as ações contam. A gestão sustentável da cadeia logística é uma área que apresenta um conjunto alargado de oportunidades de investigação, de modo a facilitar uma melhor compreensão sobre como o poder e a influência utilizado de uma forma correta pode permitir o desenvolvimento dos negócios de uma forma sustentável, através de uma abordagem em que todos podem beneficiar. O primeiro objetivo desta investigação foi mapear as publicações académicas relacionadas com responsabilidade social corporativa e gestão da cadeia logística, assim como o conhecimento contido nas mesmas, analisando tendências de investigação do passado e identificando caminhos potenciais para futuras investigações, através de uma revisão sistemática da literatura e análise bibliométrica. O segundo objetivo foi investigar o impacto da liderança na cadeia logística e do seguidismo na cadeia logística na responsabilidade social nas relações contratuais com fornecedores, considerando o efeito mediador da partilha de informação e dos valores partilhados, uma vez que estas variáveis contribuem para uma melhor compreensão do fenómeno de liderança e seguidismo enquanto fatores chave para a gestão sustentável da cadeia logística. O terceiro objetivo foi investigar o impacto da liderança na cadeia logística e do seguidismo na cadeia logística na responsabilidade social corporativa, considerando o efeito mediador dos valores partilhados, da partilha da informação e da responsabilidade social nas relações contratuais com fornecedores. O quarto objetivo foi identificar de que modo a responsabilidade social corporativa afeta o valor das empresas, nomeadamente através da análise do impacto de comportamentos socialmente responsáveis na criação de valor partilhado, de modo a obter-se desempenhos mais elevados e maiores vantagens competitivas. O quinto objetivo foi analisar de que modo a liderança na cadeia logística e o seguidismo na cadeia logística afetam o valor da empresa, nomeadamente através da análise do impacto destas variáveis na criação de valor partilhado, de modo a promover níveis de desempenho superiores e um maior alinhamento dos valores partilhados. Com a presente investigação procurar-se-á compreender de que modo será possível promover a gestão sustentável na cadeia logística, assegurando a criação de valor para todos.

**Metodologia:** Todas as relações propostas foram desenvolvidas e testadas através de resultados parciais e cumulativos, resultantes de quatro modelos conceptuais que se complementam e correspondem às quatro investigações parciais realizadas. Para testar as hipóteses propostas, a investigação utilizou um questionário estruturado para obter informação de uma amostra de fornecedores da maior empresa de energia portuguesa. Os primeiros três modelos da investigação consideraram apenas uma amostra de 425 fornecedores, enquanto que o quarto e último modelo considera uma amostra de 456 fornecedores, devido a 31 respostas adicionais só terem sido disponibilizadas numa fase posterior da investigação. Foi efetuada a modelação através de equações estruturais, enquanto ferramenta estatística para testar as hipóteses propostas. Adicionalmente foi

efetuada a análise multi grupos para procurar perceber de que modo a dependência dos fornecedores relativamente à empresa alvo da investigação pode impactar as relações sugeridas.

**Resultados:** Os principais resultados da investigação são: (i) existe um apelo crescente para a realização de estudos empíricos envolvendo parceiros da cadeia logística, com o objetivo de monitorizar o desempenho dos mesmos através de indicadores robustos, de forma a compreender de que modo as ações realizadas pelas organizações com maior capacidade de influência podem contribuir para a criação de valor e vantagens competitivas, numa abordagem holística, multidimensional; (ii) a liderança na cadeia logística tem um impacto positivo no seguidismo na cadeia logística, na partilha de informação, no valor partilhado, nos valores partilhados e na responsabilidade social nas relações contratuais com fornecedores, demonstrando efeitos indiretos na responsabilidade social corporativa e no desempenho, através das variáveis mediadoras propostas; (iii) o seguidismo na cadeia logística tem um impacto positivo na partilha da informação, no valor partilhado, nos valores partilhados e na responsabilidade social corporativa, demonstrando efeitos indiretos no desempenho; (iv) a responsabilidade social corporativa tem um impacto positivo nas vantagens competitivas, no valor partilhado e no desempenho; (v) a partilha de informação tem um impacto positivo na responsabilidade social nas relações contratuais com fornecedores e na responsabilidade social corporativa; (vi) os valores partilhados tem um impacto positivo na responsabilidade social nas relações contratuais com fornecedores, na responsabilidade social corporativa e no desempenho; (vii) o valor partilhado tem um impacto positivo no desempenho; (viii) a responsabilidade social nas relações contratuais com fornecedores tem um impacto positivo na responsabilidade social corporativa; (ix) a dependência do líder da cadeia logística parece moderar algumas das relações propostas.

**Implicações/Originalidade:** Esta investigação providencia evidência empírica sobre a influência da liderança na cadeia logística, do seguidismo na cadeia logística e da responsabilidade social corporativa na criação de valor partilhado, contribuindo para uma melhor compreensão dos impactos dos comportamentos socialmente responsáveis na sustentabilidade dos negócios. Os resultados globais poderão suportar a importância de uma liderança socialmente responsável, identificando de que modo uma empresa sustentável pode criar valor para ela própria e para todos aqueles com quem interage. Consequentemente, investigadores que efetuem estudos relacionados com estratégia na área dos negócios, poderão incorporar esta abordagem conceptual enquanto elemento chave no planeamento estratégico das empresas. Adicionalmente, investigadores especializados na gestão da cadeia logística, poderão avaliar a inclusão da liderança na cadeia logística, do seguidismo na cadeia logística e da responsabilidade social corporativa nos estudos realizados, de modo a avaliar de que forma estas variáveis se poderão traduzir em ativos tangíveis, numa gestão adequada do ciclo de vida dos produtos e serviços, em bons níveis de desempenho na introdução de novos produtos e serviços no mercado, em qualidade e inovação.

**Limitações:** Apenas são considerados fornecedores de uma empresa. As relações entre variáveis necessitam de ser exploradas noutros casos práticos em investigações longitudinais para aumentar a possibilidade de generalizações.

**Palavras-chave:** liderança na cadeia logística, seguidismo na cadeia logística, responsabilidade social corporativa, valor partilhado, desempenho, vantagens competitivas, gestão sustentável da cadeia logística.



## List of Abbreviations

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AVE	Average variance extracted
CA	Competitive Advantages
CFA	Confirmatory factor analysis
CSR	Corporate social responsibility
CR	Composite reliability
CV	Common values
EFA	Exploratory factor analysis
H	Hypotheses
IS	Information sharing
P	p-value
PRF	Performance
PSR	Purchasing social responsibility
RMSE	Root mean square error of approximation
S	Sample
SCF	Supply chain followership
SCL	Supply chain leadership
SCM	Supply chain management
SEM	Structural equation model
SSCM	Sustainable supply chain management
SV	Shared value
SVS	Shared values
WoS	Web of Science



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# CHAPTER I - BACKGROUND

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## 1.1 Research Context

The world is changing. Being socially responsible in business has gone from something that was once just a ‘nice-to-have’ to something that is a strategic ‘must-have’ for companies that make any claims of excellence and are looking to survive and offer value to the market in a sustainable way. In supply chains, good organisational practices are essential to ensure the creation of benefits for those who depend on collaboration between supply chain partner to develop their business. In particular, this involves developing practices related to a socially responsible culture, integrating a holistic approach to all dimensions of the business, fostering a medium and long-term perspective and responding correctly to stakeholders’ needs and expectations.

This research is about sustainable supply chain management, seeking to understand how a transformational, socially responsible leadership can contribute to create value for all. This study aims to contribute to an inclusive conceptual framework, based on management conceptions that may make sense in an increasingly complex world, where people and organizations find themselves ever more dependent on one another to endure and grow. The final aim is to give a solid contribution to the holistic nature of a meaningful leadership and followership phenomena, through collaboration between leaders and followers, in order to contribute to value creation in the supply chain context.

The literature calls for a change in the current paradigm that exists in companies and in general society (e.g. Maas & Grieco, 2017; Gerde & Michaelson, 2018; Goswami *et al*, 2018). There is a need to rethink concepts, seeking to adapt them to the challenges that we live in the twenty-first century (Spangenberg, 2017). With globalization, organizations and individuals are increasingly integrated into a global society. The monopolistic tendencies of capital, the absence of mechanisms to control financial speculation on a global scale, global terrorism, the lack of effective mechanisms to solve international conflicts, problems linked to global sustainability and the disintegration of social cohesion, unemployment, democratic failures in state institutions and threats to democracy due to subordination to financial dictatorships and illegal trafficking of all kinds, require a new management approach at the global level, capable of making a difference (Martí, 2018).

In this context, companies have a key role to play in the change needed, since they have a vast variety of resources, power and influence at their disposal, allowing each action to count, especially in the complex, vast and interconnected supply chain network (Seuring *et al*, 2015). Consequently, new conceptual frameworks are needed to promote social responsible business, ensuring firms sustainability (Popowska, 2018).

The most recent business models and strategies, which are intended to respond to environmental, social and governance shortfalls, have progressively implanted responsible behaviours. Extending supply chains globally is an effective way to expand customer base and gain access to cheaper

materials and labour. However, this means also that multinational companies are facing greater supply chain risks and problems associated with ethical, environmental and corporate social responsibility issues (Grant, Trautrim, & Wong, 2017).

Recent history has demonstrated the importance of business in the creation of fairer societies, especially through stakeholders' inclusion on value creation process. When companies think about the future, beyond managers and executives personal interests, seeking to ensure the creation of value in a broader way, considering the short, medium and long-term dimensions, without forgetting the needs and expectations of its stakeholders, they are more likely to prosper, ensuring business continuity (Teoman & Ulenin, 2017). When companies fail to do so, sooner or later they will lead to loss of value and opportunities to thrive, negatively affecting the society in which they are inserted, as well as their business partners.

To guarantee a proper response to the unpredictability of underlying businesses, resulting from the increasing complexity of businesses models, that require a perfect articulation between business partners operating supply chains, it is critical to use the power and influence in a responsible and virtuous way, guided by higher principles and values (Stokes, Baker, & Lichy, 2016). Companies exercising their power in a collaborative way, thinking about the business in a holistic manner, respecting their business partners and all those who depend on their *modus operandi*, will facilitate the creation of a fertile business environment where everyone can benefit, attaining social licence to operate (Birasnav, Mittal, & Loughlin, 2015). Once power is used in a transformational way, for the sake of a common good, influential companies become supply chain leaders (SCL), able to guide other business partners towards common goals where everyone can win (Defee *et al*, 2010). On the other hand, when less influential companies collaborate proactively with leading companies in cooperative relationships, assuming the role of attentive supply chain followers (SCF), committed to common goals, they can contribute to a better leadership process, facilitating the creation of value on the entire supply chain (Zoogah, 2019).

Literature suggests that collaborative relations between leaders and followers also have the potential to enable socially responsible behaviours, by contributing to the incorporation of sustainable practices and methods on the relationship established with the leader (Uhl-Bien, 2013). This facilitation occurs due to the fact that smaller companies tend to internalize behaviours of more influential companies, in order to guarantee an alignment with the values subscribed by them and ensure the necessary balance to guarantee their own sustainability. Moreover, when leaders and followers work together to maximize value cocreation, the possibility to benefit all relevant stakeholders dramatically increases: communities are supported, the environment is preserved, employees are treated fairly, investors are remunerated in a sustainable way, customers are treated in a proper way in order to have higher satisfaction levels and suppliers are respected and treated as important business partners.

According to previous works, the literature established that a positive effect of company's leadership in corporate social responsibility (CSR) enables sustainable supply chain management

(SSCM), resulting in benefits for all supply chain partners. CSR requires a better understanding of how business affects and is affected by its surroundings, as well as the way to act and change accordingly. Furthermore, as society and the world's economy changes continuously, a company's ability to change becomes a key competence in today's sustainable business (Aagaard, 2016).

Despite several attempts having been made to shed light on the importance of CSR for firms performance (PRF), there remains several different gaps that can be explored with empirical approaches (Habaragoda B. S., 2018). Studying how companies' social responsibility behaviours can impact their ability to create shared value (SV) for their stakeholders and how these practices can contribute to higher PRF levels and competitive advantages (CA), represents an opportunity to clarify how sustainable businesses can be driven, allowing firms to endure and grow together with their stakeholders, especially in the supply chain context. This is particularly important given that companies that are less engaged with social responsibility issues, retain some level of scepticism as to how social behaviours can contribute to shareholders' interests (Connors, MacDonald & Thomson, 2017), regardless of theoretical and empirical findings that show that socially responsible approaches are essential to guarantee organisational sustainability (Pistoni *et al.*, 2016). At the same time, supply chain leadership and its flipside, the followership, might be critical to the performance of the supply chain, and their partners. However, Blome, Foerstl and Schleper (2017), assume that the reciprocal interactions between leadership and followership lack investigation as well as their impacts on shared knowledge and shared value. Additionally, they may act as mediators in the relationship between CSR and PRF. The role of leadership and, sometimes, the influence it may exert on followers, namely due to their dependency (Cadden, Marshall & Humphreys, 2015), may help the dissemination of responsible social practices across the supply chain, changing companies' values, and contributing to a better world.

Additionally, effective change management and leadership are prerequisites for successful CSR and sustainable business. Although leadership is frequently point out as crucial in every management initiatives, it is important not to forget the other side of leadership, namely the followership. These two structures can be considered reciprocal. Still, in the complex supply chain context, it is essential to deepen some aspects related to leadership-followership dichotomy, where literature doesn't provide enough comprehension, namely how to use a leadership position to improve social responsibility behaviours of the suppliers and deepen the understanding of followers' behaviours regarding supply chain leaders influence, since other variables can contribute to the expected outcomes, namely the supply chain leadership dependency (Cadden, Marshall, & Humphreys, 2015).

## 1.2 Research problem and questions

Despite several approaches that have been made to enlighten the importance of leadership and followership on performance (Gosling *et al*, 2016), further empirical investigation is needed, to better understand its effects and the linkages between CSR and the different organizational outcomes, like performance and ecological footprint. To study how supply chain leaders and followers can contribute together to superior performances through a proper alignment of values, beliefs and efforts to create shared value, represents an opportunity to clarify how responsible businesses can be driven (Matinheikki *et al*, 2017), aiming to contribute to the sustainability of companies and to all those that depend on a healthy business ecosystem. The literature challenges deeper investigations exploring the relationships between supply chain partners (Jadhav *et al*, 2018) in order to better understand how to establish collaborative environments that contribute to higher organizational performances.

Nowadays, new companies are emerging from the possibility of accessing a variety of materials and service portfolios worldwide, which they can transform, improve and sell to customers across different geographies. At the same time, there is a growing risk of compliance failures in terms of existing regulations and the needs and expectations of stakeholders, as business becomes increasingly complex and dependent on the good performance of myriad partners working collaboratively in huge supply chains (Sibanda & Pooe, 2018). Since everyone is connected and influenced by one another, failure by a single partner behaviour, via the butterfly effect (Marchi, Erdmann, & Rodriguez, 2014), can cause a succession of negative effects on the value delivered at different levels of the supply chain, which can result in serious damages to a larger group of supply chain partners. As such, in a connected world, CSR is crucial in ensuring that business flourishes in a healthy way, creating value for companies and for society in general, without compromising internal and external stakeholders, who can be affected by their performance.

There is a call for a better understanding on how to leverage value creation through responsible leaderships, by those who have the power to influence (Longoni & Cagliano, 2018). Additionally, to comprehend how leaders can motivate smaller and less influential companies to become stronger and more capable to transform themselves into agents of change, is something that requires a deeper attention from academics and practitioners. Moreover, we hope to engender a better understanding of the impacts and chain of effects between socially responsible behaviours and value creation, while also taking the role of supply chain leadership dependence into consideration as a moderating variable. The overall results may support the importance of adopting a truly socially responsible culture that is capable of promoting sustainable benefits to companies and, last but not least, their stakeholders.

This is particularly relevant, since powerful companies that resign from their responsibility regarding their business partners, sooner or later will lead to value depletion that can affect the entire supply chain (Busse *et al*, 2016). On the other hand, smaller companies, that do not take advantage of the synergies resulting from relations with more mature companies, may miss unique opportunities to last and grow (Wu & Chiu, 2018).

Although some studies have been carried out advocating the importance of collaborative behaviours in the supply chain context (Liao *et al*, 2017), highlighting the relevance of transformational leadership on value creation, no empirical study has yet been made to explore the relation between SCL and SCF on PRF, considering the mediating effects of SVS and SV. Considering this, with the present research, we intend to understand how the leadership and followership dichotomy in the logistics chain, established in a collaborative and transformational way, can contribute to the creation of higher levels of PRF and CSR. In this context, the SVS existing between supply chain partners and the potential to create SV by meaningful and trustful relations, plays a relevant mediating role on the process, considering also the information sharing (IS) practiced between supply chain partners and the purchasing social responsibility (PSR) on the established commercial relationships.

Moreover, we intend to explore the intersection between CSR and supply chain leadership, opening a path for further empirical research to shed light on how sustainable business is defined, facilitated and implemented across supply chains. Considering the objective of better understanding SCL as a key driver of sustainable supply chain management, we addressed the connection of CSR and SVS, partnerships, long-term relationships and SV. Furthermore, we explore the dichotomy of sharing and value co-creation, loyalty and long-term relationships, as the basis of a responsible leadership to endorse SSCM, to lead supply chain partners as well as all the other stakeholders to higher sustainable performances and ultimately, to a better world.

Accordingly, this requirement for further research on the SSCM field leads us to the following investigation questions:

- 1) What are the main research trends in CSR and SCM?
- 2) Does SCL and SCF contribute to PSR?
- 3) Does SCL and SCF contribute to supply chain partners CSR?
- 4) Does CSR contribute to CA and PRF?
- 5) Does SCL and SCF contribute to PRF?

To test the proposed research hypotheses, this investigation uses a structured questionnaire to gather data from a cross-sectional sample of supply chain partners from the biggest Portuguese energy supplier. 425 partners answered initially, and 31 additional responses have been collected, on a

global sample of 456 answers. Structural Equation Modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find how suppliers' dependency can impact the suggested relationships. The present investigation integrates five partial, complementary studies to give answer to the proposed objectives and hypotheses.

The final results will be able to sustain the importance of using power and influence in a proper way, to create better businesses, allowing companies to align with best practices, in order to reach excellence.

### **1.3 Structure of the thesis**

This thesis analyses issues on SSCM, shedding light on how collaboration at supply chain through meaningful relationships between leaders and followers can contribute to improved firms' ability to deliver value. Attending to the organizational context and the state of the art, this research has the purpose to contribute to the SSCM concept development, synchronizing it with 21st century supply chain challenges. This thesis is entitled "*The impact of the sustainable practices on the corporate performance*" because it is supposed to match the initial project submitted to this University. However, in fact, this thesis is about sustainability in the supply chain, considering the role of supply chain leadership in the dissemination of sustainable practices across the supply chain partners. Accordingly, the title could be "*Leading through corporate social responsibility to a sustainable supply chain management - An investigation with a Portuguese energy supplier*".

The document starts with a literature review to give a general perspective of investigation concepts. Then it presents a methodological chapter to explain the adopted methodologies. A bibliometric analysis was performed, and four research models were built, which led to five papers, compiled in the following chapters:

- 1) Corporate Social Responsibility and Supply Chains Management - A Systematic Review and Bibliometric Analysis;
- 2) The impact of Supply Chain Leadership and Followership on Purchasing Social Responsibility - *An empirical study about a Portuguese energy supplier*;
- 3) The impact of Supply Chain Leadership and Followership on Corporate Social Responsibility - *An empirical study about a Portuguese energy supplier*;
- 4) The impact of CSR on Competitive Advantages and Performance - *An empirical study about a Portuguese energy supplier*;
- 5) The impact of Supply Chain Leadership and Followership on Organizational Performance - *An empirical study about a Portuguese energy supplier*.

The first paper maps academic publications on the subject and the intellectual knowledge contained therein, while covering past research trends and identifying potential future paths of research in the



fields of CSR and SCM. As such, it deploys a systematic review of the literature according with a bibliometric approach based upon VOSviewer, with a specific focus on drafting maps to visualize an underlying intellectual structure. This type of analysis encompasses the scope of the articles published and the annual number of citations for the period between 1900 and 2018, as registered by the Web of Science database. The main objective of this study is to identify the most relevant research in this field and select the latest trends according to information found in the Web of Science database. Several classifications are made, including an analysis of the most influential journals, the most cited papers of all time and the most productive and influential authors. The main contribution of this study thus arises from identifying the main research trends in this field and the respective shortcomings and specific needs for future research.

The second paper identifies the impact of SCL and SCF on PSR, considering the mediator effects of IS and SVS, and the moderator role of Supply Chain Leadership Dependency (SCLD), since these variables contribute to a better understanding of the leadership and followership phenomena as key drivers of SSCM. The results show that SCL has a positive impact on IS, SV and PSR. SCF has a positive impact on IS and SV. IS and SV have a positive impact in PSR. It was also possible to conclude that SCLD moderates all the relations, except for the relationships between SCL and PCR and between IS and PCR. The paper provides some empirical evidence of SCL influence on PSR, improving the understanding of the impacts of supply chain leaders on social responsible behaviour of other supply chain partners. The overall results may support the importance of a transformational leadership on the supply chain interactions, namely on social responsible performance in the purchasing relations of all partners.

The third paper identifies the impact of SCL and SCF on CSR, considering the mediating effects of IS, SV and PSR, and the moderator role of SCLD, since these variables may help to understand the chain of effects that leads to a sustainable supply chain. The results show that SCL has a positive impact on IS, SV and PSR while SCF has a positive impact on IS and SV. IS, PSR and SV have a positive impact on CSR. SCF has a direct impact on CSR, while SCL only shows indirect effects throughout the effects of the mediating variables. Dependency appears to moderate some of the proposed relationships. The paper provides a better understanding of the impacts and the chain of effects between supply chain leadership and CSR, also considering the role of dependency as moderating variable. The overall results may support the importance of a truly sustainable business leadership capable of promoting social responsibility along the entire supply chain., To identify how a socially responsible company may lead their suppliers to adopt and develop a true and committed socially responsible behaviour, and contribute to a better world, is a new approach of supply chain management

The fourth paper analyses how CSR affects a company's value, specifically by examining the effect of socially responsible behaviours on SV creation, in order to foster higher PRF and greater CA. This way, it provides new insights into CSR management to ensure business sustainability for supply chain management. The findings suggest that CSR positively impacts CA, SV and PRF.

Additionally, this study reveals that SV has a positive impact on PRF. However, SCLD appears to moderate some of the proposed relationships. This paper provides some empirical evidence of the influence of CSR on organisational value creation, contributing towards a better understanding of the impacts of socially responsible behaviours on business sustainability. The overall results may support the importance of CSR, identifying how a socially responsible company may create value for itself, and for all of those with whom it interacts. As such, researchers studying business strategy can incorporate these conceptual approaches as a key element in a company's strategic planning. Scholars of supply chain management can also incorporate CSR into their studies to evaluate how it impacts on tangible assets, life cycle management, time to market, quality and product innovation.

The fifth paper analyses how SCL and SCF affects firm value, specifically, through the analysis of transformational leadership and followership behaviours on SV creation, in order to higher PRF and greater SVS alignment. New insights on sustainable supply chain management to assure business sustainability are provided. The findings suggest that SCL positively impact SCF, SV and SVS. Additionally, this study makes evident that SCF has a positive impact on SV and SVS. Furthermore, it was observed that SVS and SV have a positive impact on PRF. It was possible to notice that the influence of SCL and SCF on PRF occurs in an indirect way through the mediation of SV and SVS. Yet, supply chain leadership dependency appears to moderate some of the proposed relationships. The study provides a better understanding about the impacts and the chain of effects between SCL and SCF on PRF, also considering the role of dependency as a moderating variable. The overall results may support the importance of a truly sustainable business leadership, capable to promote SV creation along the entire supply chain. Consequently, researchers studying business strategy can incorporate this conceptual approach as a key element in firms strategic planning, promoting transformational leadership practices and engaged followership behaviours, in order to achieve better organizational PRF. Researchers in fields of SCM can also consider the inclusion of these variables into their studies to evaluate how SCL and SCF contributes to tangible assets, when driven by SVS and focused on SV creation.

This thesis ends with a general conclusions chapter, to give an overall view about the investigation and its contributions.

As a final observation, it should be noted that the literature voices a wider appeal, calling for a greater application of the concepts addressed, namely by building bridges between academic circles and business. Conducting empirical studies that reinforce the value of socially responsible approaches to supply chain management will provide business leaders with a set of evidence-based arguments and tools to support socially responsible options, enabling them to contribute towards sustainable supply chain management and shared value creation, boosting collaboration and increasing social legitimacy to conduct business in a proper way.

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## CHAPTER II - LITERATURE REVIEW

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### Abstract

*This study explores the intersection between corporate social responsibility (CSR) and supply chain leadership (SCL), opening a path for further empirical investigations to shed light on how sustainable business is defined, facilitated and implemented across the supply chains. Given that sustainable leadership principles are associated with brand and reputation enhancement, customer and staff satisfaction, and financial performance, we emphasize the importance of Portuguese companies, namely EDP, to engage with a leadership through CSR, providing the corporate leaders with the arguments for the integration of CSR in all business dimensions, namely in the supply chain management. A structured literature review of CSR and SCL was contributed to summarize the research published so far in peer-reviewed publications. The authors argue that a positive effect of a company's leadership in CSR enables a sustainable supply chain management (SSCM), resulting in benefits for all the supply chain partners. Linking CSR, SCL and SSCM allows the exploitation of strategies and performance outcomes with a focus on sustainability for all the partners involved in the supply chain. It is, therefore, the hope of the authors that this article will provide a theoretical background for further empirical investigations to explore those relationships, providing the managers with solid and supporting arguments in favour of a truly sustainable business leadership across the supply chains. The relationships between variables need to be explored in practical case studies and cross-sectional investigation to support possible generalizations. This study will contribute to the SCL and CSR theory development and consolidation.*

**Keywords:** Corporate Social Responsibility, Supply Chain Management, Leadership, Sustainability

### 2.1 Introduction

In globalization times, the expansion of merchandise transportation, the increase of customer sensitivity and the supply chains being sustainably managed have become some of the major tasks for corporations (Klimkiewicz & Nowak, 2016). According Bhagwat (2011), these changes of such great magnitude require national and world wide enterprises to have business's approaches focused in sustainable development, keeping in mind that individual and organizational leadership play a significant part in this type of transformations. Yet, the intersection between having a responsible leadership and corporate social responsibility (CSR), as a main conductor of a truly sustainable supply chain management (SSCM), is worthy of more attention (Gosling, Jia, Gong, & Brown, 2016). Never before has there been a greater and global need for sustainability and responsible behaviour. Woerkom and Rozema (2017) pointed that private sector and multinational corporations in particular play an important role in encouraging and ensuring global sustainable development.

An aspect that is essential to the success of the company is the level of quality of the relationships that it maintains with its vital stakeholders (for example, the suppliers), as well as its capacity to react to competitive environments and to ethical challenges. The suppliers' management is central in the performance improvements for numerous firms (Yawar, 2014).

Acting in a sustainable manner provides key benefits that make CSR interesting from a business perspective. When the company strengthens its relations with the organization's stakeholders, it can prevent and limit potential conflicts related to its business activities. The closer dialogue with stakeholders also enables the company to make better decisions based on a deeper understanding of the society's expectations regarding the company. At the same time, working diligently on communicating sustainability helps to improve the company's reputation and the stakeholders' and general public's confidence in the organization. Thus, companies gain competitive advantages and create access to new markets and new innovation opportunities through their approach to CSR and sustainable business (Aagaard, 2016).

Several academic studies show that by implementing CSR, both in large and minor companies, value can be created. Even though we cannot accomplish at all times the benefits which we were aiming with the help of CSR, one of the main factors of creating value using CSR is the effective communication of the process of implementing CSR. This would guide to additional debates about tactics regarding CSR implementation and the generation of added value. Regarding the theoretical suppositions around the creation of value, an important aspect that should be observed is that diverse categories of value can appear. We must pay attention to the fact that the creation of shared value through CSR is the only one that appears to be sustainable, according to most scholars. Nowadays, it's expected that CSR will suffer some evolutions and the creation of value using CSR will go through a transformation. The implementation of CSR will probably turn out to be more focused on creating shared value (Juscus & Jonikas, 2013).

CSR requires a better understanding of how business affects and is affected by its surroundings, as well as the way to act and change accordingly. Furthermore, as society and the world's economy changes continuously, a company's ability to change becomes a key competence in today's sustainable business (Aagaard, 2016). Thus, effective change management and leadership are prerequisites for successful CSR and sustainable business. According to Kotter (1990), change management refers to the basic tools used to structure and control a change, whereas change leadership deals with the driving forces, visions and processes that support a major transformation.

The key purpose of this paper is to explore the intersection that exists between CSR and supply chain leadership, opening a path for further empirical research to shed light on how sustainable business is defined, facilitated and implemented across supply chains. Considering the objective of better understanding leadership as a key driver of SSCM, we addressed the connection of CSR and shared values, partnerships, long-term relationships and shared value. Furthermore, we explore the dichotomy of sharing and value co-creation, loyalty and long-term relationships, as the basis of a

responsible leadership to endorse SSCM, to lead supply chain partners as well as all the other stakeholders to higher sustainable performances and ultimately, to a better world.

## 2.2 CSR Overview

The concept of corporate social responsibility (CSR) isn't consensually accepted by the academic community, because there are different definitions, tendencies, points of view and models to explain its grounds (Gonzalez-Perez, 2013). Lantos (2001) states that CSR typically refers to the extension of the impact that is created on the community regarding social and environmental influence by corporate strategy and activities. McComb (2002) considers that CSR is the concept of corporations having a vision that goes beyond incomes, where they bind themselves with moral principles, transparency, relationships with the workers and agreement with requisites imposed by law and also of respecting globally the communities in which they function. Considering the point of view somewhat different of Carroll and Buchholtz (2006), their focus to debate the CSR actions of an organization is the on the dimensions of economy, law, ethic and philanthropy. Even if we can find several characterisations of CSR, the key definitions of CSR complement each other, specifically (i) the address of social and environmental matters, as deliberated by the European Commission (2001); (ii) increasing corporate brand and status, which might enhance the trust and loyalty of the customers regarding the company, as McComb (2002) suggests; and (iii) reacting to reckless business decisions and, according to Coghill *et al.* (2005), preventing being imposed by legislation. Generally, CSR can be seen as the method trough which firms make the decision of willingly address social, economic, and environmental matters with the purpose of benefiting individuals, communities, and the society, therein creating positive effects, which can benefit the companies as they try to accomplish their corporate goals (Collings, 2003).

According to Gonzalez-Perez (2013), there was never the attribution of the CSR origins to a specific author or occasion. Nonetheless, the understanding of the concept has grown sideways with the progress of economy and society and it is thought that the contemporary idea of CSR first appeared in the 1950s, at the time that the concept of CSR appeared (Witkowska, 2016). The term was officially formed by Howard R. Bowen in his central research done in 1953 "*Social Responsibility of the Businessman*" (Gonzalez-Perez, 2013). In 1983, the United Nations (UN) decided to establish a World Commission on Environment and Development (WECED), leaded by the former Prime Minister Gro H. Brundtland as chairman of the Board. In 1987, WECED submitted its report to UN general assembly, with the title "*Our Common Future*". In the Brundtland report, as it was called, the definition of sustainable development is: "*Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (WCED, 1987).



Carroll (1991) has contributed to the building of the characterisations of the diverse stages in which companies started responding to their corporate social responsibilities, namely with the Corporate Social Responsibility pyramid, according to Figure 1. Economy is in the base of the pyramid, as well as the economic performance, which is believed to be essential and introduces level number two, concerning the law and legal rights, among other things. The focus of level number three is on corporate ethics in an extensive stakeholder context. Lastly, there is the level that contains philanthropy, it is where a company usually goes further than its daily anticipated duty and is, therefore, considered to be a good corporate citizen.



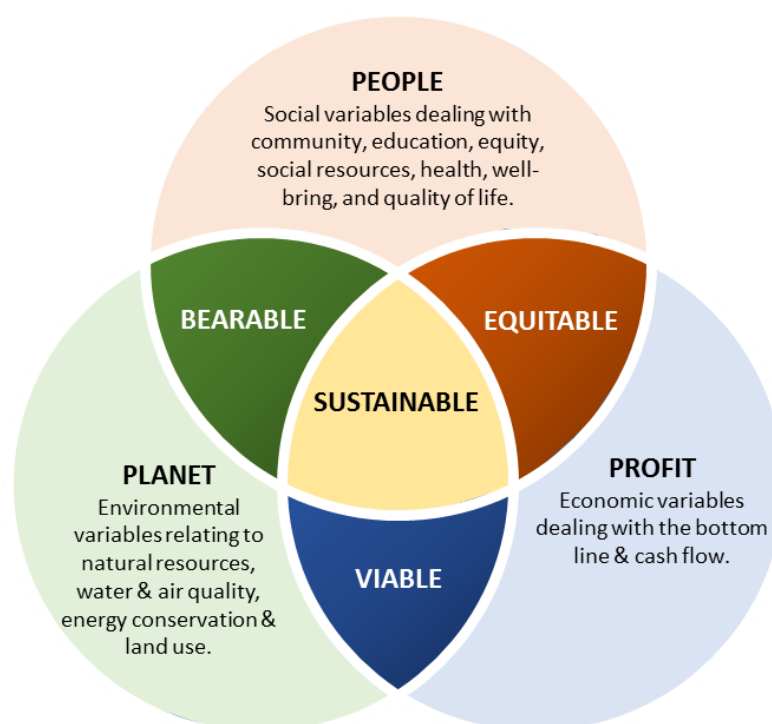
**Figure 1 - Corporate Social responsibility pyramid (Carroll A. , 1991)**

The combination between applying the model and the environment in which it functions and an understanding of what it wants to accomplish at the abstract and practical levels are, in several aspects, vital in the development of knowledge, as well understanding the world. According to Jones *et al.* (2009), Carrol model (i) is valuable as it helps making sense of the CSR concept, the matters that relate to it and may, thus, help to enrich communication and (ii) unravel the concept, by establishing crucial components and distinguishing itself in its exploration of CSR.

The two concepts, CSR and sustainability, are often applied interchangeably and, although there are extensions of each other, they are defined differently (Aagaard A. , 2016). A company's sustainability, also mentioned to as corporate sustainability, is considered as the basis of CSR (Marrewijk, 2003). Corporate sustainability is defined by WBCED as follows: *"the business community's continued commitment to behave ethical and contribute to economic development and at the same time improving the quality of life for employees and their families as well as for the local community and society as a whole"* (WBCSD, 2000). The concept of a company's CSR is

defined as follows: “*corporate social responsibility includes the economic, legal, ethical and philanthropic expectations that society has to organizations at a given moment in time*” (Carroll & Shabana, 2010). Therefore, corporate sustainability focuses more on the company and its surround and their impact on each other, whereas CSR focuses more on the stakeholders and the charitable and beneficial social activities that the company performs (Aagaard A. , 2016).

The most common form of translation of sustainability on a corporate level is the triple bottom line (TBL), which is composed by three sustainable dimensions: people, planet and profit and that is described as three equally important principles (Elkington, 1997), expressed in the following model, which brings together an extended range of values and criteria for the measurement of this three dimensions, according Figure 2:



**Figure 2 - The triple bottom line (Elkington, 1997)**

According to Bansal (2005), the social dimension refers to the equity of all human beings and their opportunities in gaining access to resources with regard to basic needs such as water, food and development through improved living conditions – such as health care and education. The environmental dimension refers to the ecosystem of the Earth and reduction of human created footprint and ecological imbalance in terms of pollution, the ozone layer, greenhouse gases, non-biodegradable waste, deforestation, and over fishing. The profit dimension emphasizes that production of goods and services are a prerequisite to improve the living conditions globally. In other words, companies and business are no longer solely perceived as economic entities, but as social and ecological entities as well, which influence and are influenced by their surroundings.

This consideration shines through the companies' financial statement when they have prepared themselves in accordance with the principles behind the triple bottom line (Aagaard A. , 2016).

When we look at business as the process of creating value for stakeholders and the trade of that value with free consenting adults, the main goal is to sum up in the thought of having a society in which each one has the freedom compatible with the freedom of the others, like liberty for all (Rawls, 1971). The creation of value and its trade cannot be two separate things, as one is useless without the other (Freeman, Andrew, & Bidhan, 2004). The stakeholder's theory has been proposed both within the context of the organisations' theories (Freeman R. E., 1994) and within that of business ethics (Carroll A. , 1989), as a step outside the neoclassic theory in which the goal of the corporation is maximizing profit and, thus, the only stakeholders achieving this goal are the corporation's owners. The Stakeholder's theory basically argues that companies and their managers should act on behalf of "*any group or individual who can affect or is affected by a firm's operations in achieving its objectives*" (Freeman R. E., 1984, p. 46). In line with Freeman's argumentation, the instrumental stakeholder's theory states that the best way to maximize shareholder wealth is to fulfil the stakeholders' interests (Jahn & Bruhl, 2016).

Alongside this background, the dimensions of CSR that are more regularly utilized and debated are: considering the perspectives of the stakeholders, dimensions related with society, economy and environment and voluntary application (Witkowska, 2016). As a result of all these aspects, we can define CSR in the following sentence: "*The social responsibility of business encompasses the economic, legal, ethical, and discretionary [later referred to as philanthropic] expectations that society has of organizations at a given point in time*" (Carroll & Shabana, 2010).

With companies acting guided by CSR principles, it is possible to move to a truly and lasting organizational sustainability. The result is an approach to business that identifies the strategic benefits of a CSR and stakeholder's perspective in a way that sustains the firm and optimizes the added value of its operations.

## **2.3 Forms of value created through CSR**

According to the literature, the relationship between CSR and firm performance has been studied by scholars for more than thirty years, as they tried to figure out if firms can benefit by engaging CSR. Even though results are diverse, the tendency appears to propose a moderately positive CSR and firm performance relationship (Galbreath, 2010). Still, supposed benefits of CSR are abundant and comprise those beyond the "pure" financial sphere, such as maintaining the license to operate, reducing risk, improvements regarding efficiency and tax advantages (Weber, 2008).

There are several publications that usually conclude that the benefits that a firm obtains from implementing CSR remain in the core of the larger number of studies and can be assembled into

two main movements: financial value and marketing benefits (Jonikas, 2012). Summarizing scientific studies, implementing CSR can origin the emergence of diverse types of value, particularly for the firm as the main actor in CSR activities.

**RISK MANAGEMENT.** Enterprise risk management is quickly becoming a top priority for corporate boards, especially for large international companies where the organization's risk management is a critical factor for success. This is done through, for example, the incorporation of responsible supply chain management and the integration of a “*code of conducts*” in the organization's various national and global supplier partnerships (Yu, 2008). Through sustainable supply chain management, companies can strengthen their risk management and minimize possible risks in their external collaborations and subcontracting (Walker, Di Sisto, & McBain, 2008).

**FINANCIAL BENEFITS.** It is commonly said in scientific articles that CSR could increase enterprise profits and thus most large companies are enthusiastically engaged in it. Research that studied the CSR's effects on financial performance were reviewed by Stanwick and Stanwick (1998) and they came to the conclusion that there is a fragile but positive relationship. The correlation between profitability and sustainability is suggested by Tang and Zhou (2012). Nonetheless, the only way to preserve the balance in the long run is if the company is able to take a holistic attitude to sustain the financial flow (profit), resource flow (planet), and development flow (people) for the complete ecosystem involving poor producers in emerging/developing markets, global supply chain partners, consumers in developed countries and the planet (Bhardwaj, 2016).

**BETTER QUALITY.** CSR might help consumers believing that the products of businesses involved in socially responsible activities have better performances. According to Hall & Soskice (2001), managers, when trying to persuade the firm to take part in CSR, can have instrumental motivations when such attempts are in accordance with the wellbeing of the employees in the long-term or financing research and development of high-quality products (Hall & Soskice, 2001). Actually, there are expectations that CSR attempts in R&D can possibly conduct to several business benefits, for instance, better quality (McWilliams *et al.*, 2000).

**OPTIMIZING RESOURCES.** The focus of strategic CSR on the outcomes – increase the business context and at the same time add environmental and social value – stimulates proactive innovation to deliver meaningful interventions, optimizing resources and capacities. Sustainable companies and business that have emphasized environmental elements in their CSR strategies and are dedicated to preserving the environment and saving energy may also be able to achieve considerable savings from, for example, increased resource efficiency, lower energy and water consumption and waste, which all constitute economic benefits (Cramer, 2005). Moreover, according to Jayaraman *et al.* (2012), the adoption of an environmental perception regarding operations might lead to enriched operations. This research also proposes that every operational

system which has reduced to the minimum inefficiencies is also more environmentally sustainable (Bhardwaj, 2016).

**ORGANIZATIONAL CULTURE.** It is commonly accepted that the true value of CSR is realized only when sustainability is embedded into their organizations' cultures. When companies have a responsibly managed human resources department, they can accomplish certain goals, like the increase of the satisfaction, workers being more involved and motivated and, consequentially, they will feel better identified with the organization (Zychlewicz, 2014). According to Łukasiewicz-Kamińska (2011), a corporation can improve its organisational culture with the establishment of a code of ethics. This author argues that, concerning the employees' incentive, there is no other component in the ethics programmes that has more effect than the code of ethics. Additionally, this type of codes help reducing the number of occurrences involving lies, corruption, fraud and other practices of this nature, they assist in limiting the probability of conflicts of interests, improve consistency of personnel and employees' loyalty (Łukasiewicz-Kamińska, 2011).

**RETENTION AND HEALTHIER EMPLOYEES.** Organizations that prioritize social elements and their employees in their CSR strategy and activities, experience improved employees' health, a better professional-personal life balance, and a heightened well-being among their employees. These benefits can again help the company improved the detainment of skilled employees (Aagaard A. , 2016).

**MARKETING BENEFITS.** In the marketing literature, CSR initiatives are known for their affect in several results, like in the company's reputation (Nan & Heo, 2007), the process of evaluating the products, the purchase intents, the company's market value (Pirsch, Gupta, & Grau, 2007) and the consumer identification with a company (Lii & Lee, 2012). Furthermore, Choi & La (2013) argue that managers should be conscious about seeing CSR as a crucial component with a substantial influence on customers' trust and loyalty. According to Sen & Bhattacharya (2001), studies regarding brand image prove that, when consumers can choose, a certain number of them will pay more for a product from a firm with a positive image, rather than with a negative one. It is common for high value to be created by CSR activities when they care to even very basic humanitarian needs. We could summarize the benefits of CSR for marketing, according to Juscius & Jonikasn (2013), as the opportunity of creating or helping consumers maintain a higher value, doing that by improving the firm's status and level of innovativeness.

**EFFECTIVENESS DOING BUSINESS GLOBALLY.** CSR is not something for the short term, on the contrary, it's entirely about achieving long term results and business continuity. As Aguilera *et al.* (2007) argue, international actions, for example, the Global Reporting Initiative or the UN Global Compact (substantive human rights standards) are factors of considerable importance when it comes to the influence of corporations so they start implementing CSR initiatives and therefore, playing a part in social change.

Considering this assumption, a CSR program may turn out to be the main requisite for doing business worldwide. According to Kagan *et al.* (2003), the multinational corporations are anticipated to lead in the adoption of CSR initiatives to achieve social prospects, which can strengthen additional aspects (for instance consumers) and institutional investors.

## 2.4 CSR and Stakeholders Theory

### 2.4.1 Different Stakeholders

In commercial or personal relations, trust is the basis for their development. Without trust, relations become heavy, bureaucratic, expensive and naturally more inefficient. This inefficiency in commercial relations blocks the creation of competitive projects. A company does not live in isolation but is dependent on the cooperation with the customers, suppliers, and other business partners, as well as on these and other stakeholder's good impression of the company. At the same time, there is an interdependent relationship between a company and its stakeholders, which means that strategic business initiatives will affect the firm's stakeholders and, thus, should be aligned with them to ensure optimal integration and performance of the company's CSR across their value chain (Aagaard, 2016).

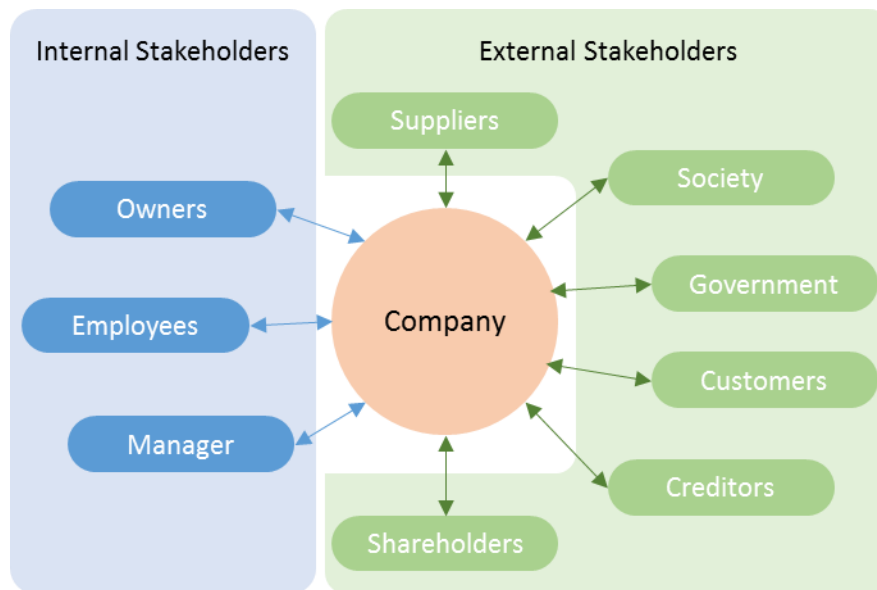
The whole idea of seeing business as the creation of value for stakeholders and the trading of that value with freely consenting adults is summed up in the notion of having a society where everyone has freedoms that are compatible with the freedoms of the others – liberty for all (Rawls, 1971). Value creation and trade have to go together; one is no good without the other (Freeman, Andrew, & Bidhan, 2004). The stakeholder theory has been presented both within the framework of the organisational theory (Freeman R. E., 1994) and within that of business ethics (Carroll A. , 1989), as a step beyond the neoclassical theory in which the company's goal is identified as the maximisation of profit, with the company's owners the only stakeholders in achieving this goal. The stakeholder theory basically argues that companies and their managers should act on behalf of *'any group or individual who can affect or is affected by a firm's operations in achieving its objectives'* (Freeman R. E., 1984, p. 46). In line with Freeman's contention, the instrumental stakeholder's theory states that the best way to maximise shareholder wealth is to fulfil the stakeholders' interests (Jahn & Bruhl, 2016).

Against this backdrop, the most commonly deployed and discussed dimensions of CSR are accepting stakeholders' points of view, social, economic and environmental concerns, and voluntary application (Witkowska, 2016). With companies taking a cue from CSR principles, it is possible to move to a truly and lasting organisational sustainability. The result is an approach to business that identifies the strategic benefits of a CSR and stakeholder's perspective in a way that sustains the firm and optimises the added value of its operations.

Embracing a cooperative strategic attitude by both the firm and its management team is heavily suggested by Rhenman *et al.* (1970) who argue that the results are more likely to be favourable when produced by a cooperative approach. The creation of shared value also supports a cooperative strategic posture, which is consistent with the stakeholder's theory. This becomes clear when we compare the creation of shared value to the “Five Competitive Forces” model (Porter, 1985), in which a competitive strategic posture is promoted. The concept of creating shared value advocates cooperation between the company and its stakeholders. This also means that more and more companies are applying their sustainable cooperation as part of their branding, as consumers are increasingly aware of and interested in whether the products they buy are produced under ethical and responsible working conditions (Becker-Olsen, Cudmore, & Hill, 2006).

As Camilleri (2015) states, consistent stakeholder commitment, alongside with strategic communication, are capable of bringing more responsible organisational behaviours. According to Greenwood (2007), we can define stakeholder engagement as the practices that a company takes on to include stakeholders in a positive way in organisational events. As O’Riordan & Fairbrass (2014) argue, stakeholder engagement can include the establishment, development and conservation of the stakeholder relations. This may comprise identifying, consulting and communicating with the stakeholder (Greenwood, 2007). The activities of stakeholder engagement can consequently occur inside a wide sort of organizational activities. Briefly, according to O’Riordan & Fairbrass (2014), the motivation of using the concept “engagement” regarding the stakeholder's theory and CSR documentation is highlighting that the simple interaction with stakeholders is not sufficient for firms anymore, if, in fact, it ever was.

According to Foo (2007), practically speaking, the idea of stakeholder engagement has been quickly and broadly accepted by CSR researchers and business managers. For several business managers, the idea of stakeholder engagement is starting to be present on their everyday life. To Noland & Phillips (2010), interacting with stakeholders is rationally required when business is being done. According to Camilleri (2015), important literature has point out that corporate sustainability and responsible behaviours - including stakeholder engagement - can bring additional value to businesses (Figure 3 illustrate some company’s internal and external stakeholders).



**Figure 3 - Company's Stakeholders, adapted from (Freeman R. E., 1984)**

According to Greenwood (2007) and considering this context, we can see engagement as a device to accomplish numerous objectives, such as consensus, collaboration, responsibility and participation, as a way for improving trust or as a replace for real trust and as a path to enrich equality.

#### 2.4.2 CSR and Partnerships

Partnership is essential to CSR strategies. They need to have their ground in mutually-beneficial value-creation potential, similarly to what happens with other strategic initiatives. To successfully plan a partnership, establish trust and assess benefits, executives have to commit for the long-run, engaging with the complete work task and leading by example. It is preferable to take action, rather than speak about it, and keep up with the momentum, despite the fact that the objectives may be far away in the future (Keys, Malnight, & Van der Graaf, 2013).

The value of the partnership depends if the resources are complementary, have the same nature and go in the same direction (Austin and Seitanidi, 2012). It is ultimately materialized into one of this sorts of values: associational, transferred resource, interaction, and synergetic. The first type is a resulting advantage adding to a partner from collaborating with the other one.

The second type comes from receiving resources from the other partner. The third one portrays the abstract aspects that originate from cooperation, such as communication or leadership skills. The last type shows the value that comes from the combination of the resources of both partners: *this value is higher than the one that would be accomplished if they would have acted separately* (Bouchery, Corbett, Fransoo, & Tarkan, 2017).



### 2.4.3 CSR, Loyalty and Longterm relationships

Cooperation between functional areas depends on the notion that a firm, as a system, cannot function effectively if its different units work isolatedly (Perez, Amado, & Arostegui, 2012). According to Bhandarkar & Alvarez-Rivero (2007), while the production networks turns into a more global feature, international companies are starting to force their subsidiaries and suppliers to incorporate CSR applications. The connection between adopting CSR practices and enhancing customer loyalty and trust is well established (Katsoulakos *et al.*, 2007).

Company-supplier associations are an important fragment of the sustainable supply chain management. Making a strong and sustainable association between the organizations and the suppliers helps them understanding better the restrictions of their suppliers and therefore better safeguard themselves against illegal subcontracting (Schreiber & Suarez, 2014). This way, the company can enhance loyalty in the long-term, as well as legitimacy and brand equity (Perry, Wood, & Fernie, 2015).

CSR is significant in supply chain once it is probable to result in customers buying products from companies in which they trust. In the same way, suppliers prefer to have business relationships with firms they can count on, and CSR practices can be important is helping companies to improve trust, promoting those partnerships (Azmat & Ha, 2013). As Lewis (2003) argues, “*brands are about trust*” and trust can be assembled and/or spoiled in a “*complex and changing way*”. The name is not the only important thing regarding the brand, the embracement of corporate values and qualities is equally significant.

As Coghill *et al.* (2005) argue, CSR can help retailers in the process of improving their reputation and brand consciousness, which can improve customers' trust and confidence.

Generally, companies can increase their corporate reputation and brand image with the help of CSR, through the addition of values, like the address of issues related to customer rights, having a responsive attitude to the needs of customers, which can be done by innovating the product and the respective process, providing products more safe, as well as with better quality and keeping in mind the importance of addressing environmental sustainability (Azmat & Ha, 2013).

The adoption of a long-term perspective allows corporations to have a better performance than those with just a short-term focus (Mitchell, 2001). A key differentiator of sustainable enterprises is the adoption of a long-term view by the management, while shareholder-first leadership focuses on short-term outcomes (Kantabutra & Avery, 2013). Evidently, the balance of the demands, regarding both long- and short-term views, is crucial for all businesses, however is hard to accomplish when short-term pressure is capable of jettisoning long-term aims (Kennedy, 2000).

As Bhattacharya and Sen (2009) argue, we should interpret the CSR initiatives as a way for strengthen relationships with consumers. According to Jose, Rugimbana & Gatfield (2012), consumers have a significant impact not just on brand purchase, but also on more relational behaviours, like word-of-mouth and resilience to negative company information. CSR initiatives turned into a crucial component in the management of consumer relationships (Assiouras, Siomkos, Skourtis, & Kioniordos, 2011) and significant channels for building consumer's loyalty (Piercy & Lane, 2009). As Lii & Lee (2012) argue, this kind of relationships are considered social interactions in which consumers provide positive feedback of the experience with a socially responsible company.

## 2.5 CSR and Logistics

### 2.5.1 Supply Chain and CSR

The increase of the significance of sustainable behaviour in business has improved its influence in supply chains management (SCM). Whereas there is a considerable discussion on what constitutes social sustainability in supply chains, CSR has emerged as one potential strategy that addresses social concerns in supply chains (Bhardwaj, 2016).

SCM is crucial to assure that companies hold a sustainable market position. For that is important that supply chain partners are aligned with enterprise values, fulfilling enterprise regulations. Thus, a SCM's definition is "*management of material, information and capital flows as well as cooperation among the companies along the supply chain while taking goals from all three dimensions of sustainable development i.e., Economic, Environmental and Social into account which are derived from customers and the stakeholders' requirements*" (Seuring & Müller, 2008).

From the beginning of 1990s, a rising number of academic research regarding numerous matters about environment, society and ethics in supply chains has been made. More and more studies addressing the SCM subject have been done considering the notion of sustainable supply chain management (SSCM) (Quarshie, Salmi, & Leuschner, 2016). As Carter *et al.* (2008) state, SSCM includes three dimensions – social, environmental and economic performance – which are, according to Elkington (1997), frequently called the triple bottom-line.

Despite lacking clarity in the definition, CSR remained a subject of immense interest and several attempts were made by the researchers. Spence *et al.* (2009) overlay Davis's (1973) description of CSR into the supply chains and explain it as "*chain wide consideration of, and response to, issues beyond the narrow economic, technical and legal requirements of the supply chain to accomplish social (and environmental) benefits along with the traditional economic gains which every member in that supply chain seeks*" that can help understanding the strategies implemented by supply chains to address those social problems.

According to Sarkis, Zhu, & Hee-hung (2011), cooperating with suppliers and customers has become enormously important for the companies to close the supply chain loop (Sarkis, Zhu, & Hee-hung, 2011). Currently, the literature recognizes that social sustainability practices (like labour conditions, health and safety) positively affect the performance in supply chains and bring improvement in the product and process quality (Yawar, 2014). There is an emphasis on the need for effective collaboration between buyers and suppliers that needed to implement supplier development strategies (like investing in technical and financial capabilities) which then will enable capacity development and help the suppliers to build new skills (Yawar, 2014). This is supported by Parmigiani *et al.* (2011), who state that investment into technical capabilities rises the ability of suppliers to deal with social issues, which in turn help the companies in risk, thereby improving the financial performance.

The practise of CSR in supply chains requests that CSR is entrenched within the whole administration. It must be dispersed to all functional areas, subsidiaries and offshore suppliers (Andersen & Skjoett-Larsen, 2009). To achieve such intrinsic feature, sharing and value co-creation mechanisms, a long-term relationship approach and a sustainable supply chain leadership should be in place, in order to lead the business in ways that benefit every supply chain partners and, ultimately, to contribute to a “*better world*” to all the correlated stakeholders.

### 2.5.2 Leadership and Followership

Conventionally, the study of leadership has been done emphasizing the individual’s characteristics and behaviours and the effects this have on colleagues and companies. Leadership is believed to be a crucial provider to the success of the organizations and a strategic supplier of competitive advantages (Waldman, Ramirez, House, & Puranam, 2001). Research on organizational leadership under SCM frameworks has been developed upon an individual leadership theory (Gosling, Jia, Gong, & Brown, 2016).

The essence of supply chain leadership (SCL) is seen in the capability of one organization to make an impact in the activities of another corporation. Secondly, the behaviours anticipated by the leader of the supply chain can be seen through its specified strategies, and the movements of boundary-spanning people. These behaviours permit the outsiders to identify and distinguish the supply chain leader from follower corporations. Thirdly, this leader is the company that makes the identification of the necessity for change and forms an idea of a better future for the supply chain. Fourthly, according to Defee *et al.* (2010), SCL makes the supply chain leader and supply chain followers relate with each firm, having the capability to effect one another. Stevens (1989) and Cooper *et al.* (1997) recognised leadership and power structure as a vital element of SCM.

The supply chain leaders who have a preference for motivating supply chain followers using stimulating behaviours are categorised as transformational supply chain leaders (Gosling, Jia,

Gong, & Brown, 2016). As Bennis (1983) states, transformational supply chain leader corporations offer motivation through making clear the intent and assignment of the whole supply chain and stimulating the participants to “*buy-in*” to the leader’s direction. Such sense of purpose can have its base only on the values of the leader considered adequate by followers, or through a mutual group of values established between several members. The articulation of an image of an enhanced future supply chain environment is an additional and significant inspirational behaviour (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). The highlighting of the supply chain-wide goals and rewards is an important motivator of transformational supply chain leaders and followers to collaborate together in the creation of ground-breaking process enhancements (Hater & Bass, 1988).

The leaders of the transformational supply chain, through the solicitation of new ideas and the challenge of members to come up with original resolutions to the problems of the supply chain, offer intellectual stimulation (Kouzes & Posner, 2004). When a mutual (transformational) style is shared by the supply chain leaders and followers, the co-influencing relationship that they share should be stronger than ever (Hogg, Martin, & Weeden, 2003).

The flip side of leadership is followership (Tinnish, 2017) and both can be conceptualized as complementary concepts. Yet, according to Defee et al. (2009), only leadership has been properly focused in literature, namely through the characterization of the leaders and leadership processes. On the other hand, followership is an essential variable that must be understood to fully comprehend the leadership process. According to Hollander (1992), the capacity to follow the right path, develop an activity according to a plan, successfully integrate a team and deliver the expected outputs is called followership. Followership can be proactive, directly influencing firm performance, although this characteristic is usually expected in leadership. Tinnish (2017) considers that firms who promote social responsible programs contribute to the appearing of an increased number of proactive followers, which can actively contribute to the leadership process and social responsible behaviours at purchasing function.

The followership concept applied in supply chain relationships between business partners is usually called as supply chain followership (SCF). According to Defee *et al.* (2009), SCF is a relational concept that has born from the co-influence relationship between supply chain followers and leaders, depending on follower’s predisposition to accept the leadership call from an influent supply chain partner. Effective followers (i) are both active workers and critical thinkers, valuing their role to offer constructive criticism to their leaders (Frisina, 2005), (ii) hold within the potential of leadership (Kilburn, 2010); (iii) work honestly according to their own values (Lundin & Lancaster, 1990); (iv) share with leaders the determination to achieve common goals (Potter, Rosenbach, & Pittman, 2001) and (v) help supply chain leaders to attain goals if they are harmonized with the

followers' personal purposes and long-term goals of the supply chain (Defee, Stank, & Esper, 2010).

## 2.5.3 The role of Information Sharing, Shared Values and Purchasing Social Responsibility

### 2.5.3.1 Information Sharing

Khan *et al.* (2016) pointed out that the information sharing concept (IS) is not new. According to this author, it is commonly accepted that if in a relation between a client and a supplier there is a good level of IS, this will empower the relation, contributing to the overall business performance, with advantages for both supply chain partners. Heide and Miner (1992) define IS as “the degree to which each party discloses information that may facilitate the other party’s activities”. Li *et al.* (2014) considered that IS in the supply chain refers to the communication and transmission of information among supply chain parties during processes of transaction and cooperation. Sahin and Robinson (2002) stated that IS is a crucial element for supply chain management and has been recognised as one of the five building blocks of a strong supply chain relationship. It is critical to the efficiency, effectiveness, and competitive advantage of any supply chain system (Li, Ye, & Sheu, 2014).

According to Kolyperas *et al.* (2016), a strategic CSR relationship is characterized by intensive interaction levels, Customer Relationship Management (CRM), IS and targeted communications, processes of alignment/integration, and organizational culture homogenization. Even though IS is often referred as being an important instrument to reducing costs, Khan *et al.* (2016) consider that there has not been enough research on studying its importance to sustainable supply chain management, although sustainability is recognised as an important competitive feature that must be pursued. Nevertheless, according to Li and Lin (2006), the importance of information sharing is dependent not only on what information is shared, but also when and how it is shared, which means that both the content and quality of the shared information must be considered. Radaelli *et al.* (2014) argue that organizations that consider knowledge as a strategic subject that must be properly managed and shared, both inside and outside organizations limits, have a superior capability to innovate and increase their performance. Wang and Noe (2010) explain that as work processes are becoming more interdependent at all levels, every person, team and organization needs to constantly break existing “knowledge silos”, enabling synergies between different skills and knowledge background, continually promoting improvement and organizational innovation.

### 2.5.3.2 Shared Values

As Amah & Ahiauzu (2014) argue, organizational values are central in the culture of the organization, which is composed by common expectations, values and principles that are believed to be right. According to McShane *et al.* (2003), values are the representation of the stable and durable opinions about what is significant in several different situations. Values are related with the things that are truly important to us as individuals, namely, the ideologies and beliefs we specially cherish. According to Sagie & Elizur (1996), they are evaluative standards that help us understand what is right or wrong, or good or bad in the world, meaning that values dictate what we consider to be a priority, a preference and/or more desirable.

According to Begley (2000), shared values have a tendency to be representative of the invisible magnet that keeps employees going in the same direction, as they also encourage a collective bond. Shared values allow diverse occupations and elements in corporations to work well together in order to accomplish mutual objectives. These values have a tendency to deliver the direction and guidance that are required to manage the quickly growing banks. When high value for customers is shared by the workers, it generates more satisfaction for the bank customers that have an impact on their growth in market share (Amah & Ahiauzu, 2014).

According to Baldo (2016), numerous studies emphasise how entrepreneurial behaviours and values are in the centre of CSR oriented strategies. The values dimension of entrepreneurial and managerial activity is emphasized by the business ethics literature, which has also introduced concepts like management integrity, authenticity and virtues that are starting to become well-known in the corporate context, helping the arising of the model of good governance intended at constructing a more civil economy (Argandoña, 2003).

### 2.5.3.3 Purchasing Social Responsibility

According to Hoejmose and Adrien-Kirby (2012), the PSR concept was widespread in the scientific literature in the beginning of the 21st century and is usually described as the inclusion of the purchasing function on socially responsible logistics activities promoted by firm stakeholders (Carter & Jennings, 2004). Drumwright (1994) wrote one of the first contributions to the inclusion of CSR on firms purchasing function. The activities that characterise PSR comprises socio-ecological purchasing, sourcing from smaller suppliers, human rights and human dignity, health and safety management, environmental management and philanthropy issues related to supply chain management (Idowu & Louche, 2011). Regarding previous literature, Blome and Paulraj (2013) consider that organizational financial performance, morale, labour, productivity, trust, relationships with stakeholders, brand value and reputation can change in a positively way, with the adoption of social responsible purchasing behaviours. As a result, the social response

behaviours on purchasing function and its applications to firms' activities have gained prominence (Morali & Searcy, 2013).

According to Boyd *et al.* (2007), implementing PSR often involves the supplier's compliance and monitoring, since it permits a buying company to show its engagement regarding CSR to interested stakeholders and creates legitimacy for the firm's CSR efforts. Furthermore, monitoring indicates a buyer effort to ensure supplier adherence to CSR procedures, assessing the evolution of social responsible behaviours implementation in purchasing functions. An important motivation for increased efforts towards supplier monitoring regarding PSR implementation, assumes that superior monitoring levels increase the likelihood of supplier compliance by decreasing the lack of information among suppliers and buyers. Mont and Leire (2009) proposed that some nominated firm members should lead the PSR implementation in the supply chain and assure the continuous improvement of social responsible performance in purchasing functions, considering leadership as a key driver of ethical behaviours regarding purchasing activities.

## **2.6 The impacts of CSR**

### **2.6.1 Competitiveness**

In an unpredictable business world where every action counts, CSR has become increasingly important to the improvement of a company's sustainable competitive advantages (CA). Acting in a sustainable manner provides key benefits that make CSR interesting from a business perspective (Yu, Kuo & Kao, 2017). When the company strengthens its relations with the organisation's stakeholders, it can prevent and limit potential conflicts related to its business activities (Lee, Lee, Pae & Park, 2016). Closer dialogue with stakeholders also enables the company to make better decisions based on a deeper understanding of society's expectations regarding the company. At the same time, working diligently on communicating sustainability helps to improve the company's reputation and the stakeholders' and general public's confidence in the organisation. This means that companies gain CA and create access to new markets and innovation opportunities through their approach to CSR and sustainable business (Aagaard A. , 2016).

According to Litz (1996), an organisation's capability to be ethically and socially responsive can contribute to the company's CA. Cruz and Boehe (2008) confirmed that this involves CSR implementation and the promotion of value co-creation, and also suggested a different concept called 'Sustainable global value chains'. Their investigation into this matter proved that such value chains may get further benefits, such as negotiating power. Husted and Allen (2007) contend that although stakeholder theory provides the basis for creating a firm's sustainable CA, it is still to be determined how CSR can be capitalised upon within the firm to achieve CA. Agrawal and Rahman (2015) believe that socially responsible and collaborative behaviours allow firms to have close

connections with their supply chain partners, which in turn increase their involvement and result in greater value offered. Furthermore, if companies implementing strategically integrated CSR action create a CA through socially and ethically responsible activities, they then generate higher market value than firms that either do not practice CSR actions or are opposed to them (Mattera & Baena, 2015). As a result, by pursuing CSR actions and engaging in business ethics decisions, firms are able to increase their CA.

### 2.6.2 Performance

Much like the CSR concept, CSR outcomes, especially the link between CSR and firm performance (PRF), have gained significant attention by virtue of their support for claims of being a good corporate citizen (Habaragoda B. S., 2018). According to the literature, the relationship between CSR and firm performance (PRF) has been studied by scholars for more than thirty years, as they tried to figure out if firms can benefit by engaging CSR. Even though results are diverse, the tendency appears to support a moderately positive relationship between CSR and PRF (Galbreath, 2010). Nonetheless, the ostensible benefits of CSR are abundant and go beyond the purely financial sphere, such as maintaining a licence to operate, reducing risk, efficiency improvements and tax advantages (Weber, 2008).

There are several publications that conclude that CSR can contribute to PRF through higher levels of risk management (Walker, Di Sisto & McBain, 2008), quality (Hall & Soskice, 2001), optimising resources (Jayaraman, Singh & Anandnarayan, 2012), organisational culture (Zychlewicz, 2014), retention and healthier employees (Aagaard A. , 2016), marketing benefits (Choi & La, 2013), effectiveness at doing business globally (Aguilera, Rupp, & Williams, 2007) and financial benefits (Nizamuddin, 2018). Nevertheless, even though investigation of the impact of CSR on PRF is an extensively researched area, the outcomes are still inconclusive.

It is commonly claimed in scientific articles that CSR could increase enterprise profits, with the result that most large companies are enthusiastically engaged in it. Bhardwaj (2016) argues that the only way to preserve the balance in the long run is if the company is able to take a holistic attitude to sustaining the financial flow (profit), resource flow (planet), and development flow (people) for the complete ecosystem, involving poor producers in emerging/developing markets, global supply chain partners, consumers in developed countries and the planet. The correlation between socially responsible behaviours, profitability and corporate sustainability is suggested by Tang and Zhou (2012).

### 2.6.3 The role of Shared Value

Creating shared value, namely pursuing financial success in a way that also benefits other stakeholders and even society, has become increasingly important to companies that look for new



economic opportunities and seek to regain the public's trust (Kramer & Pfitzer, 2016). According to Porter & Kramer (2011), we can define shared value through CSR as a management strategy, which is focused on the creation of measurable business value by companies so they can both identify and address social problems that came across their business. One of the aspects of this concept includes improve the company's productivity or of its suppliers by addressing the constrictions regarding society and environment that exist in its value chain (Bouchery, Corbett, Fransoo, & Tarkan, 2017). An approach regarding shared value calls for the existence of specific ranges of attention inside the businesses' surroundings, additionally to the need of taking care of the society's interests for the company's self-interest (Camilleri, 2012).

According to Porter and Kramer (2011) the aim of the corporation has to suffer a redefinition in order to be the creation of shared value, instead of just profit per se. By doing so, it will drive the next wave of innovation and productivity growth in the global economy. In addition, it will redesign capitalism and its relationship with the society. Motilewa *et al.* (2016), considering the argument that organizations should be focus on profit maximization instead of solving societal issues that affect the companies' profit, explain that creating shared value offers a platform where this argument is addressed. Furthermore, the authors argue that *“creating shared value is seen as the developed form of CSR, highlighting the shift from investing profits into solely solving societal challenges to a more strategic approach of solving societal challenges, whilst simultaneously creating economic value”* (Motilewa, Worlu, Agboola, & Gberevbie, 2016, p. 2445).

The European Commission (2011), in a recent communication, encouraged organizations to embrace a long term, strategic approach to CSR to maximize the creation of shared value: *“To maximize the creation of shared value, enterprises are encouraged to adopt a long-term, strategic approach to CSR, and to explore the opportunities for developing innovative products, services and business models that contribute to societal wellbeing and lead to higher quality and more productive jobs”*. The strategies regarding the creation of shared value are aware that business has social roots, that business organisations take advantage of numerous inputs that society provides and that the growth and the amount of profits that a company sustains are limited by the existence of failures in society. According to Nichols (2016), the strategies behind the creation of shared value enhance society in a targeted mode, in order to allow a business company to profit and grow. Co-creation of value in a service network requires the integration of both operand and operant resources from the provider, as well as from the customer, which are better known as resource integrators in service-dominant logic (Edvardsson, Tronvoll, & Gruber, 2011). Once suppliers might not possess the resources and knowledge to increase sustainability, consumers frequently find they must instrument partnerships with their suppliers. This kind of cooperation regularly is represented by educating and training, improving capabilities and introducing better production systems for productivity enhancement (Bouchery, Corbett, Fransoo, & Tarkan, 2017). Studies have

proved the efficiency of specific cooperative mechanisms to support the improvement of supplier performance (Distelhorst et al., 2015).

Co-creation allows firms to have close connections with their supply chain partners which increase their involvement and in return result in greater value offered (Agrawal & Rahman, 2015). Additionally, Krause, Handfield and Scannell (1998) investigated the companies' supplier development processes comparing reactive methods to strategic efforts in order to increase the capabilities of the suppliers, and so an organisation's competitive advantage. The process of development includes the identification of suppliers, problems and prospects, in addition to collaborative work to improve competences, training, recompenses and appreciation, as well as incessant improvement programs. Krause, Calantone and Handfield (2000) have found that a firm direct involvement is a crucial to enable the supplier's development.

We can see a change from a vision centred in the "goods" to the service-centred view that is grounded on identifying and developing central capabilities for accomplishing advantages related with competition through relationships' development with main economic participants in the supply chain (Lambert, Garcia-Dastugue, & Croxton, 2006). As Vargo & Akaka (2009) state, this change has its base on identifying and developing the central competences for reaching competitive advantage which are centred on promoting relationships with key actors who are able to promote benefits to each other's value intentions and capabilities. The profits that result from specifying capabilities may be used by suppliers and customers to create value, in doing so these actors are positioned as co-producers of value and therefore assume an important part in the relational exchanges and co-production (Chakraborty, Bhattacharya, & Dobrzykowski, 2014).

Cruz and Boehe (2008) confirmed the CSR implementation and the promotion of value co-creation, the two also suggested a different concept named "Sustainable global value chains". The investigation they did regarding this matter proved that this value chains may get further benefits, for example, negotiating power. The creation and extraction of value is done in a network of relationships, and to better understand value we should look at it globally as a purpose of the entire network. Kretschmer, Klimis and Choi (1999) explicitly analysed several network externalities, like information cascades and demand queues. This externalities are seen as a crucial characteristic to the process of understanding the value.

## 2.7 Leading to a better world

Large dimension companies are linked to a significant number of sustainability matters and several of them do not have strong limits or happen in faraway locations. Tomorrow's sustainability landscape will be more and more difficult to navigate due to the growth of the population, the fact that consumption patterns are instable, the uncertainty around the growth predictions and the amplified disturbance risks (Quarshie, Salmi, & Leuschner, 2016). Due to the fact that this situations are so complex and uncertain, managers frequently find themselves struggling with the practical features of implanting sustainability both in corporations and supply chains (Brockhaus, Kersten, & Knemeyer, 2013).

As for the supplier relationships, researchers suggest the improved support and profounder level partnerships, as an alternative of compliance-based approaches. Management literature has for long emphasized the concept of change readiness; however, people may be ready for change, but not have the capacity to handle or manoeuvre it in a changeable environment. In response to this, Buono (2009) introduced a new concept to the existing change management theory, namely the change capacity, which is defined as follows: *The ability to implement and execute changes continuously in response to acceptance of external changes.*

Change capacity is a competence that has to be facilitated and trained as it is a necessary skill in today's changeable society and business worlds (Buono, 2009). Change capacity is also a prerequisite for successful, sustainable business as the society and stakeholders' changing needs and the influences from the global economy affect the opportunities and demands for sustainable business. It is, therefore, imperative that companies build this flexibility into their organizational design and in their management if they want to be able to harvest the global, business potentials of sustainability (Aagaard, 2012).

Thus, a sustainable leadership is possible to empower stakeholders, who – as long as they are willing to hold firms to account for their actions – can create an economy that meets society's needs, broadly defined. It understands that capitalism is merely a means of organizing society and for-profit firms are the primary tool used to implement its guiding principles. As a tool, firms must serve the interests of the majority and not the minority. Capitalism provides the system of incentives and constraints to make that possible, but it requires the active participation of all of us, in order to shape the outcomes that serve our best interests (Chandler, 2016).

## 2.8 EDP case study

About the Portuguese reality, Branco (2015) stated that corporations appear to have advanced from the supposition of some kind of paternalism concerning their employees under the influence of a dictatorship regime (1926-1974) all the way to a significant contribution on the road to a truly sustainable leadership development in the first years of the 2010 decade. Portuguese corporations are positively evolving considering their definition of engagement with CSR. In 2013, four large Portuguese organizations, including EDP, integrated the Dow Jones Sustainability Index (DJSI). Alternatively, leading through CSR is already significantly present within the Portuguese small and medium-sized enterprises life and is considered a significant internal management resource (Santos M. J., 2011). Still in the year of 2013, the FTSE4Good Europe Index and Global Index include four companies: Brisa, EDP, Portugal Telecom, PT Multimedia, Banco Comercial Português, Jerónimo Martins and Portugal Telecom were included in the indices STOXX Europe Sustainability and Euro STOXX Sustainability. Branco (2015) affirmed that we can see a few indications that the level of commitment with CSR by the major Portuguese organisations might be less encircling than one may think, despite EDP figures prominently as a sustainability leader among these companies.

EDP is a vertically integrated utility company, and the largest generator, distributor and supplier of electricity in Portugal, the third largest electricity generation company in the Iberian Peninsula and one of the largest gas distributors in the Iberian Peninsula, with an important presence in the world energy landscape (EDP, 2016a). In the last years, EDP has aggressively invested in Sustainable Development and on marketing (Santos M. J., 2011). EDP recognises the importance of sustainability in its operations and value chain, and integrates the economic, environmental and social opportunities and risks into its business strategy (EDP, 2016a). The key principles and values guiding actions are set out in voluntary public commitments, in policies and procedures and, in general, in the EDP Code of Ethics. This code applies to all Company's employees and to all those who are in any way authorised to act on behalf of EDP, namely some of its suppliers and service providers (EDP, 2016b).

The sustainability of the supply chain is a key factor in EDP's management to ensure the continuous creation of value and the success of the company in the open and international markets in which it operates, in operational and cost efficiency, and considering the framework of risk management and both corporate reputation and responsibility. EDP develops a partnership policy with its suppliers, looking for common benefits, based on permanent dialogue and supported by a series of instruments that regulate its procurement activities, including the technical and economic aspects as well as the environmental, social and ethical dimensions (EDP, 2016a). Soares (2009) stated the same benefits of a SSCM achieved by EDP sustainable leadership namely a (i) stronger commitment on the continuous improvement of organizational performance by shareholders and top managers; improvement on monitoring and reporting skills; (ii) more systemic approaches to

stakeholders' identification and engagement; (iii) collaborative work with supply chain partners, enhancing future networking possibilities on sustainability related themes, as some of the most important benefits acquired.

Collaborative networking with suppliers is crucial to the success of EDP Group. Because of that, EDP develops business relations with suppliers in accordance with strict ethical principles and conduct, paying particular attention to transparency, information security and conflict of interests. The EDP Group procurement activity contributes to ensure the recognition of this company as a leader in sustainability, through the high ethical standards and environmental, social and economic responsibility of its practices, with the ongoing objective to increase productivity and develop competitive advantages (EDP, 2017a).

With the aim of disseminating EDP's values through the supply chain and ensure the control of ethical risks that can impact EDP social responsibility performance, corporation procurement functions are developed through the following goals: (i) reduce systematically occupational accidents of contractors and service providers; (ii) protect human rights in the supply chain; (iii) audit contractors and service providers with sustainability risks (ESG); (iv) evaluate critical suppliers through sustainability criteria; (v) ensure environmental, occupational health and safety certifications from suppliers exposed to high risks (EDP, 2017b).

According to EDP (EDP, 2017c), on the course of 2015 it was developed an extensive characterization study of EDP's purchases, aiming at a deeper knowledge about the economic, social and environmental impacts of EDP's supply chain. EDP expects from now on to use these results for better definition of the priorities concerning sustainability management. Following this study, managing sustainability in EDP's supply chain will need new processes in place to give EDP guarantees that direct suppliers endorse commitments in the improvement of labour and social conditions of its own supply chain. EDP impacts on environment are also relevant. These are clearly linked to the environmental costs from extraction and transportation of raw material, where gas and coal are dominant. EDP will continue this work, promoting energy efficiency initiatives on its suppliers, as well as the reduction of waste towards an improvement of the circular economy.

Organizations that strive for excellence are those committed to the satisfaction of their stakeholders through what they do, the way that they do it and their future potential to do so (EDP, 2017d). Within the current scenario, where collaborative networking is crucial to success, the value that the EDP Group generates is increasingly determined by the performance of its suppliers. This concept demands a proactive capacity-building program with focus on a continuous improvement, shared between the company and its suppliers, where dialogue, visibility, best practices disclosure, developing trustworthy relations and training new capacities are the key issues.

EDP (2017d) considers on corporate website that the suppliers' relationship management is a strategic vector of Group policy. António Mexia, EDP chief executive officer (CEO), stated that EDP is strongly focused on the tasks of innovating, taking action in matters regarding sustainability and social aspects, which is maintained by a corporate approach grounded on consistency and excellence, and has a clear vision of EDP's part and how the organization is capable of having an impact on society. Moreover, EDP's CEO affirms that integrity and trust are the heart of sustainable success, centred on strong values, continuous learning and delivery, as key aspects to continue the organization's path of success and (transformational) leadership (EDP, 2015).

The EDP supply relation management process focuses on building a relationship of trust with the suppliers, centred on a partnership perspective based on principles like ethics, transparency and sustainability. Suppliers are crucial to the success of the Group, and have a significant impact on the relationship that EDP has with its customers, through their ability to innovate, to adopt corporate social responsibility policies and to provide a strategic contribution in order to maintain EDP's leadership in its business areas (EDP, 2017d).

## 2.9 Conclusions and final remarks

Sustainability will be a frequently used business strategy and linking it to supply chain is inevitable in the future due to increasing environmental and social complexities the firms have to deal with (Yawar, 2014). Building on the premise of including sustainability into supply chains, many researchers have called for an emphasis on social dimension of the sustainability (Klassen & Vereecke, 2012). We can analyse and describe the benefits that companies involved in socially responsible activities gain from several viewpoints. Some authors claim that a positive effect of corporation's leadership in CSR enables SSCM resulting in benefits for all supply chain partners.

Linking CSR, leadership and SSCM allows exploring strategies and performance results, focusing on sustainability for all the partners involved in supply chain. With the purpose of a better understanding of leadership as a key driver of SSCM, we addressed the connection of CSR and shared values, partnerships, long-term relationships and shared value. Furthermore, we explore the dichotomy of sharing and value co-creation, loyalty and long-term relationships, as the basis of a responsible leadership to endorse SSCM, to lead supply chain partners, and all the other stakeholders to higher performances, and ultimately, to a better world. It is especially the manager's ability to build a permanent "*change competence*" among stakeholders, including supply chain partners, that ensures that current and future challenges and changes are used in better ways in developing new business opportunities (Hildebrandt & Brandi, 2005).

Even in times of crisis there are opportunities, and the ability to change and adapt to these options is a necessity. The companies that are able to adapt continuously to development in technology and

markets, the environment and society, the customers and their ambient requirements and needs, and the supply chain challenges, integrating CSR in all business functions, will always have a future.

**Contributions.** This study has contributed to the exploration of the connexion that exists between corporate social responsibility (CSR) and supply chain leadership (SCL), opening a path to further empirical investigations in shedding light on how sustainable business is defined, facilitated and implemented across supply chains. Additionally, the study highlights the importance of Portuguese companies engaged with a leadership through CSR, namely EDP, inspiring other companies integrating CSR in all business dimensions, namely in supply chain management.

**Practical implications.** Considering that the ideologies of sustainable leadership are related with improved brand and reputation, the contentment of both the customer and staff and with the financial performance, this provides arguments to corporate leaders for accomplishing this purpose, integrating CSR in all business dimensions, namely in supply chain management. Moreover, this article provides insights into the under-researched area of the link between CSR and supply chain leadership for future research.

**Research limitations/implications.** This research is just a theoretical study. The relationships between variables need to be explored in practical case studies and cross-sectional investigation to improve the possibility of generalisations. This paper has implications of scientific and managerial nature and they emphasise the necessity of the development of a method so it could be allowed additional empirical investigation to be done regarding the connexion between CSR and supply chain leadership, and the development of an accurate CSR-oriented model of supply chain leadership.

**Further Work.** The aim of this article is discussing why and how companies implement CSR in its everyday activities within supply chain management. It is therefore the hope of the authors that this article will provide a theoretical background to further empirical investigations, exploring those relationships, providing arguments for managers and supporting and facilitating more a truly sustainable business leadership across supply chains.

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## CHAPTER III - METHODOLOGY

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### 3.1 Introduction

This chapter describes the guidelines followed in the development of this investigation to achieve the proposed objectives, as well as the existing explanations for the phenomenon to be studied attending the conceptual complexity. The choice and definition of the research methodology was done in accordance with both objectives and issues research.

To test the proposed research hypotheses, this investigation uses a structured questionnaire to gather data from a cross-sectional sample of supply chain partners from the biggest Portuguese energy supplier. The initial three investigation models considered a sample of 425 partners, and the fourth later model considered a sample of 456 partners, since 31 additional responses had been fulfilled later in the investigation. Structural Equation Modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find how suppliers dependency can impact the suggested relationships.

Structural Equations Modelling was used to test de proposed hypotheses. Four partial models and a bibliometric analysis were on the basis of five different papers already submitted for publish on scientific journals. Consequently, this chapter is organized as follows:

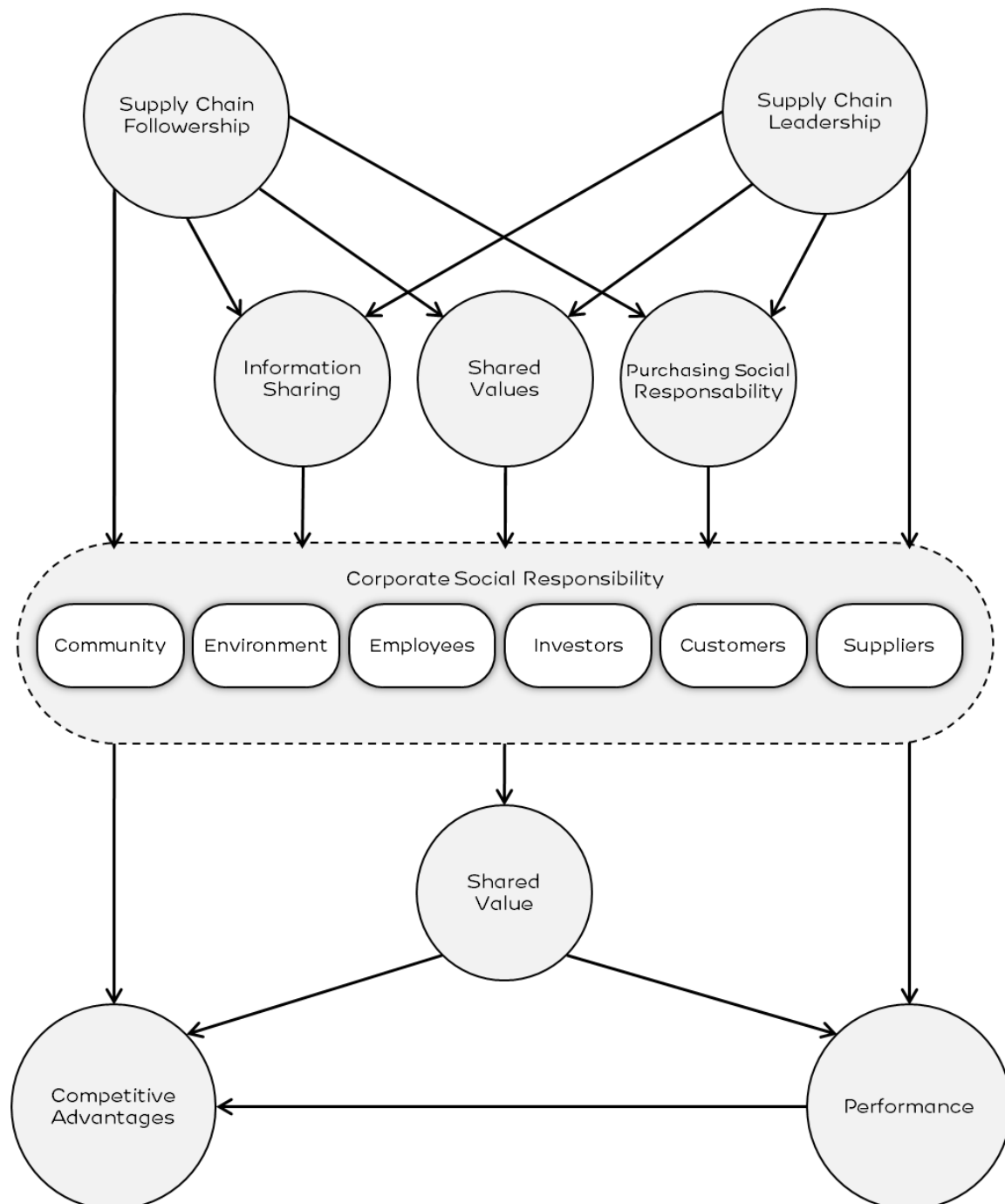
- 1) Introductory note, bibliometric analysis, conceptual model and objectives, metrics and methodology;
- 2) The investigation strategy: the papers developed.

### 3.2 Bibliometric Analysis

In an initial phase, a study was carried out to map academic publications on the subject and the intellectual knowledge contained therein, while covering past research trends and identifying potential future paths of research in the fields of corporate social responsibility and supply chain management. As such, it was develop a systematic review of the literature in keeping with a bibliometric approach based upon VOSviewer, with a specific focus on drafting maps for visualising an underlying intellectual structure. This type of analysis encompasses the scope of the articles published and the annual number of citations for the period between 1900 and 2018, as registered by the Web of Science database. The main objective of this study is to identify some of the most relevant research in this field and a selection of the latest trends according to information found in the Web of Science database, to identifying the main research trends in this field and the respective shortcomings and specific needs for future research.

### 3.3 The global conceptual model and research objectives

The model showed in the next figure (Figure 4) represents the chain of effects between SCL, SCF, CSR and the related outcomes. The model expresses a set of hypotheses that are going to be tested on a quantitative approach. This model was developed, tested and validated through four different empirical sub models, giving place to four papers representing the main body of the whole research work.



**Figure 4 - The global conceptual model**

The previous figure represents the fundamental concepts of this investigation, and expresses the development of the causal relationship, on other words, construction of research hypothesis. The purpose of this investigation is to contribute to investigation model conceptualization and analysis of SCL, SCF and CSR impacts. The proposed objectives are:

- 1) What are the main research trends in CSR and SCM?
- 2) Does SCL and SCF contribute to PSR?
- 3) Does SCL and SCF contribute to supply chain partners CSR?
- 4) Does CSR contribute to CA and PRF?
- 5) Does SCL and SCF contribute to PRF?

The answer to the set of relationships proposed in this model was equated from the partial and cumulative results that were tested in the three partial and complementary models corresponding to the four empirical papers produced.

### 3.3.1 The research instrument and data collection

In the statistical work, the analysis of the problem is divided into the following phases: definition of the objective (questions for which answers are searched), design of a procedure for sample selection, data collection, data analysis and inferences of conclusions about the population.

To test the proposed investigation model and the research hypotheses, a questionnaire was performed using the online LimeSurvey tool to test the proposed research model and hypotheses. Between June and September 2016, 1.466 suppliers of EDP Group – considering its overall universe of 5.275 suppliers that execute activities in Portugal – were contacted by e-mail to respond to the questionnaire. EDP is a vertically integrated utility organization, and the largest generator, distributor and supplier of electricity in Portugal, the third largest electricity generation company in the Iberian Peninsula and one of the largest gas distributors in the Iberian Peninsula, with relevant presence in the world's energy landscape.

In the last years, EDP has aggressively invested in Sustainable Development and on marketing (Santos M. J., 2011). EDP recognises the importance of sustainability in its operations and value chain and integrates the economic, environmental and social opportunities and risks into its business strategy (EDP, 2016a). The main guiding principles, values and actions are set out in voluntary public commitments, policies, procedures and, in general, in the EDP Code of Ethics. This code applies to all Company's employees, and to all those who are in any way authorised to act on behalf of EDP, namely some of its suppliers and service providers (EDP, 2016b). Regarding the position of Defee *et al.* (2010), we have considered EDP as a supply chain leader, mainly because it is characterized as an organization that demonstrates high levels of the four elements of

leadership regarding other member organizations (i.e. the organization is capable of greater influence, readily identifiable by its behaviours, creator of the vision and establishes a relationship with other supply chain organizations).

From the 1.466 EDP which were contacted, only 979 agreed to participate in this survey. Of the 979 questionnaires collected, 456 were validated for use, the other 523 being rejected for incompleteness. The respondents were key respondents, delegated by their companies to represent the contractual relation towards EDP namely CEO, CFO, Directors, Managers, Executives and Technicians. The set of demographic and complementary variables considered on the present investigation concerning each EDP supplier are the followings: (i) respondent age; (ii) respondent occupation; (iii) respondent antiquity on the firm; (iv) firm economic activity code; (v) firm annual incomes; (vi) number of firm workers; (vii) firm type and (viii) specific percentage of EDP Produção, EDP Distribuição, EDP Valor, EDP Gás, EDP Comercial, EDP Soluções Comerciais, EDP Renováveis and other EDP companies contribution to annual incomes of respondent firm.

The questionnaire includes a brief presentation to clarify the purpose of the investigation, as well as the author's contacts for any clarifications requested. Some emails were received from several respondents showing interest in the results of the present study.

### 3.3.2 Sample description

The respondents who are part of this sample have a mean age of 45 years, they are mainly managers, and workers tenure shows an average of 13 years. The most frequent sector of activity in the sample are engineering and technical services, and organizations that are most represented in this research have 1 to 10 workers. The average annual income of the respondent firms is 22.757.941,12 €. 7,4% of the respondent firms' income depends on EDP Production, 9,5% from EDP Distribution, 5,8% from EDP Administrative Services, 1,8% from EDP Gas, 4,5% from EDP Commercial, 2,8% from EDP Commercial Solutions, 2,3% from EDP Renewables and 4,8% from other EDP companies.

The sample characterization is presented on Table 1.

<b>Age</b>	<i>Average</i>	45 years
<b>Tenure</b>	<i>Average</i>	13 years
<b>Position</b>	<i>CEO/Manager</i>	18,6 %
	<i>Chief Executive</i>	41,3 %
	<i>Supervisor</i>	13,0 %
	<i>Office manager</i>	10,1 %
	<i>Operators</i>	1,7 %
	<i>Other positions</i>	15,3 %
<b>Staff</b>	<i>1 - 10</i>	33,1%
	<i>11 - 25</i>	19,8%
	<i>26 - 50</i>	14,0%
	<i>51 - 100</i>	9,9%
	<i>&gt; 100</i>	23,2%
<b>Annual income</b>	<i>Average</i>	22.758 k€
<b>Sector of activity</b>	<i>Commerce</i>	24,8 %
	<i>Industry</i>	10,7 %
	<i>Services</i>	64,5 %
<b>EDP dependence</b>	<i>Production</i>	7,4%
	<i>Distribution</i>	9,5%
	<i>Administrative Services</i>	5,8%
	<i>Gas</i>	1,8%
	<i>Comercial</i>	4,5%
	<i>Comercial Solutions</i>	2,8%
	<i>Renewables</i>	2,3%
	<i>Others</i>	4,8%

**Table 1 - Sample characterization**

### 3.3.3 Measures

The measures were designed after reviewing the literature in the field and adapting scales that had already been validated in other research investigations. Such adaptation included the translation of vocabulary from English to Portuguese, to be more appropriate and hence more easily understood by respondents. Each scale included a combination of items from existing scales adapted to the present investigation. A seven-point Likert scale was used and participants were instructed to answer to each item based on the frequency of the actions they observed, ranging from “Not at all” (1) to “Frequently” (7).

#### 3.3.3.1 Supply Chain Leadership

Supply Chain Leadership (SCL) is measured based on 7 questions, proposed by Defee *et al.* (2010), namely:

*My supply chain leader (...)*

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- 1) Articulates a compelling vision of the supply chain’s future;
- 2) Clarifies the central purpose underlying actions of all supply chain members;
- 3) Seeks differing perspectives from my company when solving problems;
- 4) Induces my company to look at problems from many different angles;
- 5) Asks my company to contribute with ideas for improving supply chain problems;
- 6) Helps my company to strengthen the supply chain execution;
- 7) Encourages my company to continuously improve its supply chain skills.

#### 3.3.3.2 Supply Chain Followership

Supply Chain Followership (SCF) is measured based on 10 questions, proposed by Defee *et al.* (2010), namely:

*My company (...)*

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- 1) Independently thinks of new ideas that contribute to the supply chain goals;
- 2) Champions the need for change in the supply chain;
- 3) Builds a record of success in tasks important to the supply chain leader;
- 4) Seeks out and completes assignments that go above and beyond what’s required;
- 5) Makes sound decisions that benefit the entire supply chain;
- 6) Works hard to support the supply chain leader’s goals;
- 7) Develops a network of relationships with other supply chain members;

- 8) Strives to accomplish goals that have been mutually defined with the supply chain leader;
- 9) Contributes at a high level when not in a leadership position;
- 10) Demonstrates commitment to overall supply chain success.

### 3.3.3.3 Information Sharing

Information Sharing (IS) is measured based on 10 questions, proposed by Li *et al.* (2014), namely:

#### **Information Sharing Content**

*My supply chain leader shares his (...)*

---

- 1) Production planning information with us;
- 2) Production capacity information with us;
- 3) Inventory information with us;

*We share with our supply chain leader (...)*

---

- 4) Our production planning information;
- 5) Demand forecast information;

#### **Information Sharing Quality**

*The information shared by our supply chain leader and us is (...)*

---

- 6) Timely;
- 7) Accurate;
- 8) Complete;
- 9) Adequate;
- 10) Reliable.

### 3.3.3.4 Shared Values

Shared Values (SVS) is measured based on 4 questions, proposed by Panayides (2017), namely:

*Considering my supply chain leader (...)*

---

- 1) We share the same world's view;
- 2) We share opinions about most things;
- 3) We share the same feelings towards things around us;
- 4) We share the same values.

### 3.3.3.5 Purchasing Social Responsibility

Purchasing Social Responsibility (PSR) is measured based on 5 questions, proposed by Salam (2009), namely:

*The purchasing relation of my company with my supply chain leader contributes to (...)*

---

- 1) My responsibility towards the environment;
- 2) My responsibility towards diversity;
- 3) My responsibility towards human rights;
- 4) My responsibility towards safety;
- 5) My responsibility towards philanthropy.

### 3.3.3.6 Corporate Social Responsibility

Corporate Social Responsibility (CSR) is measured based on 26 questions, proposed by Rettab *et al.* (2009), namely:

#### **Community responsibilities**

*My company (...)*

---

- 1) Give money to charities in the communities where we operate;
- 2) Help improve the quality of life in the communities where we operate;
- 3) Financially support community activities (arts, culture, sports);
- 4) Financially support education in the communities where we operate;

#### **Environmental responsibilities**

*My company (...)*

---

- 5) Incorporate environmental performance objectives in organisational plans;
- 6) Voluntarily exceed government environmental regulations;
- 7) Financially support environmental initiatives;
- 8) Measure the organisation's environmental performance;

#### **Employee responsibilities**

*My company (...)*

---

- 9) Treat all employees fairly and respectfully, regardless of gender or ethnic background;
- 10) Provide all employees with salaries that properly and fairly reward them for their work;



- 11) Support all employees who want to pursue further education;
- 12) Help all employees coordinate their private and professional lives;
- 13) Incorporate the interests of all employees into business decisions;

#### **Investor responsibilities**

*My company (...)*

---

- 14) Incorporate the interests of all our investors into business decisions;
- 15) Provide all investors with a competitive return on investment;
- 16) Seek the input of all our investors regarding strategic decisions;
- 17) Meet the needs and requests of all our investors;

#### **Customer responsibilities**

*My company (...)*

---

- 18) Provide all customers with very high-quality service;
- 19) Provide all customers with the information needed to make sound purchasing decisions;
- 20) Satisfy the complaints of all customers about the company's products or services;
- 21) Adapt products or services to enhance the level of customer satisfaction;

#### **Supplier responsibilities**

*My company (...)*

---

- 22) Provide all suppliers of products and services with a commitment to a future relationship;
- 23) Offer all suppliers of products and services some price guarantees for the future;
- 24) Incorporate the interests of all suppliers of products and services into business decisions;
- 25) Involve all suppliers in new product or service development;
- 26) Inform all suppliers of products and services about organisational changes affecting purchasing decisions.

#### **3.3.3.7 Shared Value**

Shared Value (SV) is measured based on 11 questions, proposed by Miguel *et al.* (2014), namely:

*Considering the relation that my company has with EDP (...)*

---

- 1) The benefits arising out of the relationship are shared between both organizations;
- 2) In emergency situations, both firms rely on the support of the other part;

- 3) The management and corporate styles of the firms are similar;
- 4) There is transparency in negotiations;
- 5) There are proposals for projects aiming to reduce costs;
- 6) There is priority in the assistance related to other buyers;
- 7) There is priority in offering innovations related to other buyers;
- 8) There is quality conformance to products and services;
- 9) There is rapid confirmation of buyer orders;
- 10) There is financial health;
- 11) There is flexibility to meet requests for changes.

### 3.3.3.8 Competitive Advantages

Competitive Advantages (CA) is measured based on 18 questions, proposed by Li *et al.* (2014), namely:

#### **Price/Cost**

*My company (...)*

---

- 1) Offer competitive prices;
- 2) Is able to offer prices as low or lower than our competitors;
- 3) Can adapt prices to market conditions;

#### **Quality**

*My company (...)*

---

- 4) Is able to compete based on quality;
- 5) Offer products that are highly reliable;
- 6) Offer products that are very durable;
- 7) Offer high quality products to our customer;

#### **Delivery dependability**

*My company (...)*

---

- 8) Deliver the kind of products needed;
- 9) Deliver customer order on time;
- 10) Provide dependable delivery;

### **Product innovation**

*My company (...)*

---

- 11) Provide customized products;
- 12) Alter our product offerings to meet client needs;
- 13) Respond well to customer demand for “new” features;

### **Time to Market**

*My company (...)*

---

- 14) Deliver product to market quickly;
- 15) Are first in the market in introducing new products;
- 16) Have time-to-market lower than industry average;
- 17) Have fast product development;
- 18) Are first in the market in introducing new products.

#### *3.3.3.9 Performance*

Performance (PRF) is measured based on 11 questions, proposed by Rettab *et al.* (2009), Chen *et al.* (2012) and Wiklund & Shepherd (2003), namely:

*Relative to our largest competitor, during the last year (...)*

---

- 1) We had a larger market share;
- 2) We were larger in size;
- 3) We performed better relative to competitors;
- 4) Our return on investment has been substantially better;
- 5) Our return on assets has been substantially better;
- 6) Our sales growth has been substantially better;
- 7) Our profit growth has been substantially better;
- 8) Our client satisfaction has been substantially better;
- 9) Our client retention has been substantially better;
- 10) The quality of our products and services was substantially better;
- 11) Our employees number has substantially increased.

### 3.4 Statistical Approach

The information collected in the investigation database was submitted to a debugging procedure. Exploratory factor analysis (EFA) was used to determine how, and to what extent, the observed items are associated with their underlying factors (Byrne, 2010) and to examine the variables unidimensionality. EFA was conducted using IBM SPSS software, version 22, allowing the determination of latent variables that are supposed to underlie observed variables, revealing patterns of correlations in new domains of manifest variables (Haig, 2010). Accordingly, literature, internal consistency should be determined before a test can be employed for research or examination purposes to ensure validity. The Cronbach alpha coefficient was used to test the internal consistency of the scale, namely the extent to which all the items in a scale measure the same construct.

#### 3.4.1 Structural equation modelling

Structural equation models (SEM) is a statistical modeling technique, widely used in managerial sciences, and it can be viewed as a combination of factor analysis and regression path analysis (Hox & Bechger, 1999). SEM is often the best choice for social sciences, given the nature of their measures and data (Bowen & Guo, 2011). For social sciences, SEM has been seen as an approach to data analysis that combines simultaneous linear regression and confirmatory factor analysis (Ecob & Cuttance, 1987). This statistical technique builds and tests statistical causal models and starts with a hypothesis development based on a conceptual model. Among its advantages is to model constructs as latent variables, that are estimated in the model from observed variables and non-observed and measured directly, named the latent variables. The two steps approach is one of the more interesting approaches since it allows to start with a confirmatory factor analysis (CFA), based on the measurement model and then the path diagram that estimates the relationships between variables and tests the proposed hypotheses (Harrington, 2009).

CFA allows for the assessment of fit between observed data and an a priori conceptualized, theoretically grounded model that specifies the hypothesized causal relations between latent factors and their observed indicator variables (Mueller & Hancock, 2001). CFA may be a stand-alone analysis, or a component or preliminary step of a SEM. According to Hair *et al.* (2014), SEM is a covariance structure analysis technique, to explain the covariation among the observed variables.

The present investigation used this methodology to develop and evaluate the considered measures. The construct validity was performed by examining the relations between each construct and the other constructs (Pallant, 2007). They were defined specific hypotheses and tested, about how any measure is related to other measures based on literature review (Byrne, 2010).

According to Hair et al. (2014), there are three different approaches towards SEM, namely a strictly confirmatory approach, an alternative/competing models approach and the model development approach. Both confirmatory modelling approach and model development approach were considered in the present investigation. Model development approach offers a starting point for the design of the conceptual model, and the confirmatory approach allows to evaluate the data fitting to the investigation purposes, considering the specification of the established relationships.

### 3.4.2 Specification, identification and estimation of the conceptual model

The first step of the SEM involves specifying a theoretical model, that is specifying a causal model from theory by building a path diagram of causal relations (Ramlall, 2017). According this author, the aim is to convert the path diagram into a set of structural and measurement models, all based on theoretical foundations. Once a model fits well with the data and give an interpretable solution, the researcher can conclude that this particular model is a plausible solution (Gonçalves, 2017).

The second step of the SEM is identification. According to Ramlall (2017), the main purpose that underpins identification relates to deriving unique set of parameters based on the sample covariance matrix, and the theoretical model. If all parameters are identified, the whole model is identified. If one or more parameters are not identified, then the entire model is not identified. SEM identification is a fundamental and complex step (Byrne, 1998; Kline, 2011). The identification involves the analysis about the conditions to obtain a unique set of parameters that fit well with the data, associated with the transposition of the variance-covariance matrix of observed variables into the model parameters under study (Byrne, 2010).

The third step of the SEM is estimation, namely chose the input matrix type in order to estimate the proposed model (Ramlall, 2017). According to Gonçalves (2017), the maximum likelihood method estimator is one of the most used approaches, since (i) the observed variables follow asymptotically a normal multivariate distribution, (ii) the adjustment function has an invariant and free scale, (iii) the estimates obtained through the adjustment function are robust, unbiased and asymptotically efficient.

According to Bentler and Chou (1987), although structural models can be quite easy to set up, estimate, and evaluate, their output should always be viewed with a certain amount of scepticism: there are many ways in which the methods can fail to reach the lofty goal of evaluating a causal hypothesis. According to Gonçalves (2017), the underlying causes for this are (i) model specification errors, (ii) sample size, (iii) model complexity, (iv) data imputation errors, (v) outliers, (vi) undersized models and (vii) inadequate initial values. Iacobucci (2009) considers that the first concern that investigators frequently has are related with sample size. This author explains that if the measurement is strong (with 3 or 4 indicators per factor, and good reliabilities), and the structural path model not overly complex, then samples of size 50 or 100 can be plenty.

Nevertheless, according Hinkin (1998) is preferable to have samples with 200 or more observations in order to obtain estimates for the parameters that may be useful, to minimize error.

### 3.4.3 Construct validity and reliability

According Hinkin (1998) there are three major aspects of construct validation: (a) specifying the domain of the construct, (b) empirically determining the extent to which items measure that domain, and (c) examining the extent to which the measure produces results that are predictable from theoretical hypotheses. In order to assure that a conceptual model is appropriate and useful, it must be parsimonious and comprehensible.

Bollen (1989) highlights the importance of construct validity assessing whether a measure relates to other observed variables in a way that is consistent with theoretically derived predictions. For the acceptance construct validity, the measures of a construct must be suitable for making observable predictions derived from theoretical propositions (Hamann *et al.*, 2013). Byrne (2010) considers that in reviewing the model parameter estimates, there are three criteria of high interest that should be considered by the investigators, namely (i) feasibility of parameter estimates, (ii) the appropriateness of the standard errors and (iii) the statistical significance of the parameter estimates.

Ahmad *et al.* (2016) refers that validity is the ability of an instrument to measure what it supposed to be measure for a construct, and is achieved when the three types of validity are fulfilled:

- 1) **Convergent Validity.** The convergent validity is achieved when all items in a measurement model are statistically significant (Bollen, 1989; Ahmad *et al.*, 2016). This validity could also be verified through Average Variance Extracted (AVE). The value of AVE should be greater or equal to 0,5 in order to achieve this validity.
- 2) **Construct Validity.** The construct validity is achieved when the model fitness indexes achieve the level of acceptance (Garver & Mentzer, 1999; Cozby & Bates, 2012; Ahmad *et al.*, 2016):
  - Discrepancy chi square (Chisq), *acceptable when*  $P > 0,05$ ;
  - Root Mean Square of Error Approximation (RMSEA), *acceptable when*  $< 0,08$ ;
  - Goodness of Fit Index (GFI), *acceptable when*  $> 0,90$ ;
  - Adjusted Goodness of Fit (AGFI), *acceptable when*  $> 0,90$ ;
  - Comparative Fit Index (CFI), *acceptable when*  $> 0,90$ ;
  - Tucker-Lewis Index (TLI), *acceptable when*  $> 0,90$ ;
  - Normed Fit Index (NFI), *acceptable when*  $> 0,90$ ;
  - Chi Square/Degree of freedom (Chisq/df), *acceptable when*  $> 0,90$ .

- 3) **Discriminant Validity.** The discriminant validity is achieved when the measurement model is free from redundant items (Hair *et al.*, 2014; Ahmad *et al.*, 2016). Another requirement for discriminant validity is the correlation between each pair of latent exogenous construct should be less than 0,85. Other than that, the square root of AVE for the construct should be higher than the correlation between the respective constructs.

According Netemeyer *et al.* (2003), reliability is a measure of internal consistency in scale items, much like Cronbach's alpha. It can be thought of as being equal to the total amount of true score variance relative to the total scale score variance (Brunner & Süß, 2005). Ahmad *et al.* (2016) refers three criteria for the assessment of reliability for a measurement model:

- 1) **Internal Reliability.** Internal reliability is achieved when the Cronbach's Alpha value is 0,6 or higher (Zainudin, 2015).
- 2) **Construct Reliability.** The measure of reliability and internal consistency of the measured variables representing a latent construct. The reliability of each indicator should exceed 0,5, which corresponds to a standardized coefficient of 0,7 (Hair *et al.*, 2006).
- 3) **Average Variance Extracted.** Average Variance Extracted (AVE) is the average percentage of variation explained by the items in a construct. An  $AVE \geq 0,5$  is required (Zainudin, 2015).

Considering the above, some of the requirements that will be used in order to ensure the validity of the constructs of the present investigation are as follows:

- 1) The standardized coefficients must correspond to 0,5 or higher and the ideal value is 0,7 or higher;
- 2) To ensure adequate Convergent Validity, Average Variance Extracted must be 0,5 or higher;
- 3) Average Variance Extracted values should be higher than the shared variance between two factors;
- 4) Construct Reliability should be 0,7 or greater for adequate convergence or internal consistency of measurements.

### 3.5 Descriptive analysis of the variables

Table 2 shows the means and respective standard deviation, according to the answers gathered in the context of this study that allows us to characterize the attitudes of the sample towards the variables of the global research model.

<b>Variables</b>	<b>N</b>	<b>Average</b>	<b>Standard Deviation</b>
Supply Chain Leadership	425	4,910	1,561
Supply Chain Followership	425	5,657	1,266
Information Sharing	425	4,908	1,549
<i>Information Sharing Content</i>	<i>425</i>	<i>4,586</i>	<i>1,663</i>
<i>Information Sharing Quality</i>	<i>425</i>	<i>5,230</i>	<i>1,434</i>
Shared Values	425	5,441	1,330
Purchasing Social Responsibility	425	5,079	1,626
Corporate Social Responsibility	425	5,676	1,311
<i>Community responsibilities</i>	<i>425</i>	<i>4,771</i>	<i>1,755</i>
<i>Environmental responsibilities</i>	<i>425</i>	<i>5,102</i>	<i>1,635</i>
<i>Employee responsibilities</i>	<i>425</i>	<i>6,043</i>	<i>1,166</i>
<i>Investor responsibilities</i>	<i>425</i>	<i>5,798</i>	<i>1,342</i>
<i>Customer responsibilities</i>	<i>425</i>	<i>6,364</i>	<i>0,913</i>
<i>Supplier responsibilities</i>	<i>425</i>	<i>5,894</i>	<i>1,135</i>
Shared Value	425	5,487	1,397
Competitive Advantages	425	6,127	1,022
<i>Price/Cost</i>	<i>425</i>	<i>5,987</i>	<i>1,081</i>
<i>Quality</i>	<i>425</i>	<i>6,401</i>	<i>0,902</i>
<i>Delivery dependability</i>	<i>425</i>	<i>6,366</i>	<i>0,932</i>
<i>Product innovation</i>	<i>425</i>	<i>6,269</i>	<i>0,953</i>
<i>Time to Market</i>	<i>425</i>	<i>5,707</i>	<i>1,203</i>
Performance	425	5,117	1,406

**Table 2 - Descriptive analysis**

Student test for independent samples was applied to test the differences of means for the variables under analysis, based on demographic characteristics. No significant differences were found for age, tenure and position.



## 3.6 The investigation strategy

Based on literature review and on existing appeals for future studies, the conceptual models developed and analysed are part of the exploratory and instrumentalist approaches. The objectives of this investigation and the investigation model were divided into a bibliometric analysis and four research models, in a complementary and incremental approach, corresponding to the 5 papers already submitted to scientific journals, that are part of this investigation. The investigation strategy intends to:

- 1) Identify the main research trends in CSR and SCM;
- 2) Investigate the chain of effects between SCL and SCF on PSR, considering the mediating effects of IF and SVS, and the moderator role of SCLD;
- 3) Investigate the chain of effects between SCL and SCF on CSR, considering the mediating effects of IF, SVS and PSR, and the moderator role of SCLD;
- 4) Investigate the chain of effects between CSR on CA and PRF, considering the mediating effect of SV, and the moderator role of SCLD;
- 5) Investigate the chain of effects between SCL and SCF on PRF, considering the mediating effects of SV and SVS, and the moderator role of SCLD;

### 3.6.1 Paper 1

#### 3.6.1.1 Title and Purpose

The “*Corporate Social Responsibility and Supply Chains Management - A Systematic Review and Bibliometric Analysis*” was submitted to the Global Business and Economics Review and the first asked revision has been submitted. This paper has the following main goals:

- 1) Map academic publications on the subject and the intellectual knowledge contained therein, while covering past research trends and identifying potential future paths of research in the fields of corporate social responsibility and supply chain management;
- 2) Identify the main research trends in this field and the respective shortcomings and specific needs for future research.

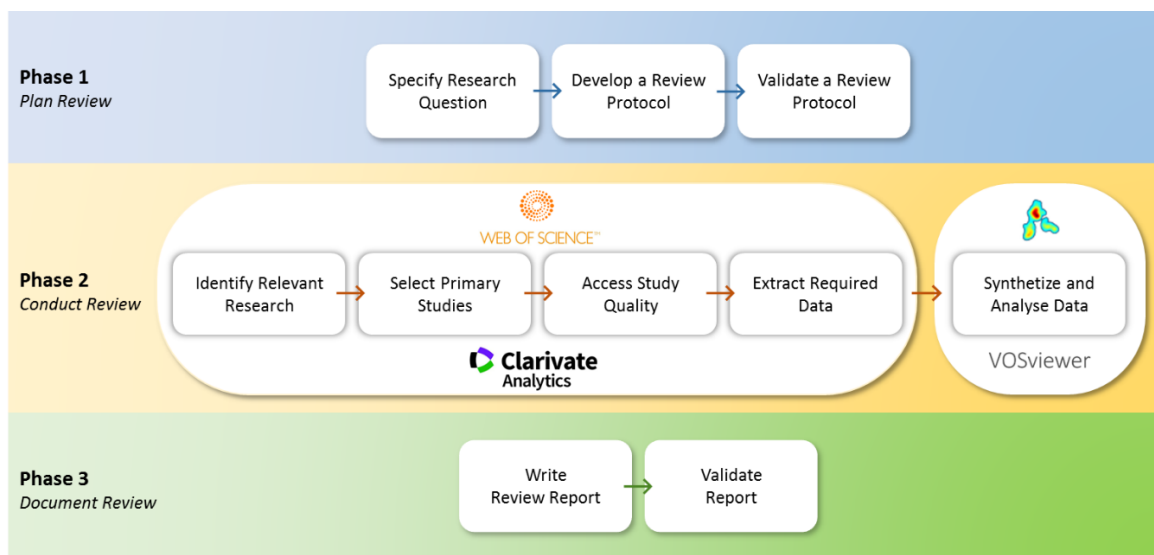
#### 3.6.1.2 Design, methodology and approach

This article, through recourse to the bibliometric technique, identifies lesser-explored fields of study, thereby opening up new potential areas for research. In view of this context, the present study seeks to answer the following question:

- 1) What are the leading research trends in CSR and SCM and future opportunities to investigate in in this field?

The data for this study came from the citation and number of articles data compiled by the Web of Science (WoS) databases that contain many thousands of academic publications alongside information on their authors, affiliations and citations. This search took place on the WoS database in the last half of 2018 with the data subject to analysis in November of the same year through VOSviewer vs. 1.6.9 software that enables bibliometric analysis in accordance with the articles published in journals specialising without applying any chronological filter, corresponding to the period of founding, maturing and solidifying of research interrelated with CSR and supply chain. The keywords applied in the database search were: “supply chain management” and “corporate social responsibility”.

In accordance with the aforementioned database and software, the analytical criteria were the following: (i) in a first WoS research phase, we downloaded all of the documentation, thus a complete register including references cited, author, title, source and abstract; before (ii) in a second phase, we applied VOSviewer software and inputted all of the research data with the method chosen, the “full counting” method resulting in the analysis of the titles and abstracts of all these documents. The period of analysis selected ranged from 1900 to 2018 and, based upon the keywords defined, returned a sample containing 419 publications. Figure 5 illustrate the methodological approach of the first paper.



**Figure 5 - Methodological approach for Paper 1**

### 3.6.1.3 Findings

The results make it clear that the implementation of social responsibility issues in suppliers management is closely linked to (i) the growing pressure from consumers in relating to socially responsible performance by companies, and (ii) the increase of regulation affecting companies in the most diverse areas. In addition, it was possible to verify that there is a growing academic appeal to empirical studies involving supply chain partners, with a view to monitoring the performance of companies through robust indicators and understanding how actions taken by leading organisations are contributing to the creation of value and competitive advantages, in a multidimensional and holistic approach. Moreover, the study identifies which fields represent the greatest interest for future investigations, with potential to reveal new approaches to sustainable supply chain management. For instance, (i) evaluating social implications in the development of products and services, considering their life-cycle, represents a field of investigation that can be further developed. In parallel, further research on (ii) integrating social responsibility into strategic planning and corporate purchasing functions, (iii) strengthening partnering mechanisms, (iv) the impact of emerging economies (such as India and China) on manufacturing and of global availability of goods, and (v) the implication of legislative changes in social responsibility in the supply chain may be interesting areas for further study.

This paper has contributed to this area by documenting, on the one hand, the fundamental studies that have facilitated the rapid advance of CSR and SCM fields, while, on the other hand, analysing the points at which they intersect and the core subjects, as well as identifying avenues for further research: (i) comparing the performance of companies that have chosen to manage their suppliers in terms of social responsible practices with those that do not; (ii) conducting studies that compare the performance of social responsible management for supply chains in different countries and regions in order to elucidate the importance of different types of society, institutional organisations and regulation, and the effect of stakeholder scrutiny on the creation of more sustainable supply chains; and (iii) exploring the importance of leadership in increasing socially responsible performance in supply chains and how it impacts on the overall performance of supply chain partners.

## 3.6.2 Paper 2

### 3.6.2.1 Title and Purpose

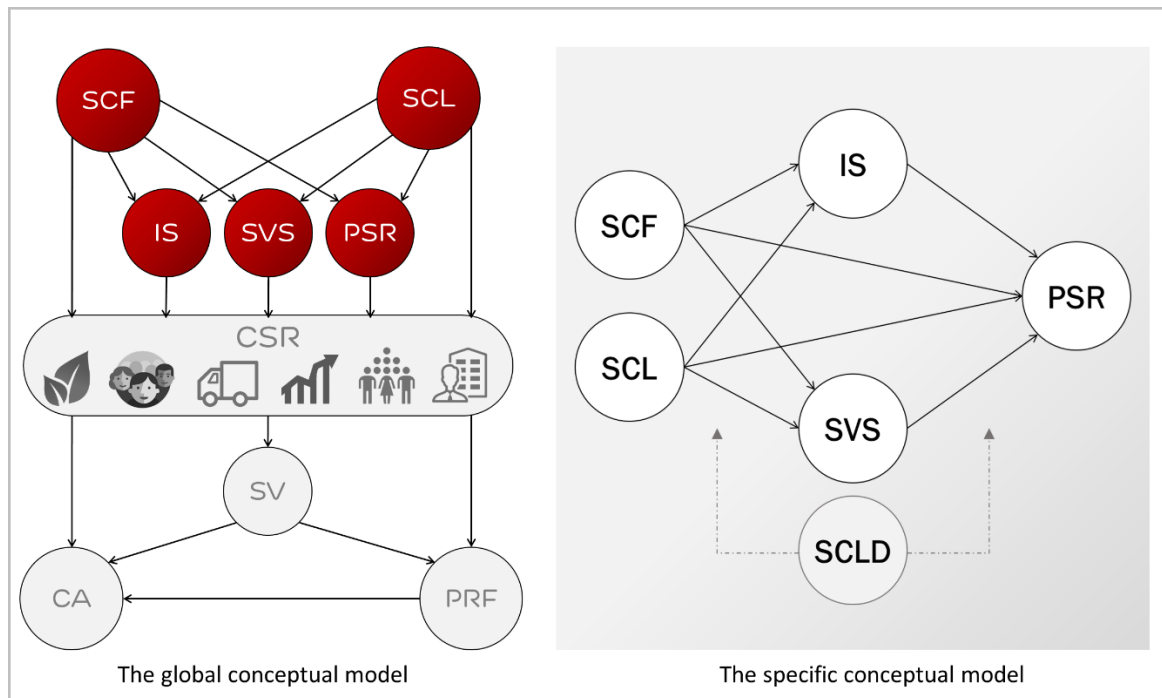
The “*The impact of Supply Chain Leadership and Followership on Purchasing Social Responsibility - An empirical study about a Portuguese energy supplier*” was submitted to Journal of Business Logistics, waiting from peer’s evaluation. This paper has the following main goals:

- 1) Analyse the impact of SCL and SCF on PSR, to explore performance and strategies outcomes with a focus on sustainability;
- 2) Analyse the mediator role of IS and SVS, since these variables have the potential to contribute to a better understanding of leadership and followership dichotomy as key drivers of SSCM;
- 3) Analyse the moderator role of SCLD on all relations, since supplier’s dependency on the supply chain leader company can affect the studied phenomena;
- 4) Contribute to the empirical research of the intersection between SCL, SCF and PSR, shedding light on how sustainable business is defined, facilitated and implemented across the supply chains.

### 3.6.2.2 Design, methodology and approach

The current conceptual model aims to explore the SCL and SCF effect on PSR, considering the moderator role of the SCLD. Additionally, it considers the mediator effects of IS and SVS, since these variables have the potential to contribute to a better understanding of the leadership and followership phenomena as key drivers of SSCM. The 36 items that allow to measure the 5 variables of the conceptual model are fully supported in previous literature. However, the relations between those variables are addressed in a distinct way, in order to facilitate a better understanding about the studied phenomena.

Given that each supplier has a different perception of the variables of the present investigation, according to the level of dependency related with the supply chain leader, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=198) and a group with high SCLD (n=227). The proposed hypotheses are analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 6).



**Figure 6 - Conceptual model for Paper 2**

Confirmatory factor analysis was used to evaluate the psychometric characteristics of the scales and the measurement model, using AMOS 22. The final model exhibits a good fit (IFI=0,951; TLI=0,945; CFI=0,951; RMSEA= 0,065; CMIN/DF=2,771; GFI= 0,865). All the scales had values above 0,79 in the CR and above 0,64 in the AVE. Discriminant validity is demonstrated since all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always lesser than the variance extracted for correspondent constructs, thereby confirming the discriminant validity. To minimize the risk of common method variance, we used the procedural methods proposed by the literature. All the methods used showed that there were no problems with common method variance.

### 3.6.2.3 Findings

The papers conclude that SCL has a positive impact on IS, SVS and PSR. SCF has a positive impact on IS and SVS. IS and SVS have a positive impact in PSR. It was also possible to conclude that SCLD moderates all the relations, except the relationships between SCL and PCR and between IS and PCR. This paper provides some empirical evidence of SCL influence on PSR, contributing to better understand the impacts of supply chain leaders on social responsible behaviour of other supply chain partners. The overall results may support the importance of a transformational leadership on the supply chain interactions, namely on social responsible performance in the purchasing relations of all partners.

### 3.6.3 Paper 3

#### 3.6.3.1 Title and Purpose

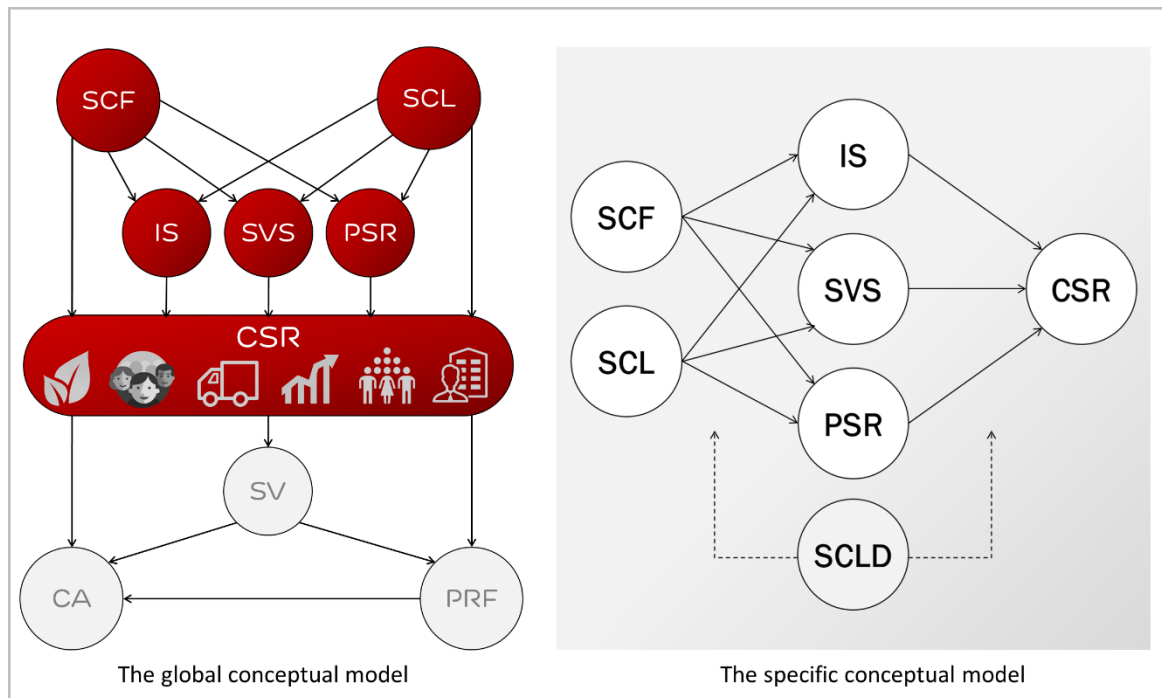
The “*The impact of Supply Chain Leadership and Followership on CSR - An empirical study about a Portuguese energy supplier*” was submitted to E&M Economics and Management journal, and accepted for publication on July 11, 2019. This paper has the following main goals:

- 1) Analyse the impact of SCL and SCF on CSR, to explore performance and strategies outcomes with a focus on sustainability;
- 2) Analyse the mediator role of IS, SVS and PSR, since these variables have the potential to contribute to a better understanding of leadership and followership dichotomy as key drivers of SSCM;
- 3) Analyse the moderator role of SCLD on all relations, since supplier’s dependency on the supply chain leader company can affect the studied phenomena;
- 4) Contribute to the empirical research of the intersection between SCL, SCF and CSR, shedding light on how sustainable business is defined, facilitated and implemented across the supply chains.

#### 3.6.3.2 Design, methodology and approach

The current conceptual model aims to explore the SCL and SCF effect on CSR, considering the moderator role of the SCLD. Additionally, it considers the mediator effects of IS, SVS and PSR, since these variables have the potential to contribute to a better understanding of the leadership and followership phenomena as key drivers of SSCM. The 62 items that allow to measure the 6 variables of the conceptual model are fully supported in previous literature. However, the relations between those variables are addressed in a distinct way, in order to facilitate a better understanding about the studied phenomena.

Given that each supplier has a different perception of the variables of the present investigation, according to the level of dependency related with the supply chain leader, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=198) and a group with high SCLD (n=227). The proposed hypotheses are analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 7).



**Figure 7 - Conceptual model for Paper 3**

Confirmatory factor analysis was used to evaluate the psychometric characteristics of the scales and the measurement model, using AMOS 22. The final model shows a good fit (IFI=0,951; TLI=0,945; CFI=0,951; RMSEA=0,065; CMIN/DF=2,771; GFI=0,865). All the scales had values above 0,79 in the CR and above 0,64 in the AVE. Discriminant validity is demonstrated since all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always lesser than the variance extracted for correspondent constructs, thereby confirming the discriminant validity. To minimize the risk of common method variance, we used the procedural methods proposed by the literature. All the methods used showed that there were no problems with common method variance.

### 3.6.3.3 Findings

We conclude that SCL has a positive impact on IS, SVS and PSR while SCF has a positive impact on IS and SV. IS, PSR and SV have a positive impact on CSR. SCF has a direct impact on CSR, while SCL only shows indirect effects throughout the effects of the mediating variables. Dependency appears to moderate some of the proposed relationships. This paper provides a better understanding about the impacts and the chain of effects between SCL and CSR, also considering the role of dependency as moderating variable. The overall results may support the importance of a truly sustainable business leadership capable to promote social responsibly along the entire supply chain. It is a new approach of supply chain management, identifying how a social responsible

company may lead their suppliers to adopt and develop a true and committed social responsible behaviour, and contribute to a better world.

### 3.6.4 Paper 4

#### 3.6.4.1 Title and Purpose

The “*The impact of CSR on Competitive Advantages and Performance - An empirical study about a Portuguese energy supplier*” was submitted to Journal of Economic Behaviour & Organization, waiting from peer’s evaluation. This paper has the following main goals:

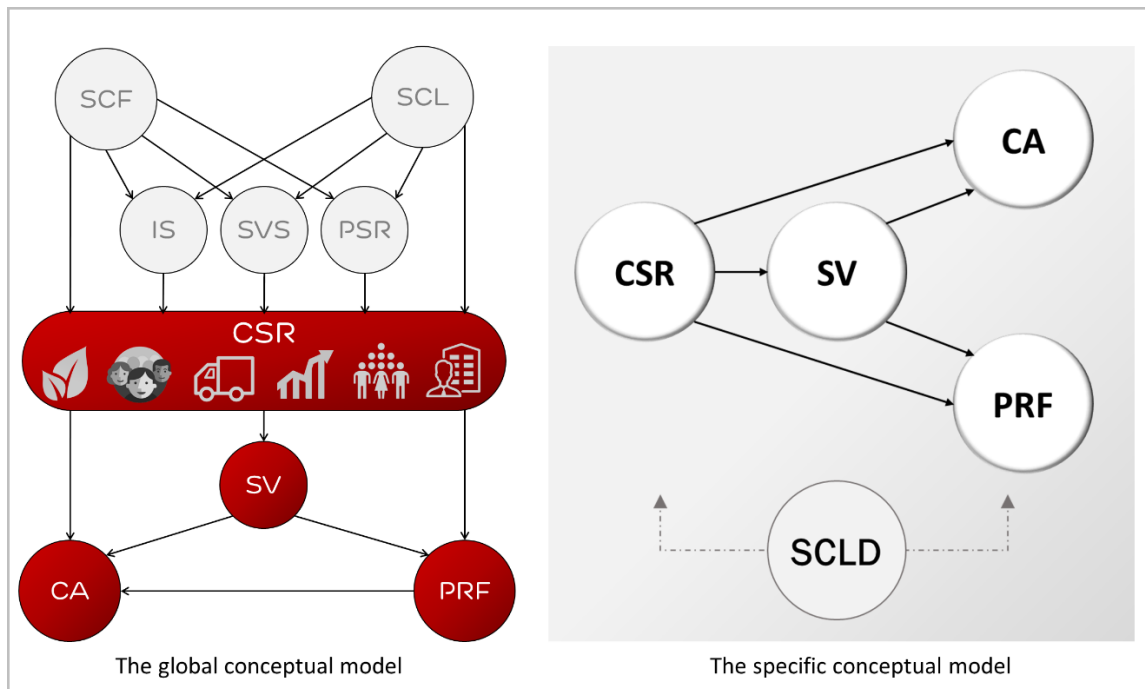
- 1) Analyse how CSR affects a company’s value, examining the effect of socially responsible in order to foster higher PRF and greater CA;
- 2) Analyse the mediator role of SV, since this variable have the potential to contribute to a better understanding of the phenomena;
- 3) Analyse the moderator role of SCLD on all relations, since supplier’s dependency on the supply chain leader company can affect the studied phenomena;
- 4) Contribute to the empirical research of the intersection between CSR, PRF and CA, identifying how a socially responsible company may create value for itself, and for all of those with whom it interacts.

#### 3.6.4.2 Design, methodology and approach

The current conceptual model aims to explore the CSR effect on CA and PRF, considering the moderator role of the SCLD. Additionally, it considers the mediator effects of SV, since this variable have the potential to contribute to a better understanding of the phenomena as key driver of SSCM. The 66 items that allow to measure the 4 variables of the conceptual model are fully supported in previous literature. However, the relations between those variables are addressed in a distinct way, in order to facilitate a better understanding about the studied phenomena.

Given that each supplier has a different perception of the variables of the present investigation, according to the level of dependency related with the supply chain leader, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=198) and a group with high SCLD (n=227). The proposed hypotheses are analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 8).





**Figure 8 - Conceptual model for Paper 4**

Confirmatory factor analysis was used to evaluate the psychometric characteristics of the scales and the measurement model, using AMOS 22. Confirmatory factor analysis was used to evaluate the psychometric properties of the scales and the measurement model, using AMOS 22. The final model shows a good fit (IFI=0,910; TLI=0,905; CFI=0,909; RMSEA=0,064; CMIN/DF=2,717). Discriminant validity is demonstrated since all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always lesser than the variance extracted for correspondent constructs, thereby confirming the discriminant validity. To minimize the risk of common method variance, we used the procedural methods proposed by the literature. All the methods used showed that there were no problems with common method variance.

### 3.6.4.3 Findings

The findings suggest that CSR positively impacts CA, SV and PRF. Additionally, this study reveals that SV has a positive impact on PRF. However, SCLD appears to moderate some of the proposed relationships. The overall results may support the importance of CSR, identifying how a socially responsible company may create value for itself, and for all of those with whom it interacts. As such, researchers studying business strategy can incorporate these conceptual approaches as a key element in a company's strategic planning. Scholars of supply chain management can also incorporate CSR into their studies to evaluate how it impacts on tangible assets, life cycle management, time to market, quality and product innovation.

### 3.6.5 Paper 5

#### 3.6.5.1 Title and Purpose

The “*The impact of Supply Chain Leadership and Followership on Organizational Performance - An empirical study about a Portuguese energy supplier*” was submitted to *Baltic Journal of Management* and accepted for publication on July 25, 2019 (DOI 10.1108/BJM-01-2019-0012). This paper has the following main goals:

- 1) Analyse the impact of SCL and SCF on PRF, to explore performance and strategies outcomes with a focus on sustainability;
- 2) Analyse the mediator role of SV and SVS, since these variables have the potential to contribute to a better understanding of leadership and followership dichotomy as key drivers of SSCM;
- 3) Analyse the moderator role of SCLD on all relations, since supplier’s dependency on the supply chain leader company can affect the studied phenomena;
- 4) Contribute to the empirical research of the intersection between SCL, SCF and PRF, shedding light on how sustainable business is defined, facilitated and implemented across the supply chains.

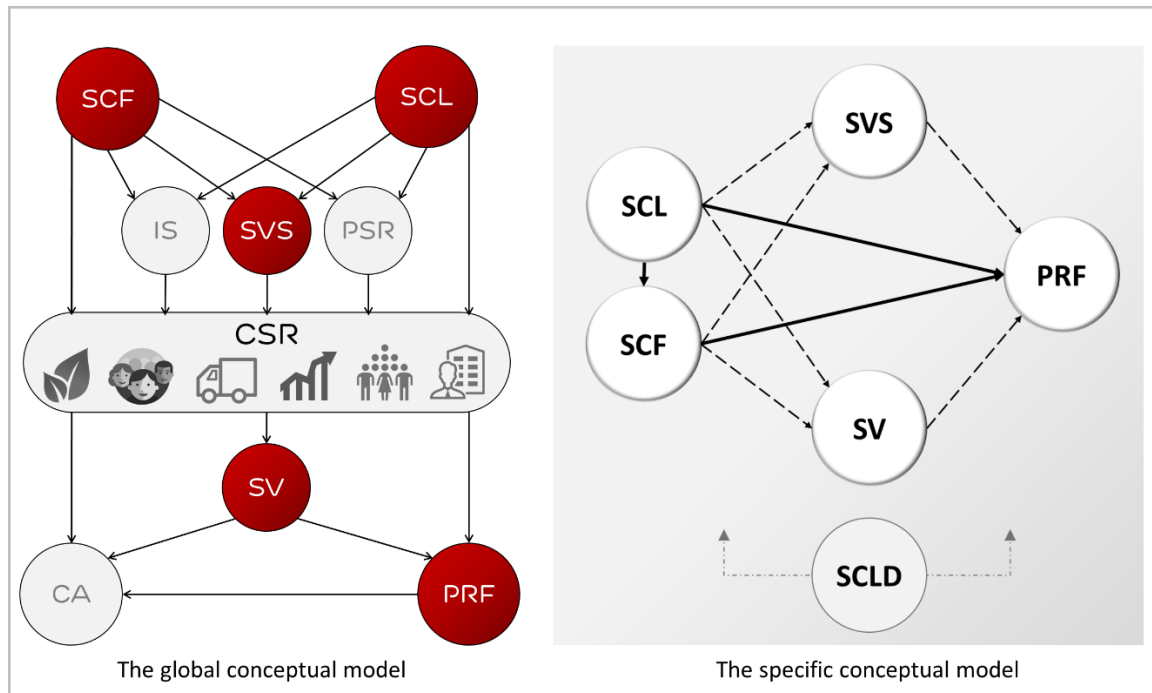
It should be noted that, considering the suggestions presented in the peer review process, shared values (SVS) was renamed to common values (CS). Therefore, the corresponding paper presented on Chapter VIII, in order to give a response to peer’s concerns, “avoiding confusion with shared value (SV)”, uses CS instead of SVS, although both variables have the same meaning in the scope of the present investigation.

#### 3.6.5.2 Design, methodology and approach

The current conceptual model aims to explore the SCL and SCF effect on PRF, considering the moderator role of the SCLD. Additionally, it considers the mediator effects of SV and SVS, since this variable have the potential to contribute to a better understanding of the phenomena as key driver of SSCM. The 43 items that allow to measure the 5 variables of the conceptual model are fully supported in previous literature. However, the relations between those variables are addressed in a distinct way, in order to facilitate a better understanding about the studied phenomena.

Given that each supplier has a different perception of the variables of the present investigation, according to the level of dependency related with the supply chain leader, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=206) and a group with high SCLD (n=250). The proposed hypotheses are

analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 9).



**Figure 9 - Conceptual model for Paper 5**

Confirmatory factor analysis was used to evaluate the psychometric properties of the scales and the measurement model, using AMOS 22. The final model shows a good fit (IFI=0,956; TLI=0,951; CFI=0,956; RMSEA=0,057; CMIN/DF=2,494). Discriminant validity is demonstrated since all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always lesser than the variance extracted for correspondent constructs, thereby confirming the discriminant validity. To minimize the risk of common method variance, we used the procedural methods proposed by the literature. All the methods used showed that there were no problems with common method variance.

### 3.6.5.3 Findings

Findings suggest that SCL positively impacts SCF, SV and SVS. Additionally, this study makes it clear that SCF has a positive impact on SV and SVS. Furthermore, it was observed that SVS and SV have a positive impact on PRF. It was possible to observe that the influence of SCL and SCF on PRF occurs in an indirect way through the mediation of SV and SVS. Nevertheless, supply chain leadership dependence appears to constrain some of the proposed relationships. The study provides a better understanding of the impacts and chain of effects between SCL and SCF on PRF, while considering the role of dependence as a moderating variable. The overall results may support the

importance of truly sustainable business leadership capable of promoting shared value creation along the entire supply chain. Consequently, researchers studying business strategy can incorporate these conceptual approaches into companies' strategic planning as a key element, promoting transformational leadership practices and engaged followership behaviours in order to achieve better organisational performance. Scholars of supply chain management can include these variables in their studies to evaluate how SCL and SCF reflect on tangible assets when driven by SVS and focusing on SV creation.

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# CHAPTER IV - CORPORATE SOCIAL RESPONSIBILITY AND SUPPLY CHAINS MANAGEMENT: A SYSTEMATIC REVIEW AND BIBLIOMETRIC ANALYSIS

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## Abstract

*The objective of this study is to map academic publications on the subject and the intellectual knowledge contained therein, while covering past research and identifying potential future trends and paths of research in the fields of corporate social responsibility and supply chain management, identifying some of the most relevant research in this field and a selection of the latest trends according to information found in the Web of Science database.*

*It was performed a systematic review of the literature in keeping with a bibliometric approach based upon VOSviewer, with a specific focus on drafting maps for visualising an underlying intellectual structure. This type of analysis encompasses the scope of the articles published and the annual number of citations for the period between 1900 and 2018, as registered by the Web of Science database. Several classifications were made, including an analysis of the most influential journals, the most cited papers of all time and the most productive and influential authors.*

*The results make it clear that the implementation of social responsibility issues in supplier management is closely linked to the growing pressure from consumers in relating to socially responsible performance by companies, and the increase of regulation affecting companies in the most diverse areas. In addition, it was possible to verify that there is a growing academic appeal to empirical studies involving supply chain partners, uncovering and mapping the fields representing the greatest interest for future investigations, with potential to reveal new approaches to sustainable supply chain management. The main contribution of this study thus arises from identifying the main research trends in this field and the respective shortcomings and specific opportunities for future research.*

**Keywords:** corporate social responsibility, supply chain management, bibliometric studies, systematic review, sustainability, literature review

## 4.1 Introduction

In recent years, corporate social responsibility (CSR) has gone from being a subject considered to be only of interest in bolstering the periodic reports that companies produce to please their stakeholders to a holistic way of thinking about business, essential to guaranteeing its sustainability (Papasolomou, Kountouros & Melanthiou, 2018; Blenkhorn & MacKenzie, 2017; Casalegno, Pellicelli & Civera, 2017). Recent decades have shown that companies that neglect their social responsibilities lose their sense of legitimacy and, sooner or later, their ability to create value (Pérez,

López, & Salmones, 2017) and secure their position in a market that is increasingly being scrutinised by informed clients, competent authorities, concerned and dissatisfied civil society, and challenging competitors.

To be a socially responsible company means coming to business decisions by considering the medium- and long-term scope (Ahn & Park, 2018), rather than just aiming at immediate financial results (which do not in themselves constitute a reliable picture of a firm's ability to create value). It means integrating the needs and expectations of the stakeholders (Chan & Oppong, 2017) in business leadership in order to ensure proper alignment for shareholders, without forgetting others who are directly or indirectly affected by the company's behaviour. It means managing economic, social and environmental risk through objective actions (Ingham & Havard, 2017), looking for opportunities to do more and better, thinking about tomorrow, and reflecting on the consequences of decisions made today. It means integrating a life-cycle perspective and actively engaging in dialogue with customers and suppliers (Ranängen, 2017) to guarantee that the actions taken benefit all parties in a meaningful and lasting way. It means collaborating (Wu, 2018), creating synergies (Nikolić & Zlatanović, 2018), leading by example (Mostovicz, Kakabadse, & Kakabadse, 2009), acting ethically (Ogunfowora, Stackhouse, & Oh, 2018) and guaranteeing people committed to higher values (Sánchez & Hernández, 2015), focused on tangible and intangible value creation, as a virtuous path to excellence.

However, in order to ensure business sustainability, it is not enough to perform to a high level alone in silos. Firms must be aware that their own success depends on the success of their suppliers and clients, and vice versa. To do so, each supply chain partner will have to integrate a socially responsible approach to their business strategies and actions, since company behaviours can be strongly influenced by or can in turn influence other supply chain partners, affecting the performance of the entire business ecosystem (Wiese & Toporowski, 2013).

Nowadays, new companies are emerging from the possibility of accessing a variety of materials and service portfolios worldwide, which they can transform, improve and sell to customers across different geographies. At the same time, there is a growing risk of compliance failures in terms of existing regulations and the needs and expectations of stakeholders, as business becomes increasingly complex and dependent on the good performance of myriad partners working collaboratively in huge supply chains (Sibanda & Poee, 2018). Since everyone is connected and influenced by one another, failure by a single partner behaviour, via the butterfly effect (Marchi, Erdmann, & Rodriguez, 2014), can cause a succession of negative effects on the value delivered at different levels of the supply chain, which can result in serious damages to a larger group of supply chain partners. As such, in a connected world, social responsibility is crucial in ensuring that business flourishes in a healthy way, creating value for companies and for society in general,



without compromising internal and external stakeholders, who can be affected by their performance.

Although some bibliometric studies have already been conducted, exploring several approaches to CSR and SCM, there is a growing interest in further exploration of this area in order to determine opportunities for empirical research, thus enabling a better understanding of how companies can truly contribute to a sustainable supply chain. Feng *et al.* (2017) made an important contribution by carrying out a literature review and a relevant bibliometric analysis using key words from previous publications to explore the network of relationships between different concepts connected with CSR and SCM. However, this author pointed out that an opportunity for future research would be conducting a bibliometric study concerning the information of titles and abstracts of previous literature, in a more comprehensive exploration. In fact, the risk of disconnection between quantitative and qualitative studies and even between quantitative models is real (Rebs *et al.*, 2018). According to (Petljak *et al.* 2018), the green side of CSR is too concentrated on relationships with customers, forgetting the important role of retailers. At the same time, literature fails to clarify how collaboration and learning may contribute to a greater sustainability (Oelze *et al.*, 2016). That's why the management issues in supply chains need further investigation and systematic literature reviews and bibliometric studies are important because they provide a basis for the comprehension of the state of the art, give a conceptual basis and significant clues for future directions for the future investigation on this field (Yawar & Seuring, 2017). To fill this gap, the current study aims to provide an answer to this question:

**RQ :** What are the leading research trends in CSR and SCM  
and future opportunities to investigate in in this field?

The present document, using the bibliometric technique, allows the identification of areas of study that are less explored, thus opening up different possible areas for research. The contributions given by this study deeply interconnect with the actual nature of research, surmounting the weaknesses that exist as consequence of the absence of scientific studies by supplying a methodical review of the bibliometric studies and the literature present on the fields in question. The present study is successful in identifying, exploring and systematizing the main themes, which contributes to the deepening of the literature by recognising the precedence of areas relating to CSR strategies for SCM that are capable of ensuring a company's superiority when compared with their competitors. Additionally, far beyond the identification and exploration of past and present investigation in this field, this research uncovers and highlights new opportunities for investigation in this field, the topics less explored and needing additional comprehension.

This paper is structures as follows. Section 2 presents a theoretical background on CSR and on the intersection between CSR and SCM. Section 3 describes the methodology adopted based on a

bibliometric approach. Section 4 presents the results characterizing past literature on the field, the gaps identified and the future opportunities to investigate in this field. Finally, section 5 presents a final discussion, identifying the main contributions and the limitations of the paper.

## 4.2 Theoretical background

### 4.2.1 Corporate Social Responsibility

The concept of corporate social responsibility (CSR) isn't consensually accepted by the academic community, because there are different definitions, tendencies, points of view and models to explain its grounds (Gonzalez-Perez, 2013). Lantos (2001) states that CSR usually refers to the extent to which corporate strategy and activities create an impact on the community in terms of social and environmental influence. McComb (2002) considers that CSR is the notion of companies looking beyond profits and allying themselves with ethical values, transparency, employee relations, compliance with legal requirements and overall respect for the communities in which they operate. From a slightly different perspective, Carroll and Buchholtz (2006) focus on economic, legal, ethical and discretionary (philanthropic) dimensions to discuss the CSR actions of an organisation. Even if there are several characterisations of CSR, the main views of CSR complement each other, namely (i) addressing social and environmental issues, as discussed by the European Commission (2001); (ii) enhancing corporate brand and reputation, which can increase customers' trust and loyalty, as suggested by McComb (2002); and (iii) responding to irresponsible business practices and avoiding becoming subject to legislation, according to Coghill *et al.* (2005). Overall, CSR is the process whereby companies decide voluntarily to address social, economic and environmental issues in order to benefit individuals, communities and society, thereby creating positive impacts, which can help companies to achieve their corporate objectives (Collings, 2003).

The origins of CSR have never been attributed to any particular author or moment in time (Gonzalez-Perez, 2013). Nevertheless, the understanding of the notion has grown along with economic and social development, and it is said that the modern approach to CSR dates back to the 1950s, when the notion of CSR emerged (Witkowska, 2016). The term was formalised by Howard R. Bowen in his key 1953 work *Social Responsibility of the Businessman* (Gonzalez-Perez, 2013). In 1983, the United Nations (UN) decided to establish a World Commission on Environment and Development (WECED), chaired by former Norwegian prime minister Gro Harlem Brundtland. In 1987, the WECED submitted its report to the UN general assembly, entitled *Our Common Future*. In the Brundtland Report, as it was called, sustainable development is defined as follows: '*Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs*' (WECED, 1987).

Carroll (1991) has contributed towards creating the definitions of the different levels at which organisations respond to their corporate social responsibilities, with his Corporate Social Responsibility Pyramid. The base of the pyramid is the economy and economic performance. This is seen as pivotal and gives rise to the second level, concerning the law and legal rights, duties, rules and obligations. The third level is focused on business ethics in a wide stakeholder context. Finally, the discretionary level involves philanthropy, and this is where an organisation typically goes beyond its everyday expected duty and is thus deemed to be a good corporate citizen.

The application of the model, together with the context in which it operates and an understanding of what it seeks to achieve at both an abstract and practical level, are in a number of respects crucial in developing knowledge, making sense of and interpreting the world. According to Jones *et al.* (2009), Carroll's model (i) is useful as it aids understanding of CSR, the issues that pertain to it and can therefore help to improve communication and (ii) unravels the concept by establishing key elements and distinguishing itself in its exploration of CSR.

The two concepts, CSR and sustainability, are often applied interchangeably, and although there are some overlaps, they are defined differently (Aagaard A. , 2016). A company's sustainability, also described as corporate sustainability, is considered to be the basis of CSR (Marrewijk M. v., 2003). Corporate sustainability is defined by WBCSD as follows: '*the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large*' (WBCSD, 2000). The concept of a company's CSR is defined as follows: '*corporate social responsibility encompasses the economic, legal, ethical and discretionary (philanthropic) expectations that society has of organisations at a given point in time*' (Carroll & Shabana, 2010). Corporate sustainability therefore focuses more on the company and its surroundings and their impact on each other, whereas CSR relates more to the stakeholders and the charitable and beneficial social activities that the company performs (Aagaard A. , 2016).

The most common form of translating sustainability at a corporate level is the triple bottom line (TBL), which consists of three sustainable dimensions: people, planet and profit. These are described as three equally important principles (Elkington, 1997), expressed in the following model, which brings together an extended range of values and criteria for measuring these three dimensions.

According to Bansal (2005), the social dimension refers to the equity of all human beings and their opportunities in gaining access to resources with regard to basic needs such as water, food and development through improved living conditions, such as healthcare and education. The environmental dimension refers to the ecosystem of the Earth and reduction of the manmade environmental footprint and ecological imbalance in terms of pollution, the ozone layer, greenhouse gases, non-biodegradable waste, deforestation and overfishing. The profit dimension highlights the

fact that the production of goods and services is a prerequisite for improving living conditions globally. In other words, companies and business are no longer solely perceived as economic entities, but as social and ecological entities as well, which influence and are influenced by their surroundings. This consideration shines through a company's financial statement if it has made the right preparations in accordance with the principles behind the triple bottom line (Aagaard A. , 2016).

The whole idea of seeing business as the creation of value for stakeholders and the trading of that value with freely consenting adults is summed up in the notion of having a society where everyone has freedoms that are compatible with the freedoms of the others – liberty for all (Rawls, 1971). Value creation and trade have to go together; one is no good without the other (Freeman, Andrew, & Bidhan, 2004). The stakeholder theory has been presented both within the framework of the organisational theory (Freeman R. E., 1994) and within that of business ethics (Carroll A. , 1989), as a step beyond the neoclassical theory in which the company's goal is identified as the maximisation of profit, with the company's owners the only stakeholders in achieving this goal. The stakeholder theory basically argues that companies and their managers should act on behalf of *'any group or individual who can affect or is affected by a firm's operations in achieving its objectives'* (Freeman R. E., 1984, p. 46). In line with Freeman's contention, the instrumental stakeholder's theory states that the best way to maximise shareholder wealth is to fulfil the stakeholders' interests (Jahn & Bruhl, 2016).

Against this backdrop, the most commonly deployed and discussed dimensions of CSR are accepting stakeholders' points of view, social, economic and environmental concerns, and voluntary application (Witkowska, 2016). With companies taking a cue from CSR principles, it is possible to move to a truly and lasting organisational sustainability. The result is an approach to business that identifies the strategic benefits of a CSR and stakeholder's perspective in a way that sustains the firm and optimises the added value of its operations.

#### 4.2.2 CSR in Supply Chain Management

The increasing importance of sustainable behaviour in business has improved its impact on supply chain management (SCM). Firms foster sustainability in their supplier base in reaction to growing sustainability requirements in various ways, including sustainable supplier cooperation. While there is considerable debate on what constitutes social sustainability in supply chains, CSR has emerged as one potential strategy that addresses social concerns (Bhardwaj, 2016).

SCM is crucial to ensure that companies hold a sustainable market position. For that purpose, it is vital that supply chain partners are aligned with enterprise values and meet enterprise regulations. As such, SCM is defined as *'management of material, information and capital flows as well as cooperation among the companies along the supply chain while taking goals from all three*

*dimensions of sustainable development, i.e. economic, environmental and social, into account, which are derived from customers' and the stakeholders' requirements'* (Seuring & Müller, 2008).

Since the early 1990s, a growing quantity of academic research addressing various environmental, social and ethical issues in supply chains has been produced. Over recent years, research in the SCM discipline has increasingly been conducted under the umbrella concept of sustainable supply chain management (SSCM) (Quarshie, Salmi, & Leuschner, 2016). In Carter and Rogers's (2008) framework, SSCM is seen as encompassing three dimensions – social, environmental and economic performance – which are often referred to as the triple bottom line (Elkington, 1997).

Despite lacking clarity in the definition, CSR remained a subject of immense interest and several studies were conducted by researchers. In this regard, Schneider and Schwerk (2010) successfully integrated CSR into the supply chain with a focus on social issues. Spence and Bourlakis (2009) superimpose the definition of CSR from Davis (1973) onto supply chains and define CSR in supply chains as *'chain-wide consideration of, and response to, issues beyond the narrow economic, technical and legal requirements of the supply chain to accomplish social (and environmental) benefits along with the traditional economic gains which every member in that supply chain seeks'*, which can help in understanding the strategies adopted by supply chains to address those social issues.

Cooperation with suppliers and customers has become extremely critical for organisations seeking to close the supply chain loop (Sarkis, Zhu, & Hee-hung, 2011). Currently, the literature recognises that social sustainability practices (like labour conditions, health and safety) positively affect performance in supply chains and improve product and process quality (Yawar, 2014). There is an emphasis on the need for effective collaboration between buyers and suppliers in order to implement supplier development strategies (like investing in technical and financial capabilities), which will then enable capacity development and help suppliers to build new skills (Yawar, 2014). This is supported by Parmigiani *et al.* (2011), who state that investment in technical capabilities enhances the ability of suppliers to deal with social issues, which in turn helps companies manage risk, thereby improving their financial performance.

Practising CSR in supply chains requires that CSR to be embedded within the entire organisation. It should not be just another corporate functional or staff activity at headquarters. It has to be disseminated to all functional areas, subsidiaries and offshore suppliers (Andersen & Skjoett-Larsen, 2009). Achieving this at an intrinsic level requires sharing and value co-creation mechanisms, a long-term relationship approach and sustainable supply chain leadership to be in place, thus steering the business in ways that benefit every supply chain partner and, ultimately, contribute to a *'better world'* for all of the stakeholders involved.

### 4.3 Methodology

The data used in this work is from the Web of Science (WoS) databases, which comprise numerous academic publications, as well as data about their authors and citations. Additionally, in bibliometric studies comprising several publications, citations started to become more popular in the literature, particularly because of the expansion of database such as WoS that significantly enable the access to research on developing arenas (Du & Ke, 2017).

Bibliometric is a technique used in studies on the scientific production of a specific field of knowledge (Farias & Hoffmann, 2018). As bibliometric studies become increasingly frequent in the analysis of academic publications and in the development of science, the gaps in knowledge and future fields of research are becoming more evident (Serra, Ferreira, Guerrazzi, & Scaciotta, 2018). Falcão *et al.* (2017) considers that the use of bibliometric methods has been used more often, due to a number of reasons, which include (i) being easier to use, compared to other methods such as content analysis, (ii) to analyse in a depth way the relationships between publications, citations, and key words, enabling a set of information that allows a deepening of knowledge in a given area of research, and (iii) allowing information examination in an illustrative way, synthesizing the bibliometric analysis results in strong and thrilling images, which allows the authors to transmit in a clear way, facilitating the identification of future fields of investigation.

This study occurred on the WoS database in the last 6 months of 2018 with the data analysed in November of 2018, using the VOSviewer<sup>1</sup> vs. 1.6.9 software. This software provides bibliometric analysis in agreement with the published articles in journals specialising deprived of using chronological filters, matching the time of formation, maturing and solidifying of research interconnected with CSR and supply chain. The keywords used in the database search were: “supply chain management” and “corporate social responsibility”, because they may capture the most of relevant literature in this field. Other combinations didn’t appear to bring significant literature to our findings. Additionally, we identified the literature covering CSR in SCM, combining both keywords, providing the main topics, the research gaps and suggestions for future investigations. The search considered the topic including title, abstract and keywords in the areas of economics and management.

Accordingly to the above-mentioned software and database, these were the analytical standards: (i) in a first WoS research phase, we downloaded an ample inventory containing references cited, author, title, source and abstract; (ii) in stage number two, the VOSviewer software was applied

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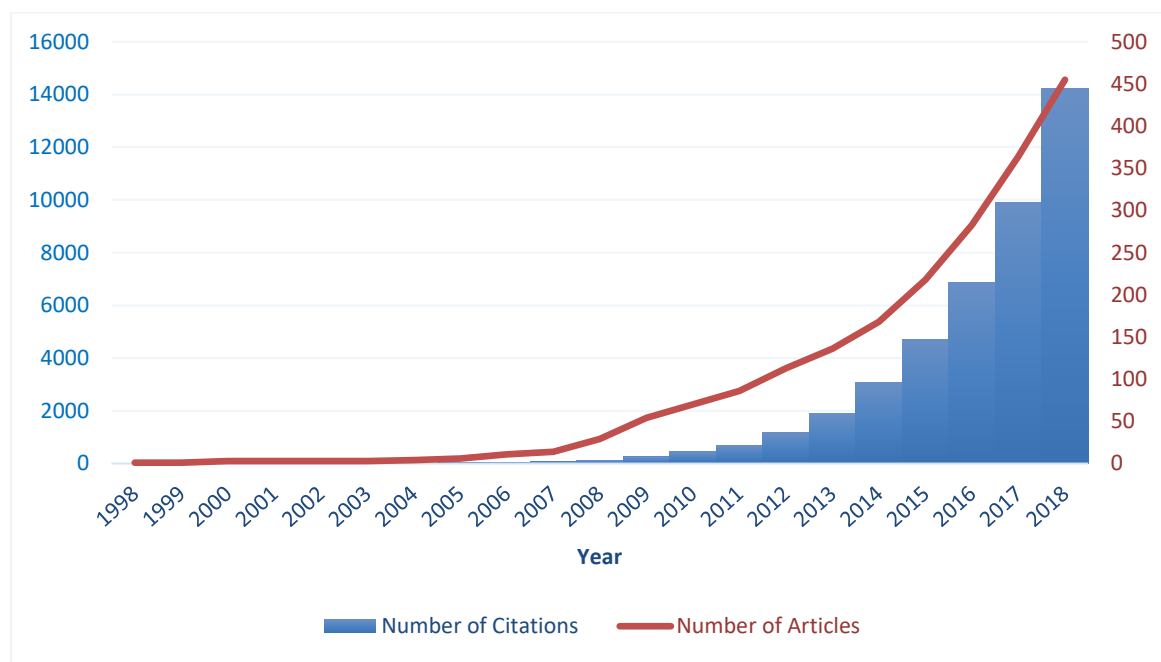
<sup>1</sup> The free VOSviewer vs. 1.6.9 software is available at <http://vosviewer.com/>. The software enables the construction of bibliometric networks based upon journals, authors, co-citations and relations between co-authors. However, the most commonly applied function of this software is Data Mining, thus, the identification of the patterns presents within a theoretical field. This therefore brings about the construction of networks of the co-occurrence of words existing in the set of articles under study.

and the entire research data was inputted with the method of “full counting”, which resulted in analysing the titles and abstracts of all the documents. A sample of 419 publications was obtained using the keywords defined and considering a time period from 1900 to 2018. There are numerous techniques that can be applied to the analysis of literature on any particular scientific area. According to Zupic & Čater, several researchers have also made recourse to bibliometric techniques to study a few of the many management fields.

## 4.4 Results

### 4.4.1 Evolution and Data Analysis

The following findings came from analysing how the amount of articles and their number of annual citations, for the period of 1900 to 2018, evolved. Figure 10 groups the annual number of publications and citations distributed across the two major groups defined, namely CSR in SCM. The first publications were reported only in the 1990s before starting a period of growth after 2008 in the case of CSR and with the primary articles on SCM appearing in 2002.



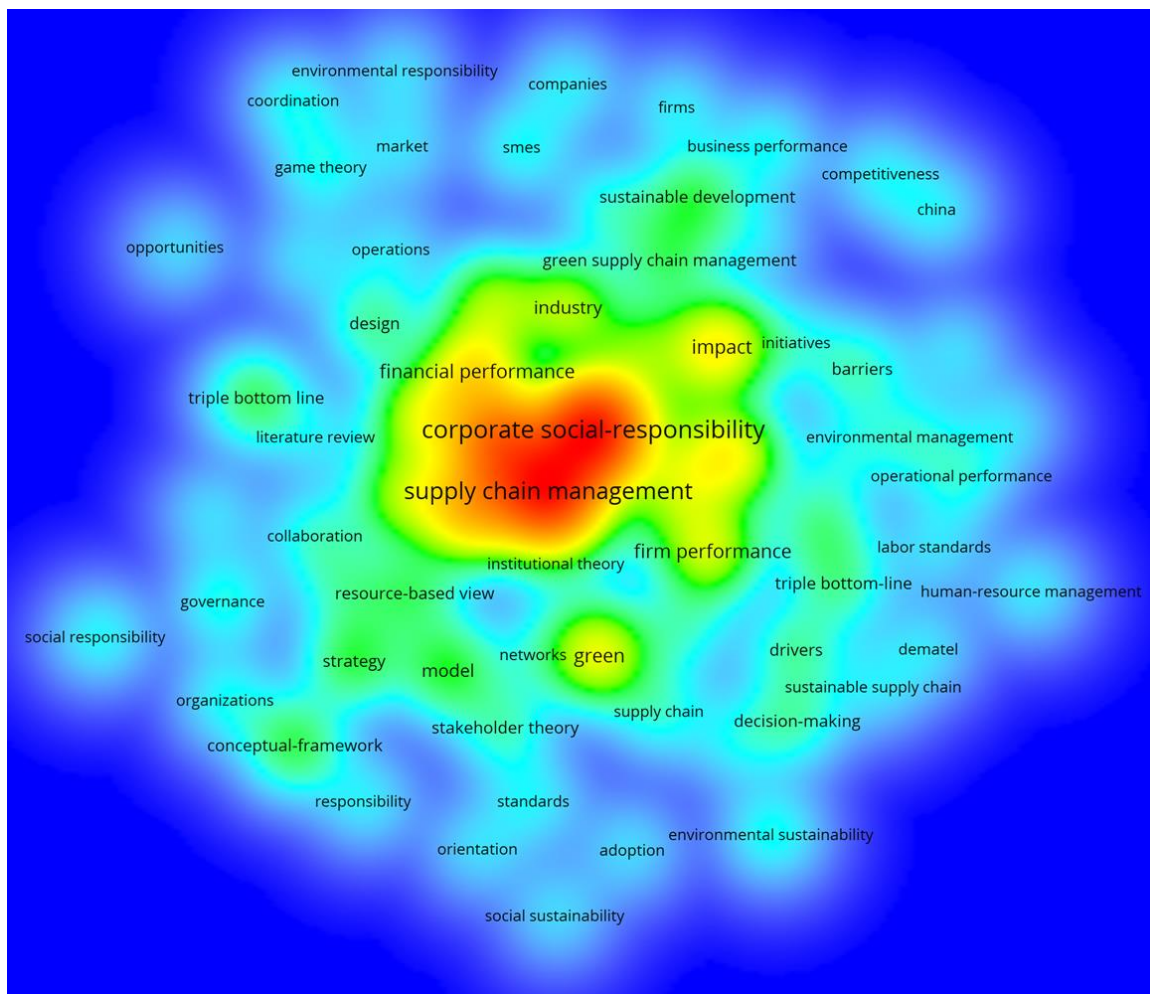
**Figure 10 - Number of articles and annual citations on CSR in SCM**

Table 3 replicates the fraction of publications and citations for each chosen field and according to the search sample outcomes, considering fields of study related with the purpose of present investigation, namely Business, Management, Ethics, Environmental Studies, Economics, Environmental Sciences, Green Sustainable Science Technology, Business Finance, Environmental Engineering, Operations Research Management Science and Engineering Industrial.

Keywords	Number of Articles	Number of Citations
“corporate social responsibility”	8.228 (48,5%)	166.535 (42,4%)
“supply chain management”	8.725 (51,5%)	226.125 (57,6%)
total	16.953 (100%)	392.660 (100%)

**Table 3 - General research data of unfiltered number of articles and citations**

Thus, 48,5% of these articles approach the theme of CSR and 51,5% focus on SCM. Therefore, corporate social registered 16.953 articles distributed through three fields of study (CSR and SCM). Deprived of using chronological filters, we find a total of 392.660 citations, with 166.535 (42,4% of total citations) concentrating on the field CSR and 226.125 (57,6% of total citations) on SCM. Considering the information obtained above, we resort to VOSviewer software and then chose the “full counting” method, with a minimum number of 10 incidents for each term, categorising the 154 terms more relevant and that were after analysed so we could check the areas where there was a larger density of clusters, as well as the how they mutually interrelate (Figure 11).



**Figure 11 - Density of the most relevant areas of study concerning CSR in SCM**



Through the analysis of Figure 11, we can detect six key sets of clusters. The first set comprises 15 areas of study, the second and the third set 14 areas each, the fourth contains 12 areas, the fifth 10 areas and the sixth 9 areas of study, identifying a total of 74 possible areas of research. Amongst the various study focuses, “financial performance, firm performance, triple bottom line, design, industry, resource-based view, institutional theory, green supply chain management” are highlighted as the areas with more incidences. Regarding the more dispersed fields, we may report the following: “game theory, market, operations, environmental responsibility, smes, china, labor standards, human resource management, environmental sustainability, social sustainability”.

Bellow, and in accordance with WoS online database, we carried out a mapping of some the most relevant scientific publications incorporating bibliometric studies and its tools for generating a better understanding of the intellectual structure of the various fields of management, business and economics (Table 4).

<b>Author</b>	<b>Journal</b>	<b>Title</b>	<b>Methodology</b>	<b>Citation</b>
Chen <i>et al.</i> , (2012)	Mis Quarterly	Business Intelligence and Analytics: From Big Data to Big Impact	Quantitative	957
Volberda <i>et al.</i> , (2010)	Organization Science	Absorbing the Concept of Absorptive Capacity: How to Realize Its Potential in the Organization Field	Quantitative	358
Rodriguez & Navarro, (2004)	Strategic Management Journal	Changes in the intellectual structure of strategic management research: A bibliometric study of the Strategic Management Journal, 1980-2000	Quantitative	313
Murray, (2002)	Research Policy	Innovation as co-evolution of scientific and technological networks: exploring tissue engineering	Quantitative	244
Gambardella, (1992)	Research Policy	Competitive Advantages from In-House Scientific-Research: The United-States Pharmaceutical-Industry in the 1980s	Quantitative	175
Podsakoff <i>et al.</i> , (2008)	Journal of Management	Scholarly influence in the field of management: A bibliometric analysis of the determinants of university and author impact in the management literature in the past quarter century	Quantitative	135
Chabowski <i>et al.</i> , (2011)	Journal of The Academy of Marketing Science	The structure of sustainability research in marketing, 1958-2008: a basis for future research opportunities	Quantitative	109
Hall, (2011)	Tourism Management	Publish and perish? Bibliometric analysis, journal ranking and the assessment of research quality in tourism	Quantitative	104
Contreras <i>et al.</i> , (2003)	Research Policy	The evolution of research activity in Spain: The impact of the National Commission for the Evaluation of Research Activity (CNEAI)	Quantitative	104

Author	Journal	Title	Methodology	Citation
Schildt <i>et al.</i> , (2006)	Entrepreneurship Theory and Practice	Scholarly communities in entrepreneurship research: A co-citation analysis	Quantitative	103
Landstrom <i>et al.</i> , (2012)	Research Policy	Entrepreneurship: Exploring the knowledge base	Quantitative	93
Cornelius <i>et al.</i> , (2006)	Entrepreneurship Theory and Practice	Entrepreneurial studies: The dynamic research front of a developing social science	Quantitative	91
Artto <i>et al.</i> , (2009)	International Journal of Project Management	Foundations of program management: A bibliometric view	Quantitative	89
Hoffman & Halbrook, (1993)	Journal of Consumer Research	The Intellectual Structure of Consumer Research - A Bibliometric Study of Author Cocitations in the 1st 15 Years of the Journal of Consumer Research	Quantitative	86
Zhou <i>et al.</i> , (2013)	Electronic Commerce Research and Applications	Social commerce research: An integrated view	Quantitative	84
Guan & Ma, (2007)	Research Policy	China's emerging presence in nanoscience and nanotechnology: A comparative bibliometric study of several nanoscience 'giants'	Quantitative	83
Carvalho <i>et al.</i> , (2013)	Technological Forecasting and Social Change	An overview of the literature on technology roadmapping (TRM): Contributions and trends	Quantitative	74
Huang <i>et al.</i> , (2011)	Journal of Technology Transfer	Nanoscience and technology publications and patents: a review of social science studies and search strategies	Quantitative	69
Nederhof & Vanraan, (1993)	Research Policy	A Bibliometric Analysis of 6 Economics Research Groups - A Comparison with Peer-Review	Quantitative	67
Serenko <i>et al.</i> , (2010)	Journal of Knowledge Management	A scientometric analysis of knowledge management and intellectual capital academic literature (1994-2008)	Quantitative	65

**Table 4 - Top 20 most cited scientific articles on bibliometric studies**

Based on Table 4, the five most cited studies are:

- 1) Chen, H., Chiang, R. & Storey, V. (2012). Business Intelligence and Analytics: From Big Data to Big Impact. *MIS Quarterly*, 36(4), 1165-1188.
- 2) Volberda, H., Foss, N. & Lyles. M. (2010). Absorbing the Concept of Absorptive Capacity: How to Realize Its Potential in the Organization Field. *Organization Science*, 21(4), 931-951.
- 3) Ramos-Rodriguez, A. & Ruiz-Navarro, J. (2004). Changes in the intellectual structure of strategic management research: A bibliometric study of the *Strategic Management Journal*, 1980-2000. *Strategic Management Journal*, 25(10), 981-1004.
- 4) Murray F. (2002). Innovation as co-evolution of scientific and technological networks: exploring tissue engineering. *Research Policy*, 31(8-9), 1389-1403.
- 5) Gambardella A. (1992). Competitive Advantages from In-House Scientific-Research: The United-States Pharmaceutical-Industry in the 1980s. *Research Policy*, 21(5), 391-407.

These publications emphasize the importance of bibliometric analyses in the search for research opportunities, demonstrating how they can contribute to the development of science by searching for areas of knowledge that require a greater attention by the scientific community. Additionally, considering the scope of present investigation is important to notice (i) the bibliometric analysis regarding CSR, performed by Lulewicz-Sas (2017), in the light of management sciences, (ii) the bibliometric analysis of 30 years of research and theory on CSR and corporate social performance, performed by Bakker *et al.* (2005), (iii) the responsible leadership research, performed by Marques *et al.* (2018), with a bibliometric review, (iv) the CSR study, performed by Feng *et al.* (2017), concerning supply chains, with a literature review and a bibliometric analysis, and (v) the sustainable development and CSR, performed by Silveira and Petrini (2018), with a bibliometric analysis of International Scientific Production.

#### 4.4.2 CSR: Publications and Intellectual Knowledge

Table 5 summarises the scientific publications that are more often cited and more relevant to articles that the keywords “CSR” identified, considering the fields of management, business and economics.

Author	Journal	Title	Methodology	Citation
Porter & Kramer, (2006)	Harvard Business Review	Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility	Qualitative	2171
McWilliams & Siegel, (2001)	Academy of Management Review	Corporate Social Responsibility: A theory of the firm perspective	Qualitative	1867
Sen & Bhattacharya, (2001)	Journal of Marketing Research	Does doing good always lead to doing better? Consumer reactions to corporate social responsibility	Quantitative	1373
Brown & Dacin, (1997)	Journal of Marketing	The company and the product: Corporate associations and consumer product responses	Quantitative	1332
Campbell, (2007)	Academy of Management Review	Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility	Qualitative	1147
McWilliams & Siegel, (2000)	Strategic Management Journal	Corporate Social Responsibility and financial performance: Correlation or misspecification?	Quantitative	1006
McGuire <i>et al.</i> , (1988)	Academy of Management Journal	Corporate Social Responsibility and Firm Financial Performance	Quantitative	929
Klassen & McLaughlin, (1996)	Management Science	The impact of environmental management on firm performance	Quantitative	923
Aguilera <i>et al.</i> , (2007)	Academy of Management Review	Putting the S back in Corporate Social Responsibility: A multilevel theory of social change in organizations	Qualitative	881
Luo & Bhattacharya, (2006)	Journal of Marketing	Corporate Social Responsibility, customer satisfaction, and market value	Quantitative	799

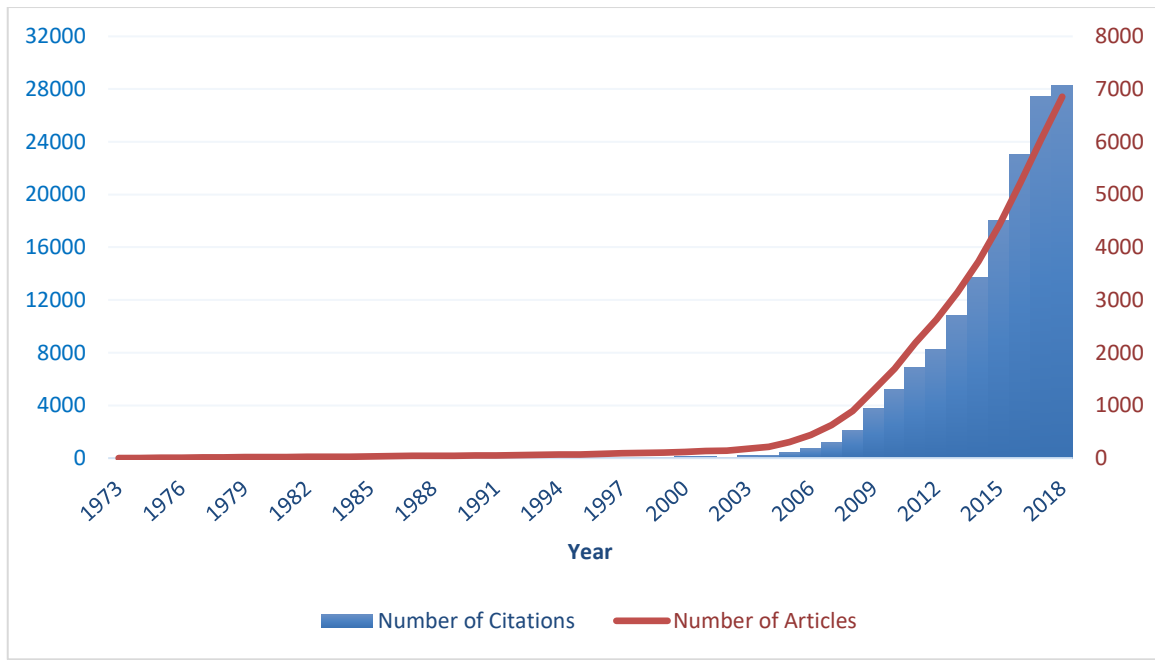
Author	Journal	Title	Methodology	Citation
Dahlsrud, (2006)	Corporate Social Responsibility and Environmental Management	How Corporate Social Responsibility is Defined: An Analysis of 37 Definitions	Qualitative	762
Porter & Kramer, (2002)	Harvard Business Review	The competitive advantage of corporate philanthropy	Qualitative	751
Aupperle <i>et al.</i> , (1985)	Academy of Management Journal	An Empirical Examination of the Relationship Between Corporate Social-Responsibility and Profitability	Quantitative	717
Marrewijk, (2003)	Journal of Business Ethics	Concepts and definitions of corporate social responsibility and corporate sustainability: Between agency and communion	Qualitative	606
Bhattacharya & Sen, (2004)	California Management Review	Doing better at doing good: When, why, and how consumers respond to corporate social initiatives	Qualitative	565
Mohr <i>et al.</i> , (2005)	Journal of Consumer Affairs	Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behaviour	Quantitative	541
Becker-Olsen <i>et al.</i> , (2006)	Journal of Business Research	The impact of perceived corporate social responsibility on consumer behaviour	Quantitative	533
Rothaermel <i>et al.</i> , (2007)	Industrial and Corporate Change	University entrepreneurship: a taxonomy of the literature	Qualitative	531
Barnett, (2007)	Academy of Management Review	Stakeholder influence capacity and the variability of financial returns to corporate social responsibility	Qualitative	524
Klassen & Whybark, (1999)	Academy of Management Journal	The impact of environmental technologies on manufacturing performance	Quantitative	524

**Table 5 - Top 20 most cited scientific articles on corporate social responsibility**

Based on Table 5, the five most cited studies on CSR are:

- 1) Porter, M. & Kramer, M., (2006). Strategy and society. *Harvard Business Review*, 84(12), 78-92.
- 2) McWilliams, A. & Siegel, D., (2001). CSR: A theory of the firm perspective. *Academy of Management Review*, 26(1), 117-127.
- 3) Sen, S. & Bhattacharya, C., (2001). Does doing good always lead to doing better? Consumer reactions to CSR. The company and the product: Corporate associations and consumer product responses. *Journal of Marketing Research*, 38(2), 225-243.
- 4) Brown, T. & Dacin, P., (1997). *Journal of Marketing*, 61(1), 68-84.
- 5) Campbell, J., (2007). Why would corporations behave in socially responsible ways? An institutional theory of CSR. *Academy of Management Review*, 32(3), 946-967.

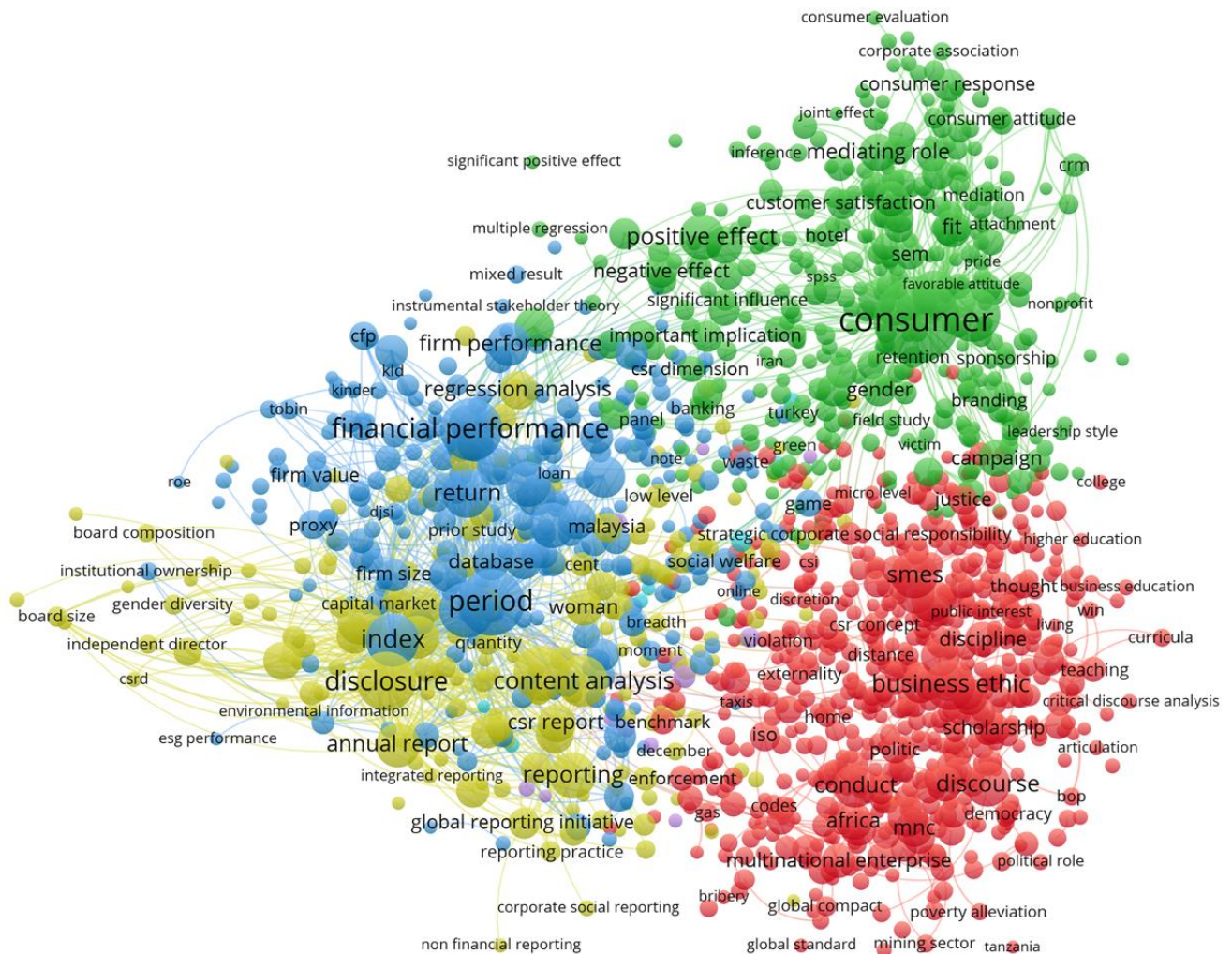
Through the analyses carried out is it possible to identify that the most cited articles concerning CSR, highlight an important relationship between SCM. Porter and Kramer (2006) refers that organizations must sets a CSR agenda, in order to produce the maximum social benefits, as well as gains for the businesses, referring the importance of procurement and supply chain practices in this agenda. McWilliams and Siegel (2000) argue that companies must dedicate resources to satisfy the demand for CSR, to response in a sustainable way to suppliers' needs and expectations. Campbell (2007) defends that the relative health of firms and the economy and the level of competition to which corporations are exposed affect the probability that corporations will act in socially responsible ways with their suppliers, and other stakeholders. Brown and Aguilera *et al.* (2007) presents a theoretical model that illustrates the importance of considering multiple actor at different levels, including suppliers, to understand social change, since interactions within and across levels can both facilitate and impede CSR. Porter and Kramer (2002) declare that philanthropy can foster the development of supply chain abilities, namely the development of clusters and strengthen supporting industries. Marrewijk (2003) considers that organizations which continue to improve their quality, ultimately must adopt a more social management style, managing their suppliers in a sustainable way. Figure 12 displays how the amount of annual citations and articles in the field of CSR is evolving, according to the respective search term, in the years between 1900 and 2018 without applying chronological filters. Is possible to perceive that the first publications appear only after 1973 and start reaching their exponential grow after 2008.



**Figure 12 - Number of articles and annual citations on corporate social responsibility**



Figure 13 shows the areas with more density regarding this field of study and identifies the more important clusters and the areas in which exist more studies.



**Figure 13 - Map of relations around “corporate social responsibility” keywords**

With the subsequent use of a filter, employing “corporate social responsibility” as keywords to search on WoS, the data was conveyed into the VOSviewer software accordingly, including only the titles and summaries, keeping the “Binary counting” method. Table 6 displays with more detail the most cited clusters with this group in turn identifying the existence of three clusters.

Cluster 1	Cluster 2	Cluster 3	Cluster 4
30 items	35 items	17 items	18 items
business education	affective commitment	consumer surplus	board characteristic
business ethicist	consumer evaluation	controversial industry	ceo duality
colombia	consumer loyalty	csr performance	board independence
corporate political activity	consumer satisfaction	dow jones	non-financial reporting
critical discourse analysis	consumer skepticism	sustainability index	women director
cross sector partnership	consumer trust	earning	csr discourse
csv	consumers intention	financial performance	social disclosure
deliberation	consumers response	gambling	gri
developing countries	corporate ability	higher profit	public pressure
employee volunteering	corporate credibility	market reaction	sustainability reporting
foreignness	corporate volunteering	market value	commercial bank
global value chain	csr association	r & d	csr reporting
green SCM	csr belief	return	agency theory
gscm	csr image	short term	legitimacy theory
human resource development	customer company identification	socially responsible investment	chinese regulator
local context	customer response	stock market	human resource
mining industry	employee attitude	stock return	corporate governance
mining sector	employee commitment	stockholder	
owner manager	employee perception		
pcsr	gratitude		
strategic CSR	hrm practice		
political csr	leadership style		
political role	organizational citizenship behaviour		
poverty alleviation	organizational commitment		
small business owner	organizational identification		
social movement	organizational justice		
subsidiary	organizational leader		
sscm	organizational support		
teaching	organizational trust		
united nations global compact	prosocial behaviour		
	related marketing		
	social alliance		
	social exchange theory		
	transformational leadership		
	young consumer		

**Table 6 - Most relevant clusters on corporate social responsibility**

According to Table 6, we may notice that a few of the areas that are more decentralised, the ones without a significant amount of studies, comprise the following: “altruism, board diversity, contingency, corporate social irresponsibility, corporate transparency, cultural dimension, emotion, ethical climate, externality, female director, follower, fraud, green product, individualism, institutional perspective, intangible asset, manufacturing sector, reputational risk, rhetoric, social legitimacy, stakeholder dialogue, stewardship, strategic value and woman”, which can therefore

symbolise interesting areas for future research. Also, the areas of studies of strategic CSR and sustainable SCM are both present in the same set of clusters, which indicates a connection between these areas of studies.

Succeeding this analysis of the principal clusters, we made a ranking of the top most cited authors (Table 7).

Ranking	Author	Citations	Documents	Total link strength
1	Sean, S.	3855	17	4568
2	McWilliams, A.	3099	5	3095
3	Siegel, D.	2914	3	2884
4	Bhattacharya, C.B.	2480	12	2968
5	Bhattacharya, C.	2368	3	2597
6	Kramer, M.	2173	1	1492
7	Porter, M.	2173	1	1492
8	Maignan, I.	1927	7	2047
9	Brammer, S.	1597	14	1526
10	Klassen, R.	1483	4	452
11	Jamali, D.	1439	23	2069
12	Siegel, D.S.	1336	10	1394
13	Brown, T.	1332	1	1156
14	Dacin, P.	1332	1	1156
15	Mohr, L.	1284	3	1292
16	Webb, D.	1284	3	1292
17	Perrini, F.	1160	15	1210
18	Campbell, J.L.	1147	2	998
19	Ganapathi, J.	1111	2	1060
20	Millington, A.	1106	9	1090

**Table 7 - Top 20 most cited authors for “corporate social responsibility” keywords**

The results on Table 7 prove that Sean S. is unquestionably the main reference, followed by McWilliams, A., Siegel, D., Bhattacharya, C.B., Bhattacharya, C., Kramer, M., Porter, M., Maignan, I., Brammer, S., Klassen, R., Jamali, D., Siegel, D.S., Brown, T., Dacin, P., Mohr, L., Webb, D. and Perrini, F. Based on the analysis undertaken, we summarized the top 20 countries that produce articles on this field (Table 8).

Ranking	Country	Citations	Documents	Total link strength
1	USA	43342	1150	8655
2	England	10441	405	3075
3	Spain	5035	297	2553
4	Netherlands	4058	138	1463
5	Australia	3720	260	1770
6	Canada	3502	171	1229
7	Denmark	2496	77	972
8	Italy	2382	139	1154
9	Germany	1947	148	1085
10	Norway	1916	56	703
11	France	1630	133	787
12	China	1564	154	1066
13	Taiwan	1367	101	803
14	Switzerland	1358	59	510
15	Lebanon	1047	23	502
16	Belgium	960	34	322
17	Sweden	921	80	425
18	Portugal	916	37	513
19	Wales	909	19	230
20	Finland	840	68	465

**Table 8 - Top 20 of countries with the largest number of articles featuring CSR**

Table 8 displays the five countries with more articles featuring CSR: USA, England, Spain, Netherlands and Australia. On the other hand, Table 9 shows the top 20 scientific journals regarding their publications and citations in the same area of study.

Ranking	Source	Citations	Documents	Total link strength
1	Journal of Business Ethics	36441	1156	13847
2	Academy of Management Review	5278	13	2296
3	CSR and Environmental Management	4326	222	2555
4	Journal of Marketing	4306	24	1692
5	Academy of Management Journal	3726	19	1174
6	Harvard Business Review	3106	4	1024
7	Strategic Management Journal	2893	40	1425
8	Journal of The Academy of Marketing Science	2616	27	1166
9	Journal of Business Research	2593	107	1647
10	California Management Review	2521	36	1029
11	Journal of International Business Studies	2183	19	996
12	Journal of Management Studies	1857	28	931
13	Social Responsibility Journal	1737	363	2884
14	Corporate Governance - The International Journal of Business in Society	1601	166	1280
15	Business Ethics - A European Review	1570	108	1397
16	Business Strategy and The Environment	1469	94	941
17	Journal of Marketing Research	1449	5	709
18	Business & Society	1424	105	1196
19	Corporate Communications	1398	82	902
20	Management Science	1374	11	399

**Table 9 - Top 20 most cited journals for the “corporate social responsibility” keywords**

Therefore, the clear leader is the Journal of Business Ethics, considerably ahead of Academy of Management Review, CSR and Environmental Management, Journal of Marketing and Academy of Management Journal.

#### 4.4.3 SCM: Publications and Intellectual Knowledge

Table 10 summarises the scientific publications cited more often and with the highest significance to articles that the keywords “supply chain management” identified, considering the fields of management, business and economics.

Author	Journal	Title	Methodology	Citation
Lee <i>et al.</i> , (2004)	Management Science	Information distortion in a supply chain: The bullwhip effect	Qualitative	1812
Lee <i>et al.</i> , (2000)	Management Science	The value of information sharing in a two-level supply chain	Qualitative	926
Frohlich & Westbrook, (2001)	Journal of Operations Management	Arcs of integration: an international study of supply chain strategies	Quantitative	923
Lambert & Cooper, (2000)	Industrial Marketing Management	Issues in Supply Chain Management	Qualitative	920
Carter & Rogers, (2008)	International Journal of Physical Distribution & Logistics Management	A framework of sustainable SCM: moving toward new theory	Qualitative	873
Chen <i>et al.</i> , (2000)	Management Science	Quantifying the bullwhip effect in a simple supply chain: The impact of forecasting, lead times, and information	Quantitative	859
Zhu & Sarkis, (2004)	Journal of Operations Management	Relationships between operational practices and performance among early adopters of green SCM practices in Chinese manufacturing enterprises	Quantitative	806
Rao & Holt, (2005)	International Journal of Operations & Production Management	Do green supply chains lead to competitiveness and economic performance?	Quantitative	703
Gunasekaran <i>et al.</i> , (2001)	International Journal of Operations & Production Management	Performance measures and metrics in a supply chain environment	Qualitative	689

Author	Journal	Title	Methodology	Citation
Flynn <i>et al.</i> , (2010)	Journal of Operations Management	The impact of supply chain integration on performance: A contingency and configuration approach	Quantitative	687
Savaskan <i>et al.</i> , (2004)	Management Science	Closed-loop supply chain models with product remanufacturing	Qualitative	666
Choi <i>et al.</i> , (2001)	Journal of Operations Management	Supply networks and complex adaptive systems: control versus emergence	Qualitative	507
Vachon & Klassen, (2006)	International Journal of Operations & Production Management	Extending green practices across the supply chain - The impact of upstream and downstream integration	Quantitative	489
Chiang <i>et al.</i> , (2003)	Management Science	Direct-marketing, indirect profits: A strategic analysis of dual-channel supply-chain design	Qualitative	484
Vickery <i>et al.</i> , (2003)	Journal of Operations Management	The effects of an integrative supply chain strategy on customer service and financial performance: an analysis of direct versus indirect relationships	Quantitative	481
Subramani, (2004)	Mis Quarterly	How do suppliers benefit from information technology use in supply chain relationships?	Quantitative	456
Pagell & Wu, (2009)	Journal of Supply Chain Management	Building a more complete theory of Sustainable SCM using case studies of 10 exemplars	Qualitative	451
Barratt, (2004)	Supply Chain Management - An International Journal	Understanding the meaning of collaboration in the supply chain	Qualitative	447
Taylor, (2002)	Management Science	Supply chain coordination under channel rebates with sales effort effects	Qualitative	440
Tsay, (1999)	Management Science	The quantity flexibility contract and supplier-customer incentives	Qualitative	437

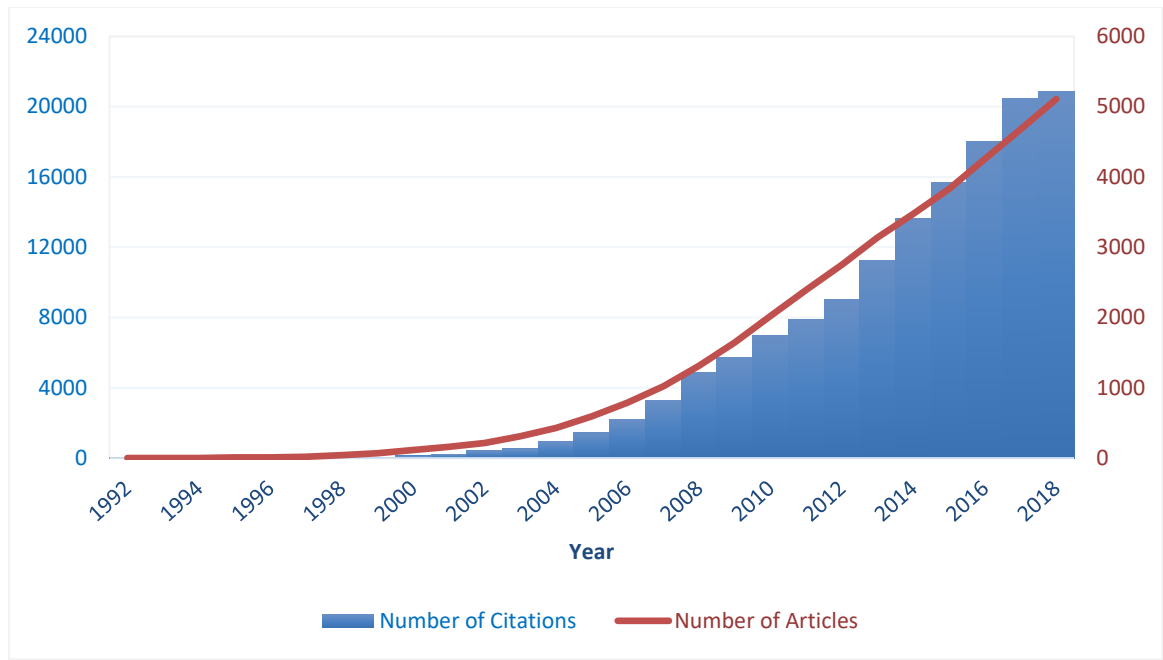
**Table 10 - Top 20 most cited scientific articles on supply chain management**

Based on Table 10, the five most cited studies on SCM are:

- 1) Lee, H., Padmanabhan, V. & Whang, X., (2004). Information distortion in a supply chain: The bullwhip effect. *Management Science*, 43(4), 546-558.
- 2) Lee, H., So, K., Tang, X., (2000). The value of information sharing in a two-level supply chain. *Management Science*, 46(5), 626-643.
- 3) Frohlich, M., Westbrook, R., (2001). Arcs of integration: an international study of supply chain strategies. *Journal of Operations Management*, 19(2), 185-200.
- 4) Lambert, D., Cooper, M., (2000). Issues in SCM. *Industrial Marketing Management*, 29(1), 65-83.
- 5) Carter, C., Rogers, D., (2008). A framework of sustainable SCM: moving toward new theory. *International Journal of Physical Distribution & Logistics Management*, 38(5-6), 360-387.

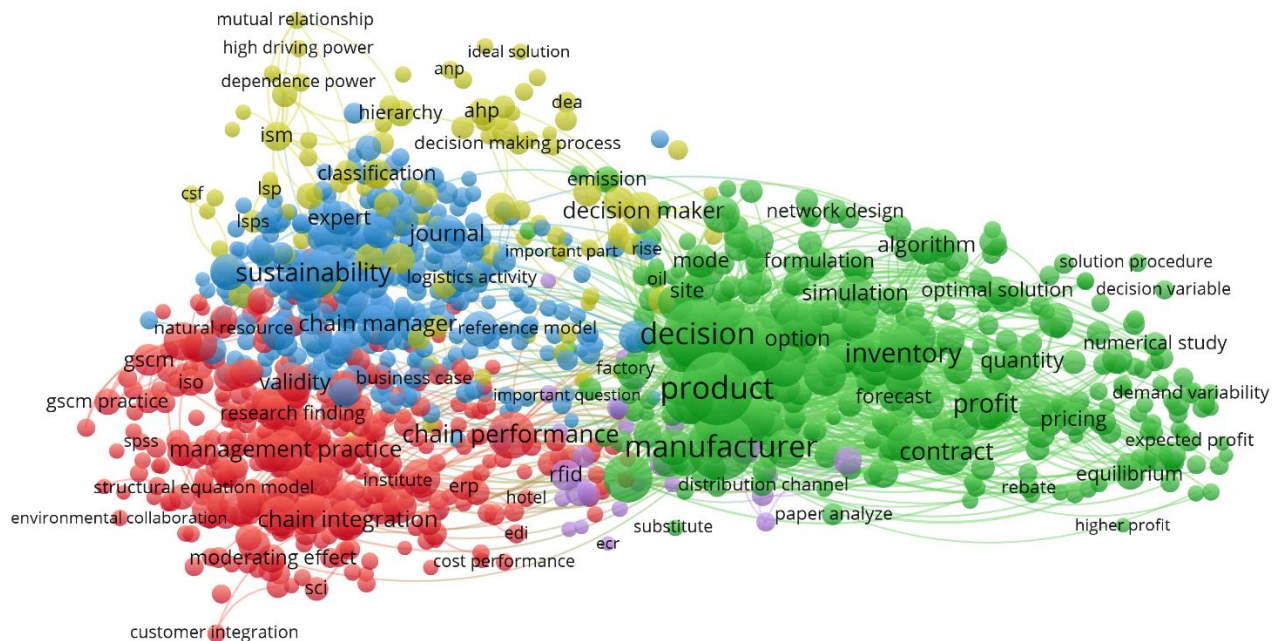
Through the analyses carried out is it possible to identify that the most cited articles concerning SCM, highlight an important relationship between CSR. Carter & Rogers (2008) integrates the environmental, social, and economic criteria on SCM, arguing that socially responsible behaviours allow an organization to achieve long-term economic viability. Pagell & Wu (2009) suggests that sustainable companies have a supply management with a deep social dimension, considering (i) supply base continuity, (ii) material traceability and (iii) price transparency, demonstrating a (iv) concern for the long-term well-being and (v) social equity of every member of the supply chain. Rao and Holt (2005) considers that green supply chain management practices, contributes to environmental enhancement, economic performance and competitiveness amongst companies, allowing synergies among business partners and their lead corporations, contributing to the improvement of society. Vachon and Klassen (2006) demonstrates the importance of the economic, environmental and social performance, to assure firms' sustainable supply management. Zhu and Sarkis (2004) argues that socially responsible practices are vital to companies that aims to achieve profit and market share objectives by lowering their environmental risks and impacts and while raising their ecological efficiency, namely on supply chain management activities. Figure 14 displays how the number of annual citations and articles in the CSR field is evolving, according to the respective search term, in the years between 1900 and 2018 without applying chronological filters. Is possible to perceive that the first publications appear only after 1992 and start reaching their exponential grow after 2002.





**Figure 14 - Number of articles and annual citations on supply chain management**

Figure 15 shows the areas with more density regarding the same field of study and identifies the most important clusters and the areas in which more studies exist. existing.



**Figure 15 - Map of relations around “supply chain management” keywords**

With the subsequent use of a filter, employing “corporate social responsibility” as keywords to search on WoS, the data was conveyed into the VOSviewer software, accordingly, including only

the titles and summaries, keeping the “Binary counting” method. Table 11 displays with more detail the most cited clusters with this group in turn identifying the existence of three clusters.

Cluster 1	Cluster 2	Cluster 3	Cluster 4
30 items	37 items	17 items	16 items
absorptive capacity	asymmetric information	balanced scorecard	analytical network process
ambidexterity	channel coordination	CSR	consumer good
chinese manufacturer	decentralized supply chain	environmental dimension	contextual relationship
crm	demand distribution	kpis	critical success factor
customer focus	demand variability	legitimacy	customer requirement
customer integration	direct channel	logistics research	decision maker
customer pressure	dual channel supply chain	performance measurement	dependence power
environmental collaboration	equilibrium	scm research	environmental concern
environmental management system	expected profit	shareholder value	green supply chain
environmental practice	game theoretic model	social impact	high driving power
external integration	genetic algorithm	social network analysis	logistics cost
external pressure	higher profit	ssc	mutual relationship
green innovation	newsvendor	subcontractor	operational cost
green marketing	online channel	SCM discipline	quality function
green purchasing	optimal decision	sustainability	deployment
green SCM practice	optimal order quantity	sustainable SCM	strategic importance
gscm	optimal price	triple bottom line	supplier selection
gscm practice	optimal strategy		problem
hrm	price competition		
human resource management	pricing decision		
innovation performance	pricing strategy		
institutional pressure	private information		
iran	production quantity		
mediator	quantity discount		
pakistan	retail price		
process innovation	revenue sharing		
relational capital	revenue sharing contract		
resource dependence	selling season		
theory	single retailer		
supplier integration	solution procedure		
vendor managed inventory	spot market		
	stochastic demand		
	substitutable product		
	sufficient condition		
	vendor managed inventory		
	wholesale price		
	wholesale price contract		

**Table 11 - Most relevant clusters on supply chain management**

According to Table 11, we may notice that a few of the areas that are more decentralised, the ones without a significant amount of studies, comprise the following: “better performance, chain performance, competition, continuous improvement, coordination, green product, holistic view, loyalty, overall supply chain performance, product innovation, r & d, supply chain disruption, supply chain efficiency, supply chain partnership, supply chain structure, supply chain uncertainty, sustainable competitive advantage”, which can therefore symbolise interesting areas for future research. Also, the areas of studies of strategic CSR and sustainable SCM are both present in the same set of clusters, which indicates a connection between these areas of studies.

Succeeding this analysis of the principal clusters, we made a ranking of the top most cited authors (Table 12).

Ranking	Author	Citations	Documents	Total link strength
1	Lee, H.	4219	10	838
2	Sarkis, J.	3281	27	1389
3	Zhu, Q.	2378	20	1093
4	Whang, S.	2350	4	413
5	Padmanabhan, V.	1896	2	326
6	Carter, C.R.	1705	18	1021
7	Pagell, M.	1491	16	940
8	Wu, Z.	1385	10	715
9	Van Wassenhove, L.	1358	6	186
10	Chen, F.	1340	4	166
11	Zhao, X.	1306	20	640
12	Gunasekaran, A.	1266	16	519
13	Choi, T.Y.	1115	9	515
14	Choi, T.	1069	8	358
15	Raghunatham, M.	1050	6	303
16	Lai, K.	1045	14	463
17	Lambert, D.	1013	2	240
18	Rao, P.	1002	2	334
19	Seuring, S.	994	16	509
20	Flynn, B.B.	993	4	440

**Table 12 - Top 20 most cited authors for “supply chain management” keywords**

The outcomes of Table 12 illustrate that Lee, H. is unquestionably the lead reference in this field, followed by Sarkis, J., Zhu, Q., Whang, S. and Padmanabhan, V. Based on the analysis undertaken, we summarized the top 20 countries that produce articles on the field (Table 13).

Ranking	Country	Citations	Documents	Total link strength
1	USA	78539	1759	19076
2	England	17346	658	8355
3	China	13645	490	5225
4	Canada	7837	219	3049
5	Germany	6274	282	3688
6	Taiwan	4781	207	1981
7	Australia	4240	245	2686
8	India	4192	363	3113
9	Netherlands	4172	175	1752
10	Italy	4073	171	2244
11	France	3704	133	1515
12	Spain	3371	171	2482
13	Sweden	3185	172	1952
14	Wales	2817	79	1226
15	South Korea	2776	104	1472
16	Denmark	2654	96	1226
17	Singapore	2344	71	681
18	Turkey	1671	64	604
19	Switzerland	1661	75	961
20	Finland	1600	136	1577

**Table 13 - Top 20 of countries with the largest number of articles featuring SCM**

Table 13 displays the five countries with more articles featuring CSR: USA, England, China, Canada and Germany. On the other hand, Table 14 shows the top 20 scientific journals regarding their publications and citations in the same area of study.

Ranking	Source	Citations	Documents	Total link strength
1	European Journal of Operational Research	18454	548	1728
2	Journal of Operations Management	15745	133	3395
3	SCM - An International Journal	14882	437	4508
4	International Journal of Operations & Production Management	12002	289	3586
5	Management Science	10902	62	1355
6	International Journal of Physical Distribution & Logistics Management	7051	238	2753
7	Journal of SCM	4989	112	1702
8	Industrial Marketing Management	4506	93	1196
9	Omega - International Journal of Management Science	4194	81	691
10	Transportation Research Part E- Logistics and Transportation Review	3726	88	754
11	Decision Sciences	2845	52	682
12	Journal of Business Logistics	2625	93	938
13	International Journal of Logistics Management	2469	169	1765
14	Journal of Manufacturing Technology Management	1825	137	1015
15	Journal of The Operational Research Society	1543	72	330
16	Benchmarking - An International Journal	1275	129	1136
17	Interfaces	1273	30	188
18	Journal of Purchasing and Supply Management	1058	52	602
19	M&Som - Manufacturing & Service Operations Management	1046	53	158
20	Business Process Management Journal	975	65	489

**Table 14 - Top 20 most cited journals for “supply chain management” keywords**

Therefore, the clear leader is the European Journal of Operational Research, considerably ahead of the Journal of Operations Management, SCM - An International Journal, International Journal of Operations & Production Management and Management Science journal.

#### 4.4.4 CSR in SCM: Publications and Intellectual Knowledge

Table 15 summarises the scientific publications cited more often and with the highest significance to articles that the interception of keywords “supply chain management” and “corporate social responsibility” identified, considering the fields of management, business and economics.

<b>Author</b>	<b>Journal</b>	<b>Title</b>	<b>Methodology</b>	<b>Citation</b>
Andersen & Skjoett-Larsen, (2009)	Supply Chain Management - An International Journal	Corporate social responsibility in global supply chains	Qualitative	249
Tate <i>et al.</i> , (2010)	Journal of Supply Chain Management	Corporate Social Responsibility reports: a thematic analysis related to supply chain management	Qualitative	226
Saeidi <i>et al.</i> , (2015)	Journal of Business Research	How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction	Quantitative	179
Ciliberti <i>et al.</i> , (2008)	Journal of Cleaner Production	Investigating corporate social responsibility in supply chains: a SME perspective	Qualitative	178
Amaeshi <i>et al.</i> , (2008)	Journal of Business Ethics	Corporate social responsibility in supply chains of global brands: A boundaryless responsibility? Clarifications, exceptions and implications	Qualitative	145
Walker & Jones, (2012)	Supply Chain Management - An International Journal	Sustainable supply chain management across the UK private sector	Qualitative	143
Spence & Bourlakis, (2009)	Supply Chain Management - An International Journal	The evolution from corporate social responsibility to supply chain responsibility: the case of Waitrose	Qualitative	102
Nikolaou <i>et al.</i> , (2013)	Journal of Cleaner Production	A reverse logistics social responsibility evaluation framework based on the triple bottom line approach	Quantitative	91

Author	Journal	Title	Methodology	Citation
Lee & Kim, (2009)	Supply Chain Management - An International Journal	Current status of CSR in the realm of supply management: the case of the Korean electronics industry	Quantitative	81
Chen <i>et al.</i> , (2014)	International Journal of Production Economics	Manufacturing facility location and sustainability: A literature review and research agenda	Qualitative	76
Cruz, (2009)	Decision Support Systems	The impact of corporate social responsibility in supply chain management: Multicriteria decision-making approach	Quantitative	76
Ouma (2010)	Economic Geography	Global Standards, Local Realities: Private Agrifood Governance and the Restructuring of the Kenyan Horticulture Industry	Qualitative	75
Vurro <i>et al.</i> , (2009)	Journal of Business Ethics	Shaping Sustainable Value Chains: Network Determinants of Supply Chain Governance Models	Qualitative	73
Pedersen, (2009)	Supply Chain Management - An International Journal	The many and the few: rounding up the SMEs that manage CSR in the supply chain	Qualitative	69
Wilhelm <i>et al.</i> , (2016)	Journal of Operations Management	Sustainability in multi-tier supply chains: Understanding the double agency role of the first-tier supplier	Quantitative	64
Ni <i>et al.</i> , (2010)	European Journal of Operational Research	Social responsibility allocation in two-echelon supply chains: Insights from wholesale price contracts	Quantitative	59
Govindan <i>et al.</i> , (2014)	Journal of Cleaner Production	Evaluating the drivers of corporate social responsibility in the mining industry with multi-criteria approach: A multi-stakeholder perspective	Quantitative	57
Ciliberti <i>et al.</i> , (2011)	Journal of Cleaner Production	CSR codes and the principal-agent problem in supply chains: four case studies	Qualitative	53
Preuss, (2009)	Journal of Business Ethics	Ethical Sourcing Codes of Large UK-Based Corporations: Prevalence, Content, Limitations	Quantitative	53

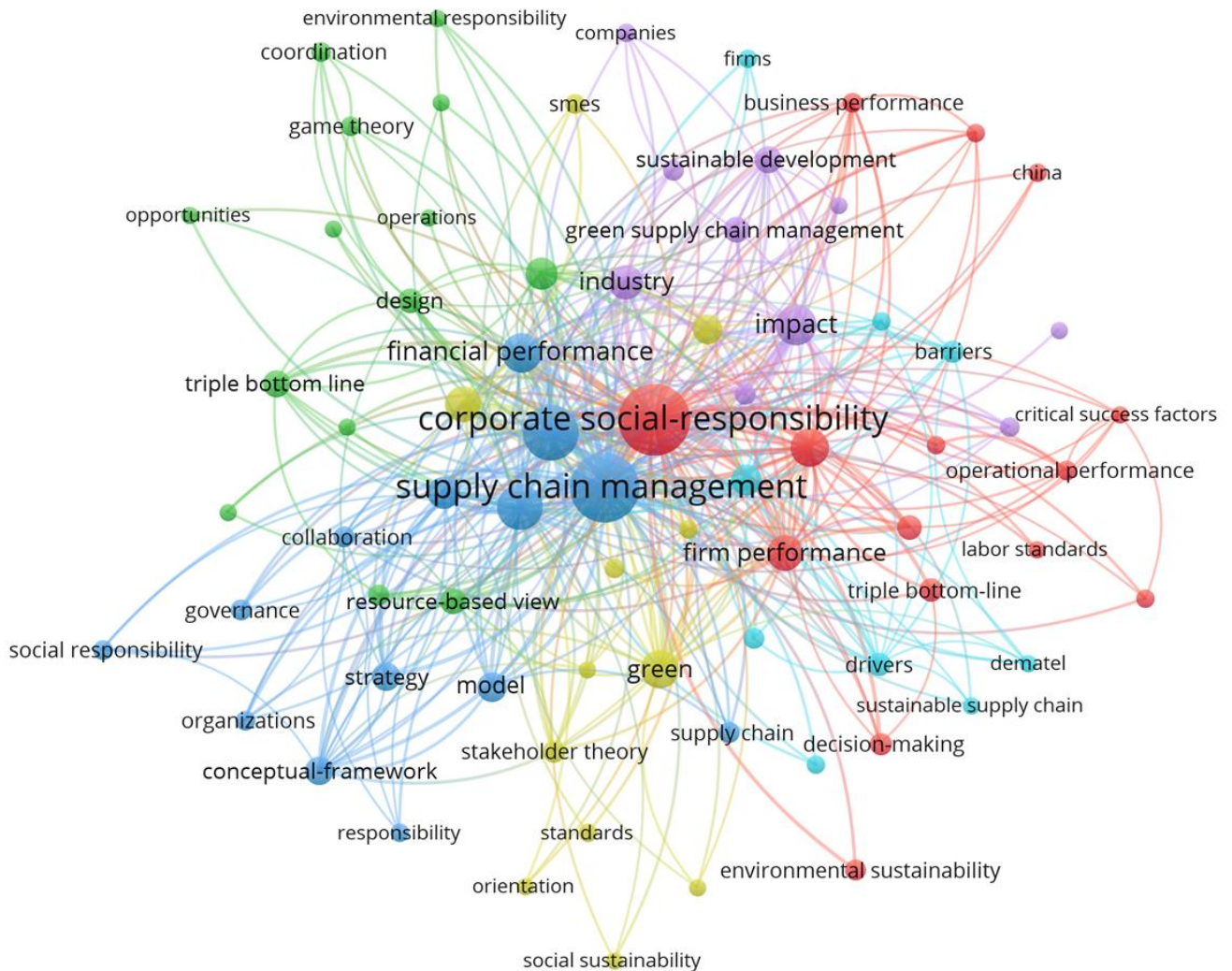
Author	Journal	Title	Methodology	Citation
Quarshie <i>et al.</i> , (2016)	Journal of Purchasing and Supply Management	Sustainability and corporate social responsibility in supply chains: The state of research in supply chain management and business ethics journals	Qualitative	52

**Table 15 - Top 20 most cited scientific articles on CSR and SCM**

Through the analyses carried out, it is possible to verify that the most cited articles highlight the importance of socially responsible behaviours on supply chain management in order to assure sustainability in firms, controlling risks that can negatively affect business activities. The conceptual framework for analysing CSR practices in global supply chains presented by Andersen & Skjoett-Larsen (2009), demonstrates how a revolutionary Swedish corporation implements and manages CSR practices in the relationships with the suppliers. Tate *et al.* (2010) use content analysis software, which performs centring resonance analysis to examine corporate communication to stakeholders through CSR reports. Saeidi *et al.* (2015) explore the relationship between CSR and the company's performance, taking into consideration elements that indirectly influence this relation, such as reputation, sustainable competitive advantage and customer satisfaction. Ciliberti *et al.* (2008) analyse the practices adopted and the complications that affect Small and Medium-sized Enterprises in transmitting socially responsible behaviours to suppliers operating in developing countries. Amaeshi *et al.* (2008) seek to defy the assumption that companies should be responsible for the actions of their suppliers by adopting the moral (and sometimes legal) foundations of the concept of responsibility and underlining the importance of a code of conducts, corporate culture, personnel training and value reorientation, once they can become sources of positive moral influence throughout supply chains.



Figure 16 shows the relations between areas around the field of study and identifies the most important clusters and the subjects in which more studies exist.



**Figure 16 - Map of relations around “corporate social responsibility” and “supply chain management” keywords**

With the subsequent use of a filter, employing “corporate social responsibility” and “supply chain management” as keywords to search on WoS, the data was conveyed into the VOSviewer software accordingly, including only the titles and summaries, keeping the “Binary counting” method. Table 16 displays with more detail the most cited clusters with this group in turn identifying the existence of six clusters.

<b>Cluster 1</b>	<b>Cluster 2</b>	<b>Cluster 3</b>
<b>15 items</b>	<b>14 items</b>	<b>14 items</b>
business performance	coordination	collaboration
china	design	conceptual-framework
competitiveness	dynamic capabilities	corporate social responsibility
corporate social-responsibility	environmental responsibilities	csr
critical success factors	game theory	financial performance
decision-making	literature review	governance
environmental sustainability	market	model
environmental-management	operations	organizations
firm performance	opportunities	responsibility
human-resource management	research agenda	social responsibility
labor standard	resource-based view	strategy
operational performance	stakeholder pressure	supply chain
supply-chain management	sustainable supply chain	supply chain management
triple bottom-line	triple bottom line	sustainability
<b>Cluster 4</b>	<b>Cluster 5</b>	<b>Cluster 6</b>
<b>12 items</b>	<b>10 items</b>	<b>9 items</b>
adoption	chain management	barriers
environmental performance	companies	dematel
green	criteria	drivers
institutional theory	empirical-evidence	firms
management-practices	environmental management	initiatives
networks	green supply chain management	institutional pressures
orientation	impact	performance-measurement
perspective	industry	reverse logistics
smes	logistics	sustainable supply chain
social sustainability	sustainable development	
stakeholder theory		
standard		

**Table 16 - Most relevant clusters on CSR and SCM**

According to Table 16, there are 6 clusters that can be considered on the intersection between CSR and SCM literature. Cluster 1 mainly presents a few internal and external organizational factors that are crucial to business performance. Cluster 2 introduces some investigation efforts regarding CSR on SCM context. Cluster 3 highlights the importance of leadership in order to assure “governance” frameworks that boost socially responsible behaviours, and ultimately, business sustainability. Cluster 4 explores the theoretical frameworks that contribute to explain socially responsible behaviours. Cluster 5 e 6 examine how socially responsible practices can contribute to sustainable supply chain management.

After cluster identification, we made a ranking of the topmost cited scientific articles on CSR in SCM since 2017 and performed a content analysis of these articles. Through Table 17, it is possible to visualize, in a more comprehensive way, which gaps in knowledge require further investigation and systematize some recent research opportunities documented in literature, regarding how to make supply chain management more sustainable, considering the needs and expectations of the stakeholders.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Dubey <i>et al.</i> , (2017)	Journal of Cleaner Production	Sustainable supply chain management: framework and further research directions	76	Most studies within sustainable supply chain management (SSCM) do not build theory, but rather aim at testing hypotheses stemming from the literature mainly using quantitative methods.	A structured questionnaire could be prepared, and a survey must be conducted by targeting highly experienced supply chain professionals. The study can be further extended to build a theoretical framework on ethical SSCM by incorporating some additional soft dimensions.
Yawar & Seuring, (2017)	Journal of Business Ethics	Management of Social Issues in Supply Chains: A Literature Review Exploring Social Issues, Actions and Performance Outcomes	38	Management of social issues in supply chains needs to be analysed systematically to gain insights into the impacts of responsible supply chain actions on the firms when implementing CSR in supply chains.	The role of power, information exchange in-depth understanding of mechanisms of trust and commitment among supply chain stakeholders to address social issues and their impact on performance outcomes would also be viable research directions.
Awasthi <i>et al.</i> , (2018)	International Journal of Production Economics	Multi-tier sustainable global supplier selection using a fuzzy AHP-VIKOR based approach	27	Global supplier selection that the buying firm needs to scrutinize the supplier there are not yet any models that do this under the additional consideration of sustainability-related risks.	Test empirically, using real data, a comprehensive model of global sustainable supplier selection extended towards sustainability risks.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Wang & Sarkis, (2017)	Journal of Cleaner Production	Corporate social responsibility governance, outcomes, and financial performance	26	There is lack of studies on green supply chain management (GSCM) barriers. No study has addressed the electronic goods sector. Most of the studies have investigated barriers from very high level with very few dealing with their detailed investigation thematically. There is a need to identify the barriers from cause and effect perspective.	Future studies may explore more categories for barrier classification. The research can be extended to other countries. The results of the present study can be compared against other. Lastly, prioritisation or weight allocation to barriers can also be done by use of multicriteria decision-making techniques.
Zhu <i>et al.</i> , (2017)	Journal of Cleaner Production	The role of customer relational governance in environmental and economic performance improvement through green supply chain management	22	There is a need to explore effective governance for GSCM practices with a specific focus on the role of a company's relationships with its customers.	Theoretical development is needed to explore the in-depth customer's role in relational governance for performance improvement through GSCM practices. More data from other areas can bring more interesting findings.
Hofmann <i>et al.</i> , (2018)	Journal of Business Ethics	Conflict Minerals and Supply Chain Due Diligence: An Exploratory Study of Multi-tier Supply Chains	19	There is still a gap in due diligence practices as international norms are just emerging, considering supply chain due diligence (SCDD) context.	Theory testing research by the use of survey data or experimental data might pave the way for further explanatory insights on SCDD practices.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Hsu <i>et al.</i> , (2017)	Journal of Cleaner Production	Identifying key performance factors for sustainability development of SMEs - integrating QFD and fuzzy MADM methods	19	There exists a gap in the literature to show how small and medium enterprises (SME) will deploy their performance factors to become sustainable enterprise owing to limited resource of SMEs. There is still a lack of study regarding how to use an integrated approach to the integration of interdependent objectives of the SMEs and the allocation of the limited resources to prioritizing their performance factors.	Future research can be done on specific industries that conduct sustainable development criteria. If research methods, such as the analytic network process, are considered, then the study results can be used more realistically. Future research can be done on the specific methods that enterprises should use to improve their influence on the environmental dimension.
Feng <i>et al.</i> , (2017)	Journal of Cleaner Production	Corporate social responsibility for supply chain management: A literature review and bibliometric analysis	19	There are few literature reviews in the related research fields on CSR for SCM.	The research based on the suppliers in developing countries would be the next stream in the field. The effect of informal factors (social capital) need more in-depth examination. Decision models can be developed to examine whether multi-national companies should choose the same or customized CSR strategies for managing their global supply chains.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Sauer <i>et al.</i> , (2017)	Journal of Cleaner Production	Sustainable supply chain management for minerals	19	No comprehensive concept for the introduction of sustainability practices into the highly specific context of mineral supply chains has yet been identified.	Analysis of the specific characteristics of the distinct supply chain parts, the current state of operation practices, and their evaluation against the structuration theory. Search for contingency variables enabling and driving the implementation of the identified and described practices in the various contexts relevant in the field. Evaluate the validity and reliability of the literature analysis.
Roman, (2017)	Journal of Cleaner Production	Institutionalizing sustainability: A structural equation model of sustainable procurement in US public agencies	17	Scholars need to do more in terms of informing the management and professional communities about areas such as public sector procurement, sustainability's tradeoffs, linking sustainability to dominant values, marketing choices and factors favouring sustainable practices.	Examine sustainability beyond a mere procurement or supply chain management concept.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Dubey <i>et al.</i> , (2017)	International Journal of Logistics Management	World class sustainable supply chain management: critical review and further research directions	16	Despite the popularity of the sustainable supply chain management (SSCM) topics amongst researchers, there is still a need for critical review and a framework that will shed light upon the different definitions and perspectives and links, providing further research directions.	Empirical validation of proposed framework to be established as a comprehensive and reflective framework. Develop a suitable costing system for world class sustainable supply chain management (WCSSCM). Establish new quality standards. Performance measures and metrics should be developed as basic managerial tools. Outsourcing models need to be refined. Human resource management issues need to be further investigated.
Ma <i>et al.</i> , (2017)	Omega - International Journal of Management Science	Enhancing corporate social responsibility: Contract design under information asymmetry	15	There is still a lack of discussion and guidelines for businesses to expand and improve their CSR engagement.	Simultaneously consider the supply chain's CSR efforts from both the supplier and the retailer's perspectives. Examine the quality effort and other investments in supply and how they influence the supply chain dynamics.



<b>Author</b>	<b>Journal</b>	<b>Title</b>	<b>Citation</b>	<b>Identified gaps</b>	<b>Suggestions for future investigation</b>
Schleper <i>et al.</i> , (2017)	Journal of Business Ethics	The Dark Side of Buyer Power: Supplier Exploitation and the Role of Ethical Climates	15	Supply chain and purchasing managers are usually incentivized to save as much money as possible with suppliers since profit maximization is a routine procedure in many firms. There is no criterion to distinguish the scope of unethical supplier exploitation simplistically in comparison to cases in which suppliers are not treated unethically.	Investigate the effects of procedural justice on the phenomenon. Although the ethical climate within which potential exploitative decisions are made serves as a powerful moderator, personal attitudes of decision-makers and cultural aspects might contribute to a more holistic research model.
Das, (2017)	Journal of Cleaner Production	Development and validation of a scale for measuring Sustainable Supply Chain Management practices and performance	13	There exists a considerable gap in literature in respect of the availability of a proper scale which includes all three dimensions of sustainability in terms of both SSCM practices and SSCM performance.	A structural model is expected to be developed based on the findings of the measurement model. The structural model would attempt to investigate the impact of different dimensions of SSCM practices on operations performance, environmental performance, social performance, and firm competitiveness.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Stroufe, (2017)	Journal of Cleaner Production	Integration and organizational change towards sustainability	13	There is a gap for further research and propositions for operationalizing sustainability. The language involving sustainability, organizations, and initiatives is confusing. Competing definitions of and nonspecific claims about environmental or efficiency practices suggested as “sustainable” add layers of confusion.	Further research is needed to demonstrate dynamic capabilities and reinforcing effects of performance measurement aligned with sustainability to go beyond prior work. There is a continued need for primary data collection and engagement of sustainability professionals in academic research. There is a call for more research focusing on the integration of corporate sustainability into strategic management.
Paulraj <i>et al.</i> , (2017)	Journal of Business Ethics	Motives and Performance Outcomes of Sustainable Supply Chain Management Practices: A Multi-theoretical Perspective	12	Although several conceptual papers have investigated the conditions in which firms would go green or behave in socially responsible ways, a systematic empirical investigation remains scarce.	Factors focusing on other aspects of sustainability such as logistics and distribution can be incorporated to more fully capture the SSCM practices construct. It would be helpful to conduct a similar study in other regions.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Zhang <i>et al.</i> , (2018)	Resources Conservation and Recycling	Sustainable supply chain management: Confirmation of a higher-order model	11	There is limited empirical research that consolidates social and environmental aspects in the investigation of SSCM.	Use the constructs with the validated items in this research to examine the inter-relationship between different concepts. Investigate the impact of various contextual factors on the proposed model. Address the potential issues raised by the data collected from a single informant and a single nation. Extend the applicability of the current findings to different country contexts. Adopt alternative research methods.
Golini <i>et al.</i> , (2017)	International Journal of Production Research	Developing sustainability in the Italian meat supply chain: an empirical investigation	11	To date, little attention has been devoted to sustainability in the meat supply chain as a whole.	In considering more explicitly the needs and preferences of consumers, the final market must be included as an important factor that affects and is affected by sustainability choices. An international comparison, at least at European level, would be interesting and useful in generalising and contextualising the findings. The identified critical points for sustainability might be extended.

Author	Journal	Title	Citation	Identified gaps	Suggestions for future investigation
Tate & Bals (2018)	Journal of Business Ethics	Achieving Shared Triple Bottom Line (TBL) Value Creation: Toward a Social Resource-Based View (SRBV) of the Firm	10	Business research has predominantly focused on how companies achieve economic performance or sustained competitive advantage by deploying specific capabilities. However, the capabilities needed to address ecological and, particularly, social issues are comparatively unexplored.	Develop similar researches in other contexts. Future research could consider recent work on the anthropocentric versus ecocentric perspective, or the ecologically dominant logic mentioned earlier. The further exploration of the aspect of embeddedness within the stakeholder network in relation to the theoretical domain warrants an interesting opportunity for future research.
Kaur <i>et al.</i> , (2018)	International Journal of Production Research	A DEMATEL based approach for investigating barriers in green supply chain management in Canadian manufacturing firms	10	Most of the studies have addressed green supply chain barriers from industrial perspective or Asian countries. Majority of the studies have prioritised the drivers and examined their dependence on the barriers from a high-level perspective. Very few studies categorise the barriers based on their similarity and then assess their influence over each other.	The number of respondents could be increased. Future studies may explore more categories for barrier classification. The research can be extended to other countries. The results of the present study can be compared against other techniques. Prioritisation or weight allocation to barriers can also be done by use of multicriteria decision-making techniques.

**Table 17 - Top 20 most cited scientific articles on CSR and SCM since 2017 and content analysis**

Therefore, considering Table 16 and Table 17, it is possible to deduce that Cluster 1 is mainly focus on organizational factors that are directly related with “business performance”, namely “corporate social responsibility”, “critical success factors”, “decision making”, “human resource management” and “supply chain management”. Therefore, the support of leaders in order to boost “competitiveness”, though a better alignment with “labor standards” and “environmental management” practices, will contribute to increase “operational performance” along the entire supply chain. Wang & Sarkis (2017) introduced a challenge, from a cause and effect perspective, to deeper studies regarding organizational barriers that can threaten green supply chain management. The use of survey data or experimental data may open the door for a better comprehension about organizational factors that can influence the socially responsible behaviours on the purchasing function of a company.

Cluster 2 exhibits the investigation regarding this area of knowledge, revealing that academics are fully engaged with deep investigations on this subject, namely trough “literature review”, “opportunities” and “research agenda”. These investigations are closely related with “stakeholder pressure” that stimulates deeper understandings on how business is being conducted, boosting “coordination” and “dynamic capabilities” among business partners, to assure a “sustainable supply chain”, considering operational activities and market context. According to authors such as Dubey *et al.* (2017) and Sauer *et al.* (2017), the development of reviews and frameworks is still needed to clarify the different definitions, perspectives and links, providing additional research directions. This cluster highlights the importance of a thorough investigation regarding the role of sustainability on supply chain management, placing it on a strategic level and not as a simple procurement concept (Roman *et al.* 2017),

Cluster 3 reveals the importance of the high-level managers’ role in order to assure “governance” frameworks that enhance “collaboration”, “social responsibility” and “financial performance”. For that, a “strategy” that fulfils “responsibility”, considering supply chain partners expectations, can create the appropriate “conceptual framework” that boosts sustainable “supply chain management” and the overall business “sustainability”. The literature discloses that, once profit maximization is the main goal in most companies, managers are often encouraged to spend the lowest amount of money possible with suppliers (Schleper *et al.* 2017). Therefore, there is an imperative call for academic debate - both economically and ethically, so that managers are aware of areas such as sustainable procurement, sustainability’s trade-offs, marketing choices and the factors that favour sustainable practices (Roman *et al.* 2017).

Cluster 4 explores the theoretical frameworks that contribute to explain socially responsible behaviours on supply chains, namely “institutional theory” and “stakeholders’ theory”. The cluster highlights the importance of standards and “green management practices adoption” in order to assure “social sustainability” and “environmental performance”, namely on “smes” context.

According to Zhu *et al.* (2017), we can explore the existing theoretical gaps to investigate the in-depth customer's role in relational governance for performance improvement, through socially responsible practices. Furthermore, literature shows the importance of developing a better understanding of how small and medium enterprises (SMEs) can deploy their performance factors to become sustainable companies, considering the limited resources of SMEs (Hsu *et al.* 2017).

Cluster 5 and Cluster 6 mainly examine how socially responsible practices can contribute to sustainable supply chain management. Organizations respond to “institutional pressures”, developing “initiatives” that allow them to face “barriers” and to assure “green supply chain management”, considering “environmental management” practices and “criteria”. This phenomenon enables “sustainable supply chains”, and consequently “sustainable development”. The authors Dubey *et al.* (2017) and Yawar & Seuring (2017) challenge for a profound analysis in a more comprehensive and systematic way, to gain an insight of the impact of responsible supply chain actions on the companies when implementing CSR practices. Furthermore, the use of real data and of a wide-ranging model of global sustainable supplier management extended towards sustainability risks (Awasthi *et al.* 2018), provides “performance measurement” and “empirical evidence”. They might contribute to a better understanding of the global effects of an organization on its environment, in a more holistic way and based on a triple bottom line grounded approach.

## **4.5 Conclusions and Discussion of the Empirical Results**

### **4.5.1 Discussion**

Studying the references that emerge in CSR and SCM articles is crucial to the exploration and understanding how the scientific data accepted and utilised by the specialists in these disciplines was originated. However much has been written about CSR and SCM, this article systematically reviews the literature in the field and identifies opportunities for future research and empirical studies. It is clear that SCM is an increasingly important issue for organisations that aim to grow and wish to maintain proper controls on business risk, thus maximising the creation of shared value for their stakeholders. Integrating CSR approaches into supplier management is essential in ensuring a company's sustainability. This research highlighted some of the most important SCM-related topics that emerged from the intersection between CSR and SCM, and content analysis of the most cited literature on the aforementioned topics.

The study offers an overall and methodical overview of the publications with more influence and productivity, the scientific journals for the fields of study, their authors and the respective nationalities of those involved in this distinctive field between the years 1900 and 2018, according to the contents of WoS database. These outcomes are helpful in the identification of the central trends in the considered field of research and show that it is an area in which interest and

development are increasing, with the amount of citations and publications significantly growing. Although many studies have separately portray the state and evolution of CSR and SCM, very few bibliometric studies try to address and quantify the intellectual structure of research in this field in an integrated approach. Moreover, no one has thus far attempted to perform such quantification in terms of bibliometric analysis of the information contained in publication abstracts for previous investigations that seek to explore the network of relationships between different concepts connected with social responsibility in supply chain management.

This paper thus uses the bibliographic references cited by a major group of authors on this field to identify the published sources with most influence and explore the changes that have appeared in the intellectual structure of CSR and SCM research. This investigation is led under the bibliometric hypothesis that these references will be a trustworthy indicator of the impact, in the work of these authors, of specific data sources.

This study involved the representation of the intellectual structures, scientific publications and trends in researching CSR and SCM, as well as an evaluation over the years using these bibliometric methods. Bibliometric analysis through identifying the connections between keywords created maps of clusters presenting the areas with the highest concentration of citations for the keywords examined and demonstrated the relevance of research fields relating to CSR and SCM in analysis of these concepts.

The results make it clear that the implementation of social responsibility issues in supplier management is closely linked to (i) the growing pressure from consumers in relating to socially responsible performance by companies, and (ii) the increase of regulation affecting companies in the most diverse areas. It is evident that the scrutiny of society concerning company performance has led to a set of legislation on financial reporting and accountability, labour, environment, health and safety, product and service conformity, and other issues, which obliges companies to ensure proper alignment with best international practice. In addition, companies are realising that collaborative actions with suppliers create synergies that boost superior performance for all involved, resulting in truly sustainable supply chain management with superior economic, environmental and social performance, and lower levels of organisational risk. In addition, it was possible to verify that there is a growing academic appeal to empirical studies involving supply chain partners, with a view to monitoring the performance of companies through robust indicators and understanding how actions taken by leading organisations are contributing to the creation of value and competitive advantages, in a multidimensional and holistic approach. Some of the actions advocated by literature as fundamental to a socially responsible relationship between companies and their suppliers include (i) the creation and implementation of codes of ethics and conduct, (ii) reinforcement of communication mechanisms between supply chain partners, (iii) promoting audits to verify levels of compliance among firms and supplier activities, and (iv) integrating socially

responsible approaches to daily tasks. Furthermore, (v) continuous improvement, (vi) diligence with social responsibilities, (vii) information sharing, (viii) proactive actions to avoid stagnation, and (ix) constant and adaptive alignment with a sustainable strategy focusing on the medium and long term are some of the hot topics presented in our bibliometric analysis that can contribute to better integration of socially responsible practices in supply chains.

Moreover, this enabled an understanding of which fields represent the greatest interest for future investigations, with potential to reveal new approaches to sustainable supply chain management. For instance, (i) evaluating social implications in the development of products and services, considering their life-cycle, represents a field of investigation that can be further developed. In parallel, further research on (ii) integrating social responsibility into strategic planning and corporate purchasing functions, (iii) strengthening partnering mechanisms, (iv) the impact of emerging economies (such as India and China) on manufacturing and of global availability of goods, and (v) the implication of legislative changes in social responsibility in the supply chain may be interesting areas for further study.

#### 4.5.2 Contributions

With this ground-breaking methodological approach, we have demonstrated the ability for capturing the importance and grasp of past literature and identifying new fields of research within CSR in SCM for the purpose of establishing possible and unexplored research paths. Our work has contributed to this area highlighting: First, the fundamental studies that have facilitated the rapid advance of CSR and CSR in SCM fields, while, analysing the points at which they intersect; second, identifying the most relevant literature of CSR in SCM, the gaps they identified the core subjects, and, the main gaps and suggestions for further investigation, therefore identifying opportunities and priorities for future research: (i) comparing the performance of companies that have chosen to manage their suppliers in terms of social responsible practices with those that do not; (ii) conducting studies that compare the performance of social responsible management for supply chains in different countries and regions so as to elucidate the importance of diverse types of society, institutional organisations and regulation, and the effect of stakeholder scrutiny on the creation of more sustainable supply chains; and (iii) exploring the importance of leadership in increasing socially responsible performance in supply chains and how it impacts on the overall performance of supply chain partners; (iv) explore these relationships in other geographies and focusing on SMEs.

As a final observation, it should be noted that the literature voices a wider appeal, calling for a greater application of the concepts addressed, namely by building bridges between academia and business. Conducting empirical studies that reinforce the value of socially responsible approaches to supply chain management will provide business leaders with a set of evidence-based arguments



and tools to support socially responsible options, enabling them to contribute towards sustainable supply chain management and shared value creation, boosting collaboration and increasing social legitimacy for conducting business in a proper way.

### 4.5.3 Limitations

We therefore believe that the research achieved its anticipated goals, regardless of limitations. The first limitation arises from the decision to analyse journals and disregard different kinds of work, such as dissertations, theses and reports. The chosen articles published in journals are representative of ‘certified knowledge’ once the studies are peer-reviewed and quality control is assumed. Secondly, making sure that such outcomes are a consistent source of data is a significant and demanding challenge of management sciences. The complications with measuring such data fundamentally originate from matters related with the complexity of CSR and SCM, and also from lacking clear and precise interpretations and definitions of the issues involved. Thirdly, once the bibliometric data in this study was originated in a single source (WoS), the rejection of further academic research databases in the process of collection can have impact in the how representative the data is. Therefore, it is recommended the integration of more academic research databases, resulting in collecting more comprehensive data, which can help avoid potential data bias. Fourthly, even though extensive analysis has been done in the area of research, different bibliometric analysis techniques, such as multidimensional scaling analysis, have not been applied. Further analysis methodologies may be used in upcoming studies to obtain more comprehensive results.

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# CHAPTER V - THE IMPACT OF SUPPLY CHAIN LEADERSHIP AND FOLLOWERSHIP ON PURCHASING SOCIAL RESPONSIBILITY: AN EMPIRICAL STUDY ABOUT A PORTUGUESE ENERGY SUPPLIER

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## Abstract

*The purpose of the present study is to identify the impact of the supply chain leadership (SCL) and supply chain followership (SCF) on purchasing social responsibility (PSR), considering the moderator role of the supply chain leadership dependency (SCLD). Additionally, we considered the mediator effects of information sharing (IS) and shared values (SVS), since these variables contribute to a better understanding of the leadership and followership phenomena as key drivers of a sustainable supply chain management (SSCM). This study uses a structured questionnaire to gather data from a cross-sectional sample of 425 supply chain partners from the Portuguese energy supplier EDP - Energias de Portugal. The Structural Equation Modelling is used to test the proposed hypotheses and a multi-group analysis is conducted to find how the EDP's supplier dependency can have an impact on the suggested relationship. We conclude that SCL has a positive impact on IS, SV and PSR. SCF has a positive impact on IS and SVS. IS and SVS have a positive impact in PSR. It was also possible to conclude that SCLD moderates all the relations, except the relationships between SCL and PCR and between IS and PCR. This paper provides some empirical evidence of SCL influence on PSR, contributing to better understand the impacts of supply chain leaders on social responsible behaviour of other supply chain partners. The overall results may support the importance of a transformational leadership on the supply chain interactions, namely on social responsible performance in the purchasing relations of all partners.*

**Keywords:** supply chain leadership, supply chain followership, purchasing social responsibility, corporate social responsibility, sustainable supply chain management

## 5.1 Introduction

The stakeholders' scrutiny regarding firms' environmental and social performance is getting bigger (Ren *et al.* 2018). Organizations that do not meet these expectations may damage their reputation, which can cause a subsequent negative impact on market shares and profitability (Bjorklund, 2010). Considering their extensive scope, companies cannot answer to this call by concentrating on their internal operations alone. In fact, companies need to manage their whole supply chain to assure responsible products and services (Blome & Paulraj, 2013), required by various and even more demanding stakeholders. Corporate social responsibility (CSR) requires a business to better understand how it affects and is affected by its surrounding ecosystem and how to act and change

accordingly (Habaragoda, 2018). Furthermore, as the society and the world's economy change continuously, a company's ability to change becomes a key competence in today's sustainable business (Aagaard, 2016). Thus, effective change management and leadership are prerequisites for successful CSR and sustainable business.

According to Caymaz (2014), while some organizations are forced to be sustainable by financial concerns, the others are forced to reorganize their operations because CSR is thought to be essential in terms of creating a corporate identity. Therefore, companies are even more aware of the supplier's importance to guarantee business sustainability, attaining competitive advantages, innovation, cost reductions and increased social responsibility performance. Since purchasing is an important logistical function, with a significant role in firm's sustainability, it must be considered by top managers as a strategical subject, vital to make business grow, promoting social responsible practices in all supply chain interactions (Blome & Paulraj, 2013).

According to Salam (2009), the purchasing social responsibility (PSR) concept assures the inclusion of CSR in the purchasing activities. The globalisation tendency, with more outsourcing to and purchasing from developing countries, is one main motivation behind the bigger interest in PSR. Having an efficient supply chain and being able to react to the dynamic market conditions, firms accomplish greater supply chain collaboration and so reinforce the resources and information of related parties, which is seen as a key driver of PSR, providing the competitive advantages that allows all supply chain members to prevail and grow (Horvath, 2001). According to previous works, the literature established that a positive effect of the company's leadership in CSR enables sustainable supply chain management (SSCM), resulting in advantages for all supply chain partners. Therefore, a supply chain may get a disruptive behaviour without a leadership to ensure a clear direction and integration (Defee *et al.*, 2010). Even though leadership is often considered essential in any management initiatives, it is fundamental not to forget the flip side of leadership, namely the followership. Oc and Bashshur (2013) stated that the followership literature usually positions follower reactions as a driver of leader behaviours, so followership and leadership can be considered complementary structures (Kilburn, 2010).

Thus, a sustainable leadership and followership dichotomy can empower stakeholders who, as long as they are willing to hold firms to account for their actions, can create an economy that meets the needs of society, broadly defined (Defee *et al.*, 2010). However, two main directions remain unclear: how to become a transformational leader of a supply chain (Blome, Foerstl, & Schleper, 2017); followers have some control over their own decisions so the reciprocal interactions remain unclear and deserving further investigation (Gosling *et al.*, 2017), especially in a supply chain.

Consequently, our goals are to link the supply chain leadership (SCL), the supply chain followership (SCF) and purchasing social responsibility (PSR), to explore performance and strategies outcomes with a focus on sustainability for all the partners involved. Additionally, we

considered the mediator effects of information sharing (IS) and shared values (SVS), since these variables contribute to a better understanding of leadership and followership phenomena as key drivers of SSCM.

With this belief, we hope to contribute to the empirical research of the intersection between SCL, SCF and PSR, shedding light on how sustainable business is defined, facilitated and implemented across the supply chains. Additionally, the study highlights the importance of Portuguese companies engaged with a leadership through CSR, namely EDP, inspiring other companies to integrate CSR in all business dimensions, namely in supply chain management.

## **5.2 Research background and hypotheses development**

### **5.2.1 CSR and Purchasing Social Responsibility**

The CSR concept is not consensually accepted by the Academia, once there are different definitions, tendencies, points of view and models to explain its ground (Gonzalez-Perez, 2013). Lantos (2001) states that CSR entails the obligation stemming from the implicit “social contract” among business and society for companies to be responsive to society’s long-run needs, enhancing the positive influence and reducing the negative impacts of its activities on society. Lea (2002) considers that CSR is about businesses and other organizations going beyond the legal obligations to manage the impact they have on the society and environment, considering the way that firms interact with their suppliers, employees, customers and the communities in which they operate, as well as their attempt to protect the environment. From a complementary perspective, Aguilera *et al.* (2007) define CSR as the consideration of, and response to, issues beyond the narrow economic, technical and legal requirements of the organization to achieve environmental and social benefits along with the traditional economic gains which the firm seeks. Another perspective on CSR was provided by Elkington (2012), who considers that CSR means a willingness to take the responsibility to achieve economic growth that results in zero negative social and environmental impact.

Even if there are several characterisations of CSR, the main views of this concept counterpart each other, namely (i) contributing to the profits of the firm, which shows concern for stakeholders and society (Gatti, Caruana, & Snehota, 2012); (ii) being a source of opportunity, innovation and competitive advantage (Porter & Kramer, 2006); (iii) addressing social and environmental issues, as discussed by the European Commission (2001); (iv) improving business performance, generating brand value and intangible competitive advantages (Melo & Galan, 2011). Overall, CSR defines the ability of a company to be socially responsible to the growth and development of the environment in which it operates. The effect is the increase in purchasing behaviour and in the brand image that the company will have in the society (Adeneye & Ahmed, 2015), in order to

benefit individuals, communities and society, as well as create positive impacts on this last, which can help companies achieve their personal objectives (Collings, 2003). Ramani and (2014) regard that, the prospect of making reputational gains, and thereby additional profits in the medium run through CSR, is dangled as a carrot before the corporate sector.

In the last years, purchasing has been developing from a functional exercise into a strategically important operation which builds long-term supplier relationships (Zsidisin & Ellram, 2001). More than ever before, purchasing managers are integrating environmental and social issues into their purchasing decisions (Tiwari, Turner, & Younis, 2014) and traditional criteria, such as price, have been supplemented by several qualitative factors, such as suppliers' organisational culture, values and CSR performance. Walker *et al.* (2008) considered that through sustainable supply chain management companies can strengthen their risk management and minimize possible risks in their external collaborations and subcontracts. Tang and Zhou (2012) suggest the correlation between profitability and sustainability.

The inclusion of CSR in the purchasing activities has been categorized as purchasing social responsibility (PSR) (Salam, 2009). Drumwright (1994), in the beginning of PSR conceptualization, has described this concept as an organizational function "which attempts to take into account the public consequences of organisational buying or bring about positive social change through organisational buying behaviour." In the present investigation is considered the following PSR definition, paraphrased by Salam (2009, p. 357), regarding Carroll's definition of CSR: "purchasing activities that meet the ethical and discretionary responsibilities expected by society".

Procurement is a crucial lever when it comes to improving the sustainability of the entire supply chain and it becomes even more crucial if most of the supply chain's impact is caused outside the organization (Grant, Trautrim, & Wong, 2017). Firms that include PSR in their own activities accomplish tangible and direct advantages (Carter & Jennings, 2004), which may ultimately lead to shared value creation, through the development of more sustainable products and supply chain practices that benefit all the supply chain partners, and society in general.

### 5.2.2 Purchasing Social Responsibility antecedents

According to Hojmosse and Adrien-Kirby (2012), the PSR concept was widespread in the scientific literature in the beginning of the 21st century and is usually described as the inclusion of the purchasing function on socially responsible logistics activities promoted by firm stakeholders (Carter & Jennings, 2004). Drumwright (1994) wrote one of the first contributions to the inclusion of CSR on firms purchasing function. The activities that characterise PSR comprises socio-ecological purchasing, sourcing from smaller suppliers, human rights and human dignity, health and safety management, environmental management and philanthropy issues related to supply chain management (Idowu & Louche, 2011). Regarding previous literature, Blome and Paulraj

(2013) consider that organizational financial performance, morale, labour, productivity, trust, relationships with stakeholders, brand value and reputation can change in a positively way, with the adoption of social responsible purchasing behaviours. As a result, the social response behaviours on purchasing function and its applications to firms' activities have gained prominence (Morali & Searcy, 2013).

According to Boyd *et al.* (2007), implementing PSR often involves the supplier's compliance and monitoring, since it permits a buying company to show its engagement regarding CSR to interested stakeholders and creates legitimacy for the firm's CSR efforts. Furthermore, monitoring indicates a buyer effort to ensure supplier adherence to CSR procedures, assessing the evolution of social responsible behaviours implementation in purchasing functions. An important motivation for increased efforts towards supplier monitoring regarding PSR implementation, assumes that superior monitoring levels increase the likelihood of supplier compliance by decreasing the lack of information among suppliers and buyers. Mont and Leire (2009) proposed that some nominated firm members should lead the PSR implementation in the supply chain and assure the continuous improvement of social responsible performance in purchasing functions, considering leadership as a key driver of ethical behaviours regarding purchasing activities.

### 5.2.3 Supply Chain Leadership

Leadership is considered typically focused in personal behaviours and characteristics and their influence on colleagues and organizations. Waldman *et al.* (2001) consider that the strategic source of firm's competitive advantages depends directly from leadership, as the main driver of firm's success. Investigation related to leadership under supply chain management frameworks has been originally developed starting from individual leadership theory (Gosling, Jia, Gong, & Brown, The role of supply chain leadership in the learning of sustainable practice: toward an integrated framework, 2017). Bowersox and Closs (1996) described leaders in a supply chain context has being organizations with some typical characteristics, such as economic influence, size, high trading capabilities, customer patronage or strategical multinational alliances. Stevens (1989) and Cooper *et al.* (1997) stated that the most important determinant of sustainability at supply chains is leadership and power structure. According Lambert *et al.* (1998), if a firm does not embrace an authentic leadership regarding strategic management of their suppliers, it will become exposed to organizations risks that can compromise firm sustainability. According to Gosling *et al.* (2017), the inclusion of CSR goals in firm purchasing functions demands an authentic leadership, able to inspire the adoption of the best practices through all the supply chain partners. According to Lockstrom *et al.* (2010), supply chain leadership (SCL) can be described as the capacity of one firm to influence the behaviours of another firm, aiming the establishment and accomplishment of common goals and objectives. Defee *et al.* (2010) clarify that the supply chain leader is considered

to be the firm that reveals increased performance in the leadership fundamentals, considering the relation with other supply chain partners, namely (i) can have a superior impact/influence in other supply chain partners, (ii) is easily recognizable by its actions, (iii) creator of the vision, and (iv) able to establish relationships along the entire supply chain.

Carter and Jennings (2002) noticed that leadership is particularly important in CSR implementation at the purchasing function. To assure the implementation of innovative solutions and methodologies, it is vital that managers become leaders able to inspire organizational improvements, grounded in ethics and social responsible principles (Miao, Cai, & Xu, 2012). Moreover, there is some empirical evidence showing that the firm's culture regarding an ethical citizenship can positively impact PSR (Carter & Jennings, 2004). Miao *et al.* (2011) investigated 162 Chinese firms and they have found that some aspects of a sustainable leadership, such as business ethics, can positively impact PSR. Additionally, Dubey *et al.* (2015) concluded that SCL can act as key driver in the management of supply chain relationships, contributing to improve the social responsibility behaviours and enabling sustainability along firms purchasing function.

*Consequently, the following hypothesis is proposed:*

H1: SCL has a positive impact on PSR

#### 5.2.4 Supply Chain Followership

The flip side of leadership is followership (Tinnish, 2017) and both can be conceptualized as complementary concepts. Yet, according to Defee *et al.* (2009), only leadership has been properly focused in literature, namely through the characterization of the leaders and leadership processes. On the other hand, followership is an essential variable that must be understood to fully comprehend the leadership process. According to Hollander (1992), the capacity to follow the right path, develop an activity according a plan, successfully integrate a team and deliver the expected outputs is called followership. Followership can be proactive, directly influencing firm performance, although this characteristic is usually expected in leadership. Tinnish (2017) considers that firms who promote social responsible programs contribute to the appearing of an increased number of proactive followers, which can actively contribute to the leadership process and social responsible behaviours at purchasing function.

The followership concept applied in supply chain relationships between business partners is usually called as supply chain followership (SCF). According to Defee *et al.* (2009), SCF is a relational concept that has born from the co-influence relationship between supply chain followers and leaders, depending on follower's predisposition to accept the leadership call from an influent supply chain partner. Effective followers (i) are both active workers and critical thinkers, valuing their role to offer constructive criticism to their leaders (Frisina, 2005), (ii) hold within the potential of



leadership (Kilburn, 2010); (iii) work honestly according to their own values (Lundin & Lancaster, 1990); (iv) share with leaders the determination to achieve common goals (Potter, Rosenbach, & Pittman, 2001) and (v) help supply chain leaders to attain goals if they are harmonized with the followers' personal purposes and long-term goals of the supply chain (Defee, Stank, & Esper, 2010).

Carsten and Uhl-Bien (2013) revealed the central, and frequently ignored, mission that a follower organization performs in order to assure ethical standards in the business context. These authors consider that we are just recently beginning to understand the follower's role in a truly ethical leadership, since follower can challenge their leader to adopt ethical conducts, and therefore PSR. A supply chain with effective followers acts proactively, looking for shared value in a holistic way and is able to influence all the supply chain partners to adopt socially responsible behaviours, namely on the purchasing decisions (Carsten & Uhl-Bien, 2013).

*Consequently, the following hypothesis is proposed:*

H2: SCF has a positive impact on PSR

### 5.2.5 The mediating role of Information Sharing

Khan *et al.* (2016) pointed out that the information sharing concept (IS) is not new. According to this author, it is commonly accepted that if in a relation between a client and a supplier there is a good level of IS, this will empower the relation, contributing to the overall business performance, with advantages for both supply chain partners.

Heide and Miner (1992) define IS as "the degree to which each party discloses information that may facilitate the other party's activities". Li *et al.* (2014) considered that IS in the supply chain refers to the communication and transmission of information among supply chain parties during processes of transaction and cooperation. Sahin and Robinson (2002) stated that IS is a key component for supply chain management and has been identified as one of the five building blocks of a strong supply chain relationship. It is vital to the efficiency, effectiveness and competitive advantage of any supply chain system (Li, Ye, & Sheu, 2014).

According to Daft (2011), in a context of teamwork or workplaces, any successful process or activity depends on the relationship between leadership and followership. In their relationship with followers, leaders need to show that they can be trusted. This can be achieved through acting as role models, involving followers in the process of making major decisions and supporting followers through information sharing and the provision of necessary resources to accomplish teamwork (Daft, 2011). Therefore, the IS is the missing link to assure an effective cooperation between leaders and followers in order to produce relevant supply chain outcomes (Li, Ye, & Sheu, 2014).

*Consequently, the following hypothesis is proposed:*

H3: SCL has a positive impact on IS

H4: SCF has a positive impact on IS

Even IS is often referred as being an important instrument to reducing costs. Khan *et al.* (2016) consider that there has not been enough research on studying its importance to sustainable supply chain management, even though sustainability is recognised as an important competitive feature that must be pursued. However, according to Li and Lin (2006), the significance of information sharing depends not only on what information is shared, but also when and how it is shared. In other words, both the content and quality of the shared information must be considered (Li, Ye, & Sheu, 2014).

Cannella (2014) assessed the role of IS regarding the improvement of inventory policies in a supply chain. He discovered that giving orders smoothing in a collaborative supply chain would be advantageous for all the supply chain partners, and subsequently would contribute to an improved supply chain sustainability. Therefore, IS may be the perfect link to understand how followership relates to a social responsible purchasing (Gudkov, 2015).

*Consequently, the following hypothesis is proposed:*

H5: IS has a positive impact on PSR

## 5.2.6 The mediating role of Shared Values

According to Amah and Ahiauzu (2014), values in an organization are the foundation of the organizational culture, representing the basic mind set of collective assumptions and beliefs, which guides the organizational thinking and the consequent actions in order to solve problems and face opportunities. McShane and Von Glinow (2003) consider that values are characterised stable, leading to long-lasting understandings regarding what to think and decide concerning different situations. The concept of shared values (SVS) “refers to principles and values refer to guiding principles and normative values that are shared by groups or communities or to refer to cultural values more generally” (Kenter *et al.*, 2015, p. 87). According to the same authors, these SVS may act as the foundations that make an ecosystem survive and be functional. According to Morgan and Hunt (1994) SVS may be defined as the “‘extent to which partners have beliefs in common about what behaviours, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong’”. When a group of organizations have a set of SVS they are more able to trust, embrace and respect relationships and their reciprocal behaviours are more predictable (Chen, Lin, & Yen, 2014).

An essential feature of a solid firm culture is the existence of SVS that establish a common purpose, engendering commitment to it. Lichtenstein (2012) states that the very essence of followership and leadership dichotomy is related with the existence of values and principles that inspire actions. According to Gill (2003), a leadership based on values is vital to organizations sustainability, specifically in a complex and unpredictable business environment, where the increasing challenge of change is endless. To face the unpredictable, the existence of SVS creates a sense of union between individuals, acting as an aggregating factor and increasing SVS (O'Toole, 1995). As a result, SCL and SCF entails identifying and promoting SVS (Allen, 2016).

*Consequently, the following hypothesis are proposed:*

**H6:** SCL has a positive impact on SVS

**H7:** SCF has a positive impact on SVS

The literature regarding CSR and business ethics highlights the importance of values in firms' management, introducing concepts as integrity, transparency, authenticity and virtuosity, each day more common in the business environment, as the fundamentals of a governance model aimed by principles that enhance common good and firms' sustainability (Argandoña, 2003). Broom (2001) considers that CSR is strongly related with firms' fundamental values, reflecting the organizational vision and mission. Assure that core values are fully preserved, especially in turbulent periods, can be a strategic option that will allow firms to endure and find new opportunities in the chaos, guided by their inner ideologies and shaped by values and principles. Building a common vision regarding firms' strategy to sustainability, as a component of the firms' governance agenda, depends on the existence of a sense of purpose and shared values, as enablers of social responsible behaviours. Senge (1997) argues that building a shared vision is an important factor regarding firms governing ideals development. The existence of a sense of purpose and explicitly declared core values, combined with a perfect alignment between vision and values, represents a vital feature to assure the firms sustainable governance.

Brennan (2005) considers that SVS, including commitment to share prosperity, are as important for a larger scale community as for smaller scale communities. For this reason, and because firms can be powerful agents of positive social change, this author highlights the need of moral values in economic decision-making, considering that without stable firms' relationships is impossible to create a community where all business partners can contribute to social responsibility. According to Butt *et al.* (2016), a sustainable leadership creates ethical values, contributing to social responsibility and organization behaviour, benefiting all supply chain partners. Yet, when a company is committed to a relationship, sharing the same values and goals will lead to an improved cooperation with the other partner, to make the relationship work in a sustainable way (Morgan &

Hunt, 1994). Agan *et al.* (2016) suggests that cooperative programs between companies sharing the same values and practices tend to increase PSR.

*Consequently, the following hypothesis is proposed:*

**H 8:** SV has a positive impact on PSR

### 5.2.7 The moderating role of Supply Chain Leadership dependency

Cooperating with their supply chain partners in a sustainable way is one path for firms to accomplish the ambition of greater competitiveness and better results. Therefore, to develop constructive relationships, supply chain members should develop actions in a collaborative way, instead of trying at all costs to maximize their own benefits. According to Chaurasia (2014), the link among power and dependence in supply chain relationships is a subject that has required the attention of the scientific community. In relationships where each partner has specific core competences, depending on the others to fulfil their own specific goals, the dependency can enhance collaborative behaviours in order to increase firms' competitive advantages (El-Ansary, 1975).

Narasimhan *et al.* (2009) stated that power is a central issue in supply chain management, and its integration within the larger context of social exchange theory can result in a better understanding regarding how a supply really works. According to Cadden *et al.* (2015), when the purchaser dependency is high and provider dependency is low, there is a provider's power and opportunistic attitude that may occur in the relation. The contrary can be also true, when the provider dependency on the purchaser is high and provider dependency is low, purchaser power arises encouraging purchaser to use it to control the provider actions. Nevertheless, if the degree of dependence of both provider and purchaser is high, there is interdependence, which stimulates supply chain collaboration along supply chain members.

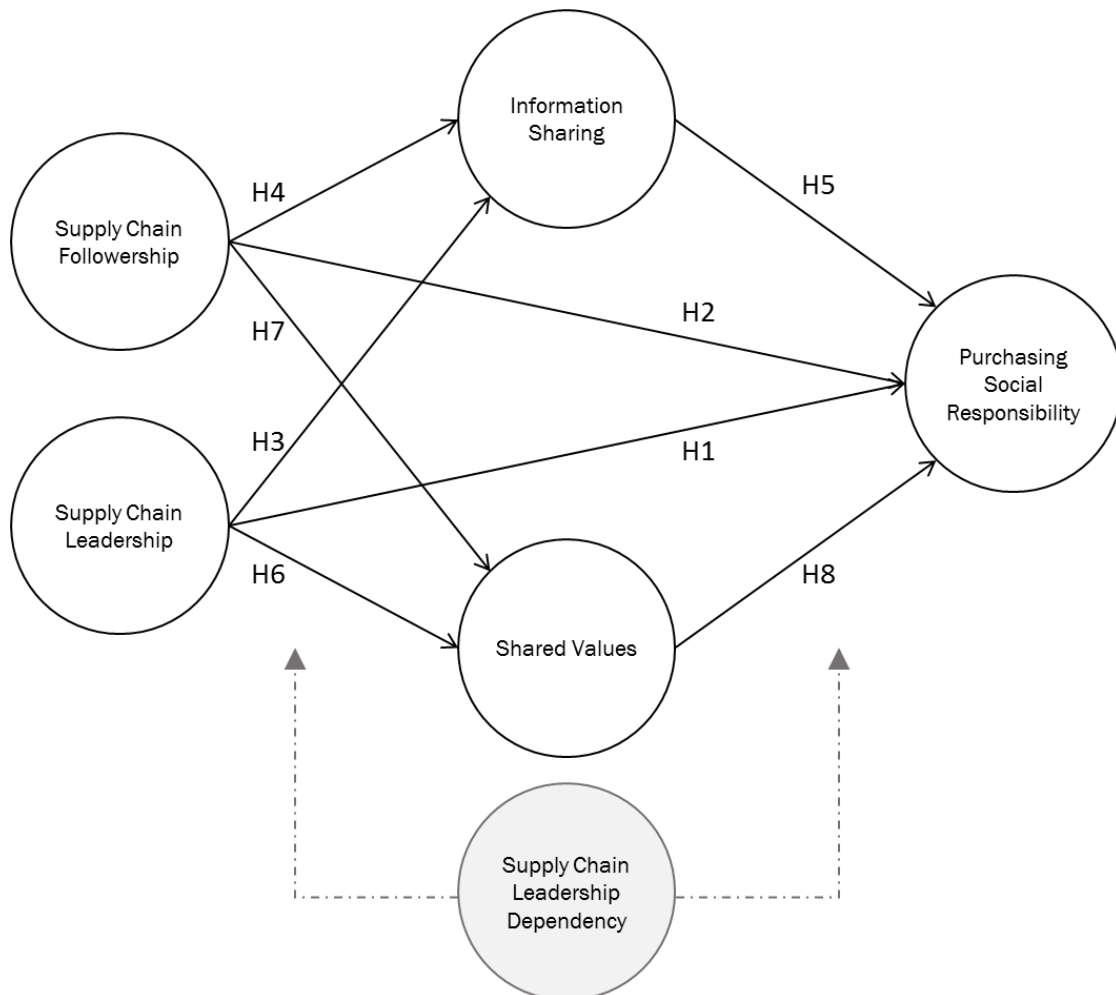
The dependence between firms in purchasing activities generates the necessity of coordination and cooperation between supply chain partners, to create synergies that facilitate the accomplishment of common goals (Lambert, Cooper, & Pagh, 1998). Svensson (2002) considers that supply chain dependence is related with the firms' behaviours depending on the relational interaction between supply chain partners, regarding purchasing activities. Zhao *et al.* (2008) consider that cooperation influences inter-firm relationships, reducing transaction costs through building long-term relationships and a collaborative culture. According to Cadden *et al.* (2015), if cooperation endures through time, recurrent activities will conduct to a cooperative framework, enhancing supply chain partners competitiveness and overall performance.

In the present study, we consider the moderator effect of supply chain leadership dependency (SCLD) that corresponds to the supplier's dependency on the supply chain leader company.

Accordingly, the follower's dependency may create a special predisposition to adopt and interact with specific behaviours, namely sharing values, sharing information and reinforcing their social responsible behaviour on the purchasing decisions.

### 5.3 Method

The research model presents a set of hypotheses. Given that each supplier has a different perception of the variables of the present investigation, according to the level of dependency related with the supply chain leader, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=198) and a group with high SCLD (n=227). The proposed hypotheses are analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 18).



**Figure 17 - Conceptual Model (1/4)**

### 5.3.1 Sample and Data Collection

A questionnaire was performed using the online LimeSurvey tool to test the proposed research model and hypotheses. Between June and September 2016, 1.466 suppliers of EDP Group – considering its overall universe of 5.275 suppliers that execute activities in Portugal – were contacted by e-mail to respond to the questionnaire. EDP is a vertically integrated utility organization, and the largest generator, distributor and supplier of electricity in Portugal, the third largest electricity generation company in the Iberian Peninsula and one of the largest gas distributors in the Iberian Peninsula, with relevant presence in the world's energy landscape.

In the last years, EDP has aggressively invested in Sustainable Development and on marketing (Santos M. J., 2011). EDP recognises the importance of sustainability in its operations and value chain and integrates the economic, environmental and social opportunities and risks into its business strategy (EDP, 2016a). The main guiding principles, values and actions are set out in voluntary public commitments, policies, procedures and, in general, in the EDP Code of Ethics. This code applies to all Company's employees, and to all those who are in any way authorised to act on behalf of EDP, namely some of its suppliers and service providers (EDP, 2016b). Regarding the position of Defee *et al.* (2010), we have considered EDP as a supply chain leader, mainly because it is characterized as an organization that demonstrates high levels of the four elements of leadership regarding other member organizations (i.e. the organization is capable of greater influence, readily identifiable by its behaviours, creator of the vision and establishes a relationship with other supply chain organizations).

From the 1.466 EDP which were contacted, only 979 agreed to participate in this survey. Of the 979 questionnaires collected, 425 were validated for use, the other 554 being rejected for incompleteness. The respondents were key respondents, delegated by their companies to represent the contractual relation towards EDP namely CEO, CFO, Directors, Managers, Executives and Technicians.

### 5.3.2 Measures

The measures were designed after reviewing the literature in the field and adapting scales that had already been validated in other research investigations. Such adaption included the translation of vocabulary from English to Portuguese, to be more appropriate and hence more easily understood by respondents. Each scale included a combination of items from existing scales adapted to the present study. Scale items are shown in Table 15. A seven-point Likert scale was used and participants were instructed to answer to each item based on the frequency of the actions they observed, ranging from “Not at all” (1) to “Frequently” (7).

CONSTRUCT	ITEM
<b>Supply Chain Leadership</b> <b>- SCL -</b> (Defee, Stank, & Esper, 2010)	<b>My supply chain leader (...)</b> <ul style="list-style-type: none"> <li>• Articulates a compelling vision of the supply chain's future</li> <li>• Clarifies the central purpose underlying actions of all supply chain members</li> <li>• Seeks differing perspectives from my company when solving problems</li> <li>• Induces my company to look at problems from many different angles</li> <li>• Asks my company to contribute with ideas for improving supply chain problems</li> <li>• Helps my company to strengthen the supply chain execution</li> <li>• Encourages my company to continuously improve its supply chain skills</li> </ul>
<b>Supply Chain Followership</b> <b>- SCF -</b> (Defee, Stank, & Esper, 2010)	<b>My company (...)</b> <ul style="list-style-type: none"> <li>• Independently thinks of new ideas that contribute to the supply chain goals</li> <li>• Champions the need for change in the supply chain</li> <li>• Builds a record of success in tasks important to the supply chain leader</li> <li>• Seeks out and completes assignments that go above and beyond what's required</li> <li>• Makes sound decisions that benefit the entire supply chain</li> <li>• Works hard to support the supply chain leader's goals</li> <li>• Develops a network of relationships with other supply chain members</li> <li>• Strives to accomplish goals that have been mutually defined with the supply chain leader</li> <li>• Contributes at a high level when not in a leadership position</li> <li>• Demonstrates commitment to overall supply chain success</li> </ul>
<b>Information Sharing</b> <b>- IS1 -</b> <i>Information Sharing Content</i> (Li, Ye, & Sheu, 2014)	<b>My supply chain leader shares his (...)</b> <ul style="list-style-type: none"> <li>• Production planning information with us</li> <li>• Production capacity information with us</li> <li>• Inventory information with us</li> </ul> <b>We share with our supply chain leader (...)</b> <ul style="list-style-type: none"> <li>• Our production planning information</li> <li>• Demand forecast information</li> </ul>
<b>Information Sharing</b> <b>- IS2 -</b> <i>Information Sharing Quality</i>	<b>The information shared by our supply chain leader and us is (...)</b> <ul style="list-style-type: none"> <li>• Timely</li> </ul>

<b>CONSTRUCT</b>	<b>ITEM</b>
(Li, Ye, & Sheu, 2014)	<ul style="list-style-type: none"> <li>• Accurate</li> <li>• Complete</li> <li>• Adequate</li> <li>• Reliable</li> </ul>
<b>Shared Values</b> - SVS - (Panayides, 2007)	<b>Considering my supply chain leader (...)</b> <ul style="list-style-type: none"> <li>• We share the same world's view</li> <li>• We share opinions about most things</li> <li>• We share the same feelings towards things around us</li> <li>• We share the same values</li> </ul>
<b>Purchasing Social Responsibility</b> - PSR - (Salam, 2009)	<b>The purchasing relation of my company with my supply chain leader contributes to (...)</b> <ul style="list-style-type: none"> <li>• My responsibility towards the environment</li> <li>• My responsibility towards diversity</li> <li>• My responsibility towards human rights</li> <li>• My responsibility towards safety</li> <li>• My responsibility towards philanthropy</li> </ul>

**Table 18 - Measurement scales (1/4)**

Confirmatory factor analysis was used to evaluate the psychometric characteristics of the scales and the measurement model, using AMOS 22. The final model exhibits a good fit (IFI=0,951; TLI=0,945; CFI=0,951; RMSEA= 0,065; CMIN/DF=2,771; GFI= 0,865). The two dimensions of IS showed high correlations and were turned into a second order variable. All the scales had values above 0,79 in the composite reliability (CR) and above 0,64 in the average variance extracted (AVE), as recommended by Hair *et al* (2006). The Means, Standard Deviations, Square Correlations, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted are presented in Table 16.

Discriminant validity is demonstrated since all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always lesser than the variance extracted for correspondent constructs (Shiu, Pervan, Bove, & Beatty, 2011), with the marginal exception of IS, thereby confirming the discriminant validity.



	<b>SD</b>	<b>SCL</b>	<b>SCF</b>	<b>IS</b>	<b>SVS</b>	<b>PCR</b>	<b>CR</b>	<b>AVE</b>
<b>SCL</b>	1,089	<b>0,938</b>					0,940	0,722
<b>SCF</b>	0,981	0,204	<b>0,892</b>				0,899	0,643
<b>IS</b>	1,325	0,687	0,251	<b>0,946</b>			0,787	0,649
<b>SVS</b>	1,223	0,406	0,295	0,551	<b>0,928</b>		0,928	0,764
<b>PSR</b>	1,307	0,403	0,097	0,472	0,433	<b>0,94</b>	0,940	0,797

**Table 19 - Standard Deviation, Correlations, Cronbach's Alpha, CR and AVE<sup>2</sup> (1/4)**

### 5.3.3 Common Method Variance

To minimize the risk of common method variance, we used some procedural methods proposed by Podsakoff *et al.* (2003): (a) all respondents were guaranteed anonymity and confidentiality of the information collected and assured that there were no right or wrong answers; (b) there was randomness in the ordering of multiple items; (c) there was no use of scales with bipolar numerical values and verbal designations for the mid-points of the scales; (d) the questionnaire was divided into several sections with a brief explanation, reducing the risk of common method bias (Brewerton & Millward, 2011). A single factor test was also performed (Harman, 1967).

A principal component analysis of all the items revealed 18 factors with values above 1. They accounted for 78% of the total variance, the first of which explained only 25% of the variance, suggesting that there were no problems with the common method variance. A single factor solution was tested (Podsakoff & Organ, 1986) and the fit of the model was very poor: IFI=0,557; TLI=0,519; CFI=0,556; RMSEA= 0,191; CMIN/DF= 16,499; GFI= 0,438. All the methods used showed that there were no problems with common method variance.

## 5.4 Findings

Amos 22 was used to perform a confirmatory factor analysis and structural equation modelling to test the hypotheses. The final model shows a good fit (IFI=0.948; TLI=0.942; CFI=0.948; RMSEA=0.067; CMIN/DF=2.2875; GFI=0.861). Two groups were created for SCLD. The first group, with lower SCLD levels was composed by 198 respondents, while the second group, with higher SCLD levels, was composed by 227 respondents. A multi-group analysis was performed to identify the differences between the two groups. The results presented in Table 17 show the relationships between the variables of the model and the introduction of SCLD as a moderating

<sup>2</sup> The principal diagonal presents Cronbach's Alpha; SD = Standard Deviation; CR = Composite Reliability; AVE = Average Variance extracted.

variable. Multi-group Moderation Tests were carried out, with the conclusion that the two groups are different.

HYPOTHESIS	GLOBAL				LOW SCLD				HIGH SCLD			
	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK
H1 SCL ▷ PSR	0,173	1,708	0,044	✓	0,269	2,147	0,016	✓	0,008	0,044	0,483	⊗
H2 SCF ▷ PSR	-0,159	-3,085	0,001	⊗	-0,151	-1,950	0,051	✓	-0,165	-2,245	0,013	✓
H3 SCL ▷ IS	0,764	13,379	***	✓	0,699	8,148	***	✓	0,804	10,341	***	✓
H4 SCF ▷ IS	0,166	3,653	***	✓	0,191	2,733	0,003	✓	0,154	2,577	0,005	✓
H5 IS ▷ PSR	0,321	2,920	0,001	✓	0,178	1,317	0,094	⊗	0,533	2,738	0,003	✓
H6 SCL ▷ SVS	0,506	10,288	***	✓	0,434	5,959	***	✓	0,55	8,406	***	✓
H7 SCF ▷ SVS	0,319	6,911	***	✓	0,315	4,477	***	✓	0,361	5,966	***	✓
H8 SVS ▷ PSR	0,426	7,250	***	✓	0,4	4,808	***	✓	0,428	4,906	***	✓

**Table 20 - Standardized Regression Summary<sup>3</sup> (1/4)**

#### 5.4.1 Supply Chain Leadership and Purchasing Social Responsibility

SCL has a positive impact on PSR (SRW=0,173; p=0,044), therefore supporting H1. According to the literature (Carter & Jennings 2002; Miao *et al.* 2012; Dubey *et al.* 2015), leadership plays a critical role in the implementation of PSR, both inside an organization and in a supply chain group of organizations. There is strong evidence that the supplier relationship management under the influence of a leadership may help firms to improve their social responsibility behaviours.

The adoption of social responsible behaviours is much more than a mere public relation's exercise. According to Székely and Knirsch (2005), sustainability takes place only when there is an active leader who drives this approach. In our research, the supply chain leader influences the supply chain partners acting in a sustainable way, improving their PSR performance through a transformational SCL. It is possible that this performance may be heavily influenced by the commitment of the supply chain leader to a holistic understanding of sustainability and by the adoption of a management incentive scheme. Chandler (2016) considers that a sustainable leadership is possible to empower stakeholders, as long as they are willing to hold firms account for their actions, and to adopt a behaviour that meets the needs of society, broadly defined. This result is valid only for the low dependency group (SRW=0,269; p=0,016). Perhaps only companies acting with parity with

<sup>3</sup> ✓ : Hypothesis Supported; ⊗ : Hypothesis Not Supported

their counterparts may understand and share the same principles and act in the same direction, adopting common behaviours, namely responsible purchasing.

#### 5.4.2 Supply Chain Followership and Purchasing Social Responsibility

SCF has a negative impact on PSR (SRW=-0,159; p=0,001), therefore does not support H2. According to the literature (Carsten & Uhl-Bien 2013; Defee *et al.* 2010), followership is expected to influence the adoption of social responsible purchasing behaviours, namely it is expected that the follower organization shows behaviours intended to help the leader organization and the supply chain to achieve goals, as long as they are aligned with the follower organization's own goals.

Yet, this influence seems to be negative in this investigation. Perhaps, followership may be seen as the acknowledgment that the supply chain has a leader and that the company is following the standards of the leader. Perhaps, under certain circumstances, followership may give place to negative feelings and, consequently, create a negative attitude instead of acting like a stimulus. Carsten and Uhl-Bien (2013) consider that sometimes followership can have a negative impact in social responsible behaviours, namely because followers with less coproduction beliefs are more likely to displace responsibility into their leaders for unethical conduct and then place themselves in a "one-down position". According to Bandura (1999), followers with this kind of attitudes may disengage and subsequently follow unethical demands, since they are convinced that they are less knowledgeable and less interventional than their leaders.

#### 5.4.3 Supply Chain Leadership and Information Sharing

SCL has a positive impact on IS (SRW=0,764; p=0,000), therefore supporting H3. According to the literature (Dubey *et al.* 2015; Miao *et al.* 2011; Jennings 2002), leadership is expected to have a positive impact on the availability to share information and to maintain an intense and profitable IS.

This result is valid for both groups considered, however, this relationship is more intense for the group with higher dependency (SRW=0,804; p=0,000) than for the one with lower dependency (0,699; p=0,000). Kumar *et al.* (2013) consider that leaders who have the power to incite and influence information sharing activities have a natural advantage in their ability to play a central role in the process of knowledge creation and thus build competitive power for organizations. Yet, dependency means that one part of the relationship exerts some kind of power over the other part, which may lead to the adoption of certain behaviours. In this case, the supply chain leader may lead its suppliers to adopt a social responsible purchasing behaviour, being this effect more intense in the relationship with more dependent companies.

#### 5.4.4 Supply Chain Followership and Information Sharing

SCF has a positive impact on IS (SRW=0,166; p=0,000), therefore supporting H4. According to Gudkov (2015), IS may be the missing link to understand how followership relates to social responsible purchasing behaviours. King *et al.* (2009) consider that leadership and followership have grown to enable IS and coordinated group action in a wide variety of contexts. Price and Vugt (2014) argue that leadership probably evolved initially to solve problems related to IS and social coordination. Yet, social evolution allowed individuals to use reciprocity (followership) to improve the leadership outcomes.

Considering SCLD, the results obtained are valid for both groups under review. However, this relationship is more intense for the low dependency group (SRW=0,191; p=0,003) than for the high dependency group (0,154; p=0,005). Less dependency from supply chain leader may increase the follower's confidence to adopt a more effective information sharing. In certain circumstances, sharing relevant information can improve the supply chain follower's perception concerning the vulnerability against the power of supply chain leader, especially when the SCLD is high.

#### 5.4.5 Information Sharing and Purchasing Social Responsibility

IS has a positive impact on PSR (SRW=0,321; p=0,001), therefore supporting H5. According to the literature (Radaelli *et al.* 2014; Khan *et al.* 2016; Cannella 2014), companies that stimulate IS within and outside the organizational boundaries are more likely to develop innovations and improve their performance, contributing to supply chain sustainability through social responsible behaviours.

IS allows the alignment and integration of certain processes, and the homogenization of organizational culture, creating a transparent decision-making platform that improves an open dialogue and encourages the reporting of health and safety issues, rewarded by those who assume leadership responsibilities (Jaeger, 2016). Considering that sharing information between the supply chain leader and other supply chain partners' may reduce the inefficiencies resulting from the lack of information, if there is a certain amount of trust in the supply chain – allowing collaborative supply relations, beneficial for all the supply chain partners – that can effectively contribute to supply chain sustainability and social responsible behaviours. Moreover, IS has become more efficient in supply chains context by the worldwide introduction of long-term cooperation and coordination. This fact conducts, ultimately, to the development of companies' competitive advantages (Lotfi *et al.* 2013) and social responsible behaviours.

At this regard, it is necessary to highlight that this result is only valid for the high dependency group (SRW=0,533; p=0,003), showing how the supremacy of the leader may influence and boost the effects of IS on PSR.

#### 5.4.6 Supply Chain Leadership and Shared Values

SCL has a positive impact on SVS (SRW=0,506; p=0,000), therefore supporting H6. According to the literature (Amah & Ahiauzu 2014; Gill 2003), the challenge of change has stimulated an emphasis on values-based leadership, that contributes to creating strong shared values which unite people and organizations in a fragmented world, enabling different supply chain partners to work well together to achieve common goals.

This result is valid for both groups considered, however this relationship is more intense for the high dependency group (SRW=0,550; p=0,000) than for the low dependency group (0,434; p=0,000). High dependency from the supply chain leader may increase the influence of SCL impact on SVS, because the remaining less influential supply chain partners are more interested in internalizing the dominant organization culture, guaranteeing the right alignment with the leader responsible for the sustainability of their own business (Marcus *et al.* 2016). Avoiding to share the same values with the supply chain leader could result in a dangerous situation affecting vulnerable companies, dependant from the relationship with the leader, who can be excluded from commercial relations with the leader, due to low-level alignment concerning SVS.

#### 5.4.7 Supply Chain Followership and Shared Values

SCF has a positive impact on SVS (SRW=0,319; p=0,000), therefore supporting H7. According to the literature (Yung & Tsai, 2013), followership contributes to identify and promote shared values. Considering effective followership point of view, the role of followers should be considered as positive, since it reflects that followers actively engage in the work and provide relevant feedback for leaders to establish SVS that enlighten the path of future supply chain decisions.

This result is valid for both groups considered. However, this relationship is more intense for the high dependency group (SRW=0,361; p=0,000) than for the low dependency group (0,315; p=0,000). High dependency from supply chain leader may contribute to this relation, mainly because of the interest of highly dependent followers in keeping a virtuous relation with the leader, with the objective of increasing the commercial relationship (Bouchery *et al.* 2016).

#### 5.4.8 Shared Values and Purchasing Social Responsibility

SVS has a positive impact on PSR (SRW=0,426; p=0,000), therefore supporting H8. According to the literature (Brennan 2005; Butt *et al.* 2016), SVS can be a powerful agent of positive social change, contributing to organizational social responsibility behaviours. A SCL conducted in a sustainable way can create ethical values, contributing to organizational social responsibility behaviours (Butt *et al.* 2016), namely in supply chain partners that share the same values of the supply chain leader.

This result is valid for both groups considered. However, the relationship is more intense for the high dependency group (SRW=0,428; p=0,000) than for the low dependency group (0,400; p=0,000). High dependency from the supply chain leader may increase social responsible behaviours from the partners mainly because of the arguments previously presented. The interest of highly dependent followers in keeping a virtuous relation with the leader, assuring a straight values alignment, with the objective of avoiding exclusion from the commercial relation and the loss of their business sustainability. Furthermore, companies that mainly interact with the supply chain leader are probably more available to consider the adoption of similar values that contribute to social responsible behaviours (Marcus *et al.* 2016). By doing so, they internalize the leader organization values with the expectation of replicating some competitive advantages that make it a “supply chain leader” – instead of a “supply chain follower” –, namely by operating all the considered dimensions of sustainability: economic, social and environmental.

## **5.5 Contributions, Implications and Recommendations**

### **5.5.1 Contributions**

This study contributed to explore the intersection between leadership and social responsible behaviours in the supply chain, opening a path for further investigations and shedding light on how sustainable business is defined, facilitated and implemented across the supply chains. Additionally, this study highlights the importance of Portuguese companies engaged with a leadership through CSR, namely EDP, on inspiring other companies to integrate CSR in all business dimensions, namely in the supply chain management and on responsible purchasing. The moderating role of dependency showed how these relationships may be boosted when a company exerts a kind of supremacy over the suppliers.

This new approach of supply chain management identifies how a social responsible company may lead their suppliers to adopt and develop a true and committed socially responsible behaviour. Furthermore, this study integrates these concepts and relationships in a single empirical study with relevant data, providing a model that illustrates a chain of important effects, between the supply chain leadership and social responsible behaviour. These findings contribute to our understanding about linking leadership, CSR and ultimately SSCM, allowing the exploitation of strategies and performance outcomes with a focus on sustainability for all the partners involved in the supply chain. With the purpose of a better understanding of leadership as a key driver of SSCM, this investigation provides a starting point for understanding the impact of SCL and SCF on PSR, contributing to the increasing amount of studies about the diffusion of social responsible behaviours in the supply chain context. Explicitly, this article offers an understanding of the influence of leadership in the supply chain, as an important driver of sustainable purchasing activities.

### 5.5.2 Implications for management

The goal of this article is to discuss why and how an organization implements CSR in its daily operations within the supply chain management. Under this approach, the findings may be used as an analytical instrument for the supply chain leader and participative supply chain followers to assess the network style present in the supply chain and find opportunities to increase social responsible performance and, ultimately, assuring business sustainability. It is therefore the hope of the authors that this article will provide a background to further empirical investigations, exploring those relationships, providing arguments for managers to engage in a social responsible behaviour that may improve performance and contribute to a better world.

According to Jaeger (2016), CSR will continue to become an increasingly important issue for investors, regulators and consumers, and better leaderships with social responsible behaviours will arise long-term rewards for all. Given that, the overall results may support the importance of a truly sustainable business leadership capable to promote social responsibility along the entire supply chain. It is a new approach of supply chain management, identifying how a socially responsible company may lead their suppliers to adopt and develop a true and committed social responsible behaviour.

### 5.5.3 Limitations and recommendations for future research

This work has some inherent limitations that should be addressed in future research. Firstly, we specifically focused on a Portuguese energy supplier. Even though this work's environment might be particularly effective for studying the SCL/PCR link, future research could be extended to other business environments, such as industries, communications, healthcare, retailing and education. Secondly, the cross-sectional nature of this study prevents us from drawing definite causal inferences about the relationships between variables. Further longitudinal studies might address this issue. Studies following-up the present investigation could also contribute to improve our model, by suggesting other variables that more comprehensively explain the mediating mechanisms that translate SCL and SCF into PCR, and the reasons why supply chain leadership and followership are conducive to purchasing social responsibility.

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# CHAPTER VI - THE IMPACT OF SUPPLY CHAIN LEADERSHIP AND FOLLOWERSHIP ON CSR: AN EMPIRICAL STUDY ABOUT A PORTUGUESE ENERGY SUPPLIER

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## Abstract

*The aim of this investigation is to identify the impact of the supply chain leadership (SCL) and followership (SCF) on corporate social responsibility (CSR), considering the moderator role of the supply chain leadership dependency (SCLD). Additionally, we considered the mediating effects of information sharing (IS), shared values (SVS) and purchasing social responsibility (PSR), since these variables may help understand the chain of effects that leads to a sustainable supply chain. This study uses a structured questionnaire to gather data from a cross-sectional sample of 425 supply chain partners from the biggest Portuguese's energy supplier. Structural Equation Modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find how suppliers' dependency can impact on the suggested relationships. SCL has a positive impact on IS, SV and PSR while SCF has a positive impact on IS and SVS. IS, PSR and SVS have a positive impact on CSR. SCF has a direct impact on CSR, while SCL only shows indirect effects throughout the effects of the mediating variables. Dependency appears to moderate some of the proposed relationships. With this investigation we hope better understand the impacts and the chain of effects between supply chain leadership and CSR, also considering the role of dependency as moderating variable. The overall results may support the importance of a truly sustainable business leadership capable to promote social responsibly along the entire supply chain. It is a new approach of supply chain management, identifying how a social responsible company may lead their suppliers to adopt and develop a true and committed social responsible behaviour, and contribute to a better world. Yet, the research considers only one company suppliers. The relationships between variables need to be explored in other practical case studies and longitudinal investigations to improve the possibility of generalisations.*

**Keywords:** supply chain leadership, supply chain followership, purchasing social responsibility, corporate social responsibility, sustainable supply chain management

## 6.1 Introduction

Sustainability is a theme that has gained interest among researchers and practitioners due to the increase of stakeholder awareness regarding environmental and social issues (Mani, Gunasekaran, & Delgado, 2018). In this context, the purchasing power of a company may turn out to be an important booster to bring positive changes to society. Corporations have to use this power to

accomplish a goal and turn their supply chain in a driver for inclusive growth (Szegedi & Kerekes, 2012). Consequently, businesses have become conscious of the requirement of developing strategies, which can spread their usual corporate governance methods beyond the company's borderline to their supply chain partners. According to Keating, Quazi, & Kriz (2007), the appearance of purchasing approaches in favour of Corporate Social Responsibility (CSR) is the most noticeable display of this extension.

Recently, companies started recognizing how important their suppliers are, not just regarding attaining cost decrease, innovation and competitive advantage, but also in achieving CSR. Once the CSR practices are so significant to the business performance and reputation of corporations (Longoni & Cagliano, 2018), companies try to manage not only their own CSR practices but also those of their supply chains by appoint standards of conduct to preserve their sustainability in the global market (Mann, Byun, & Kim, 2014). Considering this, the purchase is a main boundary-spanning activity in successfully managing the supply chain, it may have an exceptional function in allowing comprehensive CSR purposes inside the companies (Blome, Foerstl, & Schleper, 2017). CSR might moderate the risks in managing the supply chains (Faisal, Banwet, & Shankar, 2006). If upstream suppliers adopt weak management strategies (for example, regarding labour and environmental standards), customers are risking the security and sustainability of their supply chain as well as their own reputations (Spence & Bourlakis, 2009).

According to previous works, the literature established that a positive effect of company's leadership in CSR enables sustainable supply chain management (SSCM) resulting in benefits for all supply chain partners. Although leadership is frequently point out as crucial in every management initiatives, it is important not to forget the other side of leadership, namely the followership. These two structures can be considered reciprocal. Still, in the complex supply chain context, it is essential to deepen some aspects related to leadership-followership dichotomy, where literature don't provide enough comprehension, namely how to use a leadership position to improve social responsibility behaviours of the suppliers and deepen the understanding of followers' behaviours regarding supply chain leaders influence, since other variables can contribute to the expected outcomes, namely the supply chain leadership dependency (Cadden, Marshall, & Humphreys, 2015). To fill this gap, our goals are to link the supply chain leadership (SCL), the supply chain followership (SCF) and corporate social responsibility (CSR), mediated by the roles of information sharing (IS), shared values (SVS) and purchasing social responsibility (PSR), since these variables contribute to a better understanding of leadership and followership phenomena as key drivers of SSCM. With this belief, we hope to better understand the impacts and the chain of effects between supply chain leadership and CSR, also considering the role of dependency as moderating variable. The overall results may support the importance of a truly sustainable supply

chain leadership, capable to promote social responsibly along the entire supply chain, therefore contributing to a better world.

## 6.2 Research background and hypotheses development

### 6.2.1 CSR and Supply Chain

The most recent business models and strategies, which are intended to response to environmental, social and governance shortfalls, have progressively implant responsible behaviours. Extending supply chains globally is an effective way to expand customer base and gain access to cheaper materials and labour. However, this means multinational companies are facing greater supply chain risks and problems associated with ethical, environmental and corporate social responsibility issues (Grant, Trautrim, & Wong, 2017). Alongside the acknowledgment of the relevance, strategically speaking, of the purchase role, criteria that are traditionally considered, such as cost and service, started being complemented by several qualitative aspects. The purchasing function is responsible for the transference of the corporations' environmental and social values to suppliers and thus it has an important part in the generation of a chain effect that causes environmental and social change throughout the supply chain (Preuss, 2001).

The concept of corporate social responsibility (CSR) is not consensually accepted, because there are different definitions, tendencies, points of view and models to explain its ground. Carroll's well-known definition of CSR is "*The social responsibility of business encompasses the economic, legal, ethical and discretionary expectations that a society has of organizations at a given point in time*" (Carroll A. , 1979, p. 500). Lantos (2001) states that CSR can be seen in the influence that business strategies and actions have in the community, socially and environmentally speaking. CSR exists when corporations look beyond the economic incomes and are connect with moral values, transparency and respect for the communities in which they operate. Considering a somewhat distinct viewpoint, Carroll *et al.* (2006) emphasis on economic, legal, ethical, and philanthropic aspects to analyse the CSR activities of a corporation. Actually, the original contributors have related CSR with business philanthropy and ethics. However, the way in which a corporation thinks has suffered deeps changes since Friedman (1962) stated that a company had the single concern of maximising their owners' and shareholders' prosperity. Considering this scenario, the most often used and discussed CSR dimensions are: taking stakeholders' points of view, social, economic and environmental dimensions, and voluntary application.

Walker *et al.* (2008) considered that through sustainable supply chain management, companies might strengthen their risk management and minimize possible risks in their external collaborations and subcontractors. Tang and Zhou (2012) suggest the correlation between profitability and sustainability. A main test for businesses is understanding the influence that CSR has on internal



and external stakeholders. Therefore, the corporations that want the improvement of how sustainable their supply chains are, have to take the initiative in managing their suppliers through a series of business activities (Keating, Quazi, & Kriz, 2007). Responsible Supply Chain Management appeared in the 1990s as a corporate reaction to human rights violations (e.g. child labour, discrimination and safety and health neglect) that appeared in the supply chain (Szegegi & Kerekes, 2012). Social responsibility in the supply chain was early considered by Poist (1989), who suggested a full responsibility method that complements the traditional economic drivers of the supply chain with societal matters.

Businesses can have the opportunity of influence in a constructive way their suppliers' social and environmental performance, as a result of their purchasing activities (Szegegi & Kerekes, 2012). The association between the purchasing function and CSR was defined as Purchasing Social Responsibility (PSR) (Salam, 2009). Drumwright (1994) introduced one of the original designations of PSR, "*which attempts to take into account the public consequences of organisational buying or bring about positive social change through organisational buying behaviour.*"

This specific definition of PSR, which summaries Carroll's definition of CSR, is used in the present study: "*purchasing activities that meet the ethical and discretionary responsibilities expected by society*". Procurement is a crucial lever to improving sustainability of the overall supply chain, and becomes even more crucial if most of a supply chain's impact is caused outside the organization (Grant, Trautrim, & Wong, 2017). PSR may turn out to be an important source of sustainable competitive advantage for companies (Carter & Jennings, 2004), as a key driver in the development of more sustainable products and supply chain practices.

### 6.2.2 The impact of Leadership and Followership on CSR adoption

Several organisations believe that leadership is a crucial challenge, when it comes to the development of workable CSR strategies, redefining the design of organisational systems and processes, and/or falsifying required culture change (Velsor, 2009). According to Ho et. al (2015), to have a socially responsible corporation, the presence of a socially responsible leadership that is available to promote and implement CSR activities for the benefit of the organisation, as well as its stakeholders, is practically mandatory. Balancing issues regarding environment, society and government with the interests of several stakeholders is vital to improve investor perception and public trust (SCM, 2012). The core of a supply chain leadership (SCL) can be seen in the facility of one corporation to be an influence to the activities of another corporation. Secondly, the behaviours anticipated by the supply chain leader might be seen through its stated policies and the actions of boundary-spanning personnel, behaviours which identify the supply chain leader and distinguish it from follower organizations. Thirdly, the supply chain leader is the corporation that

recognises the need for change and generates an idea of a better future for the supply chain (Defee, Stank, & Esper, 2010).

The flip side of leadership is followership (Tinnish, 2017). According to this author, leadership and followership are reciprocal structures. According to Hollander (1992), the capacity to follow the right path, develop an activity according to a plan, successfully integrate a team and deliver the expected outputs is called followership. Followership can be proactive, directly influencing firm performance, although this characteristic is usually expected in leadership. Tinnish (2017) considers that firms who promote CSR programs contribute to the appearing of an increased number of proactive followers, which can actively contribute to the traditional leadership process. Even though leadership has an important role, most of the work done by a corporation results directedly from the contributions of followers (Kelly, 2004). Effective followers are categorized as people who work honestly according to their own values (Lundin & Lancaster, 1990), share with leaders the determination to achieve common goals and value their role to offer constructive criticism to their leaders, willingly challenging inappropriate behaviour that strays from mutually held goals established between leaders and followers. The value-adding follower is actively engaged and interested in expanding their relationship with leaders, assuming the risk of articulating his own opinions and offering critical feedback on leader's decisions, which may help discover new solutions (Kelly, 2004).

According to Defee *et al.* (2010), supply chain followership (SCF) is a relational concept that has its grounds in the co-influence relationship between supply chain followers and leaders, depending on the follower's predisposition to accept the leadership call from an influent supply chain partner which depends whether the leader's goals are aligned with the follower organization's own purposes, and with the overall vision and long-term objectives of the supply chain. Carsten and Uhl-Bien (2013) revealed the central and frequently ignored mission that a follower organization has maintaining ethical standards in the business context. By establishing important relationships between follower beliefs, displacement of responsibility and obedience, they have pointed out that we are only now beginning to understand the follower's role in a truly ethical leadership, since followers can challenge their leader to adopt ethical conducts, and therefore CSR. A followership behaviour in the supply chain is expected to pull the company to adopt a social responsible behaviour, namely on the purchasing decisions.

*Consequently, the following hypothesis are proposed:*

H1: SCL has a positive impact on CSR

H2: SCF has a positive impact on CSR

### 6.2.3 The mediating role of Information Sharing, Shared Values and PSR

Khan *et al.* (2016) pointed out that the information sharing concept (IS) is not new. According to this author, it is commonly accepted that if in a relation between a client and a supplier there is a good level of IS, this will empower the relation, contributing to the overall business performance, with advantages for both supply chain partners. Heide and Miner (1992) define IS as “the degree to which each party discloses information that may facilitate the other party’s activities”. Li *et al.* (2014) considered that IS in the supply chain refers to the communication and transmission of information among supply chain parties during processes of transaction and cooperation. Sahin and Robinson (2002) stated that IS is a crucial element for supply chain management and has been recognised as one of the five building blocks of a strong supply chain relationship. It is critical to the efficiency, effectiveness, and competitive advantage of any supply chain system (Li, Ye, & Sheu, 2014). In teamwork or workplaces, any successful process or activity depends on the relationship between leadership and followership. In their relationship with followers, leaders need to show that they can be trusted. This can be achieved through acting as role models, involving followers in the process of making major decisions, and supporting followers through information sharing and the provision of necessary resources to accomplish teamwork.

*Consequently, the following hypothesis is proposed:*

H3: SCL has a positive impact on IS

To respond to modern industry challenges, the role that followers have in business has changed considerably in the last years. Recent transformations in the worldwide economy are producing a favourable environment for the conception of “new models of followership” (Chaleff, 2003). In the past century, a strong leadership was considered as the best choice to assure that the firms’ objectives were accomplished. According Chaleff (2003), in “information-age organizations”, the business environment has become complex, with several interconnected business partners working together to achieve the same goals. In this challenging context, there is a call for leadership behaviours at different levels of the supply chain to assure that business is efficiently coordinated, enabling IS. Therefore, IS may be the missing link to understand how followership relates to a social responsible purchasing.

*Consequently, the following hypothesis is proposed:*

H4: SCF has a positive impact on IS

According to Kolyperas *et al.* (2016), a strategic CSR relationship is characterized by intensive interaction levels, Customer Relationship Management (CRM), IS and targeted communications, processes of alignment/integration, and organizational culture homogenization. Even though IS is often referred as being an important instrument to reducing costs, Khan *et al.* (2016) consider that

there has not been enough research on studying its importance to sustainable supply chain management, although sustainability is recognised as an important competitive feature that must be pursued. Nevertheless, according to Li and Lin (2006), the importance of information sharing is dependent not only on what information is shared, but also when and how it is shared, which means that both the content and quality of the shared information must be considered.

Radaelli *et al.* (2014) argue that organizations that consider knowledge as a strategic subject that must be properly managed and shared, both inside and outside organizations limits, have a superior capability to innovate and increase their performance. Wang and Noe (2010) explain that as work processes are becoming more interdependent at all levels, every person, team and organization needs to constantly break existing “knowledge silos”, enabling synergies between different skills and knowledge background, continually promoting improvement and organizational innovation.

*Consequently, the following hypothesis is proposed:*

H5: IS has a positive impact on CSR

The values of an organization are in the core of organizational culture, which can be defined as the elementary pattern of common assumptions, values, and beliefs considered the correct way of thinking about and acting on problems and opportunities facing the organization (Amah & Ahiauzu, 2014). Values are the representation of stable, long-lasting beliefs regarding what is significant in several situations. Values refer to what is truly important to each one of us, that is, the ideas and beliefs we consider special and we use them as standards of evaluation that help us define what is right or wrong, and good or bad in the world (Sagie & Elizur, 1996). In other words, values dictate what is a priority, a preference or a desire for each of us. Values and motives for action are believed to be in the root of leadership and followership. It is important for leaders understanding the best way to use the insight of how their needs and values lead to the creation of goals and strategies that stimulate their staff and shape the culture to create more shareholder's value. Leaders have the important role of translating their mission, goals and strategies into the operative values of their direct reports and employees, so they can create tomorrow's company today, while accommodating their leadership style to lead a culture with people that have different needs and values and optimising value for shareholders and stakeholders. Shared values (SVS) are a major characteristic of a strong organisational culture that supports a mutual purpose and creates commitment to it. According to Gill (2003), the importance of values-based leadership has been highlighted by the challenge of change. O'Toole (1995) stated that there is a general belief among corporate executives regarding the necessity of creating strong SVS to bring people together in a fragmented world. As a result, SCL and SCF entails identifying and promoting SVS (Allen, 2016).

*Consequently, the following hypothesis are proposed:*

**H6** : SCL has a positive impact on SVS

**H7** : SCF has a positive impact on SVS

Numerous studies, which are included in the theoretical context of CSR and can be found within ethical theories, highlight in what way entrepreneurial behaviours and values are in the base of strategies and actions concerned with CSR (Baldo, 2016). The literature regarding ethic in business emphasizes the values dimension of entrepreneurial and managerial activity, introducing concepts like management integrity, authenticity and virtues. These ideas are wide spreading in the corporate context, helping rise the model of good governance, intended to construct a more civil economy (Argandoña, 2003). Bronn (2001) considers that the concept of CSR is strongly associated with the fundamental values of a corporation. As such, it is reflected in both the vision statement and the more detailed mission statements of the organization, which assures that at least the aspirations and guiding values that are linked to the CSR concept are preserved. The enterprise's governing ideals development has the task of building a shared vision. A sense of mission and openly specified core values are significant parts of the process, the vision must be aligned with the primary core values. SVS, including commitment to share prosperity, are considered to be as important for a global community as for smaller scale communities. For these reason, and because business can be a powerful agent of positive social change, this author affirms the necessity of moral values in economic decision-making, knowing that without stable business relationships a sustainable world community is impossible. According to Butt *et al.* (2016), a sustainable leadership creates ethical values, contributing to social responsibility behaviours of the organizations.

*Consequently, the following hypothesis is proposed:*

**H8** : SV has a positive impact on CSR

PSR includes a large variety of matters, like the environment, labour and human rights, health and safety, employee training, fair trade, animal welfare and philanthropy (Bjorklund, 2010). A problem discussed by Maignan *et al.* was that purchasing professionals were not aware of how they could adopt the rising expectations of social responsibility from their customers. From that moment on, the establishment of the research field by defining the concept, dimensions and drivers that comprise PSR has been the focus. The purchasing managers span the border between the company's internal functions and its external stakeholders, including suppliers and third parties. Thus, purchasing is favourably positioned to affect the companies' involvement in social responsible activities. If a firm adopts social and/or environmental standards, the purchasing function can be used in transferring them to suppliers. In this case, the corporation will generate a chain effect by which fast and significant social and environmental changes can be triggered

(Preuss, 2000). Carter and Jennings (2004) found that a people-oriented culture leads to higher levels of responsibility in accomplishing purchasing activities.

*Consequently, the following hypothesis are proposed:*

H 9 : S C L has a positive impact on P C R

H 1 0 : S C F has a positive impact on P C R

The implementation of PSR requires it to be internalized in the purchasing company. There must be the definition, communication and monitorization of standards of conduct with the supplier. Furthermore, the corporation must have constant suppliers' selection criteria, aligning its purchasing strategies with the supplier's relationships and share the cost of compliance with the supplier (Lau, 2011). According to Boyd *et al.* (2007), the implementation of CSR within the supply chain usually requires the supplier's compliance and monitoring. The use of following guidelines that are transparent, ethical and impartial in inter-firm relations can be an effective mean to increase compliance. Mont & Leire (2009) proposed that a few selected associates of the company should have the responsibility when it comes to the development and implementation of PSR in the supply chain, considering leadership a main driver of ethical behaviour related with purchasing.

*Consequently, the following hypothesis is proposed:*

H 1 1 : P C R has a positive impact on C S R

#### 6.2.4 The moderating role of Supply Chain Leadership dependency

The supply chain relationships have their base on ties of shared dependence in which one part has a certain amount of control over the achievement of its own aims and the ones of other parties (Narasimhan, Nair, & Griffith, 2009). Cadden *et al.* (2015), consider that one party has more power when it can accomplish the goals of another supply chain member. To develop positive relationships, a member should take action in a relational way, instead of maximising its own position.

According to Chaurasia (2014), the link between power and dependence in channel relationship has been often studied. Channel members need to depend on one another in accomplishing their common goals, once each one is expert in the activity that lies in their core competencies. These functions comprise information, promotion, negotiation, etc., and all flow forward and/or backward through the channel. Narasimhan *et al.* (2009) stated that power is extensively described as a central matter when it comes to researching the supply chain management. When the buyer is highly dependent and the dependence of the supplier is low, there is a supplier's power and opportunistic behaviour may be seen. The reverse situation is also real, that is, when the supplier is highly dependent on the buyer but the buyer dependency on the supplier is low, there is buyer power and the buyer will try to use it to affect the supplier's behaviour. Nevertheless, Cadden *et al.* (2015) say

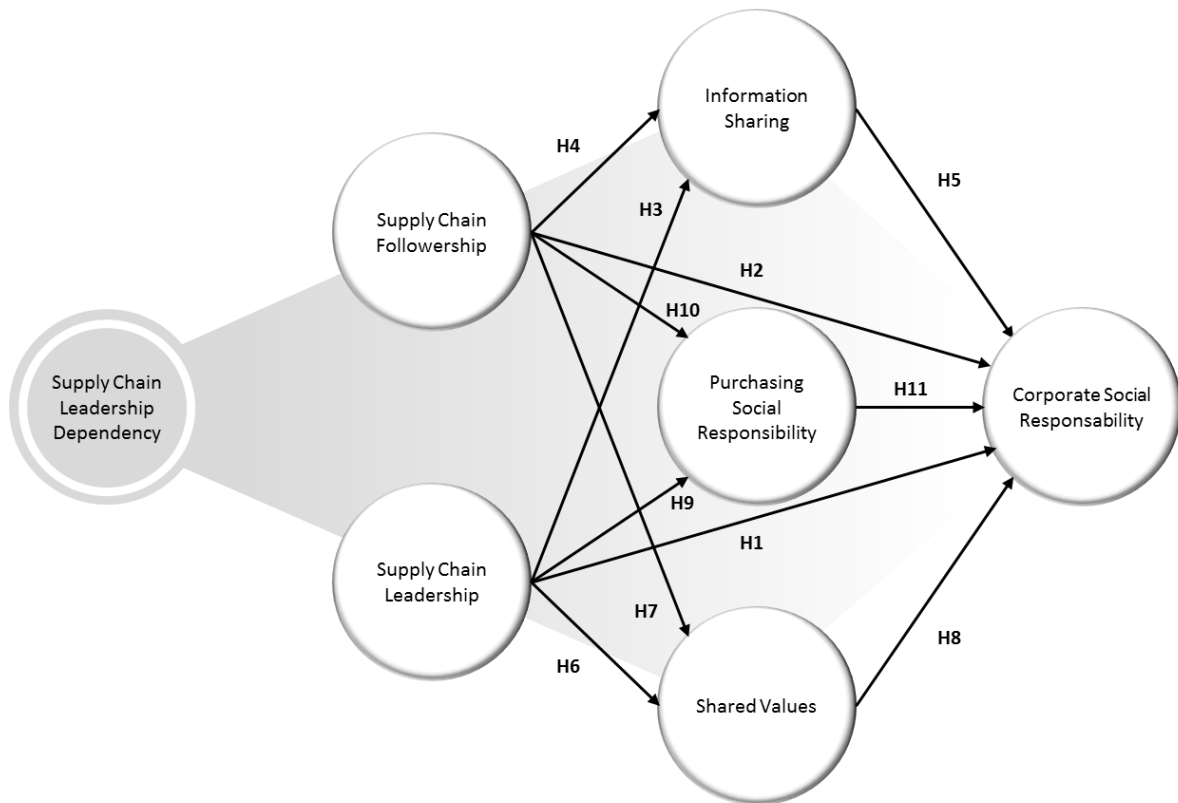
that in the case of both being highly dependent on each other, there is interdependence and this environment is where more cooperative cultures can be formed and developed.

The dependence between business activities in supply chains leads to the necessity of cooperation and coordination between companies, in order to achieve internal and, in some cases, mutual goals. Svensson (2007) considers that relational dependence refers to business activities being dependent on the interaction process between companies in the supply chains. Yet, exchange partners will be more dedicated to their relationships if they share values. Zhao *et al.* (2008) consider that when corporations are committed with each other and share information, the relationship between them builds a collaborative and long-term oriented culture.

In the present study, we consider the moderator effect of supply chain leadership dependency (SCLD) that corresponds to the supplier's dependency on the supply chain leader company. Accordingly, the follower's dependency may create a special predisposition to adopt and interact with specific behaviours, namely, sharing values, sharing information and reinforcing their social responsible behaviour on the purchasing decisions.

### **6.3 Method**

The research model presents a set of hypotheses. Given that each supplier has a different perception of the variables of the present investigation according to the level of dependency related with the supply chain leader, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=198) and a group with high SCLD (n=227). The proposed hypotheses are analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 19).



**Figure 18 - Conceptual Model (2/4)**

### 6.3.1 Sample and Data Collection

A questionnaire was developed using the online LimeSurvey tool to test the proposed research model and hypotheses. Between June and September 2016, 1.466 suppliers of EDP Group – considering its overall universe of 5.275 suppliers that execute activities in Portugal – were contacted by e-mail to respond to the questionnaire. EDP is a vertically integrated utility company, and the largest generator, distributor and supplier of electricity in Portugal, the third largest electricity generation company in the Iberian Peninsula and one of the largest gas distributors in the Iberian Peninsula, with relevant presence in the world's energy landscape.

In the last years, EDP has aggressively invested in Sustainable Development and on marketing. EDP recognises the importance of sustainability in its operations and value chain, and integrates the economic, environmental and social opportunities and risks into its business strategy (EDP, 2016a). The main guiding principles, values and actions are set out in voluntary public commitments, policies, procedures and, in general, in the EDP Code of Ethics. This code applies to all Company's employees, and to all those who are in any way authorised to act on behalf of EDP, namely some of its suppliers and service providers (EDP, 2016b). Regarding the position of Defee *et al.* (2010), we have considered EDP as a supply chain leader, mainly because it is characterized as an organization that demonstrates high levels of the four elements of leadership



regarding other member organizations (i.e. the organization is capable of greater influence, readily identifiable by its behaviours, creator of the vision, and establishes a relationship with other supply chain organizations).

From the 1.466 EDP which were contacted, only 979 agreed to participate in this survey. Of the 979 questionnaires collected, 425 were validated for use, the other 554 being rejected for incompleteness. The respondents were workers delegated by their companies to represent the contractual relation towards EDP namely CEO, CFO, Directors, Managers, Executives and Technicians.

### 6.3.2 Measures

The measures were created after reviewing the literature in the field and adapting scales that had already been validated in other research investigations. Such adaptation included the translation of vocabulary from English to Portuguese, to be more appropriate and hence more easily understood by respondents. Each scale included a combination of items from existing scales adapted to the present study. Scale items are shown in Table 18. A seven-point Likert scale was used and participants were instructed to answer to each item based on the frequency of the actions they observed, ranging from “Not at all” (1) to “Frequently” (7).

CONSTRUCT	ITEM
<b>Supply Chain Leadership</b> <b>- SCL -</b> (Defee, Stank, & Esper, 2010)	<b>My supply chain leader (...)</b> <ul style="list-style-type: none"> <li>• Articulates a compelling vision of the supply chain’s future</li> <li>• Clarifies the central purpose underlying actions of all supply chain members</li> <li>• Seeks differing perspectives from my company when solving problems</li> <li>• Induces my company to look at problems from many different angles</li> <li>• Asks my company to contribute with ideas for improving supply chain problems</li> <li>• Helps my company to strengthen the supply chain execution</li> <li>• Encourages my company to continuously improve its supply chain skills</li> </ul>
<b>Supply Chain Followership</b> <b>- SCF -</b> (Defee, Stank, & Esper, 2010)	<b>My company (...)</b> <ul style="list-style-type: none"> <li>• Independently thinks of new ideas that contribute to the supply chain goals</li> <li>• Champions the need for change in the supply chain</li> <li>• Builds a record of success in tasks important to the supply chain leader</li> </ul>

CONSTRUCT	ITEM
	<ul style="list-style-type: none"> <li>• Seeks out and completes assignments that go above and beyond what's required</li> <li>• Makes sound decisions that benefit the entire supply chain</li> <li>• Works hard to support the supply chain leader's goals</li> <li>• Develops a network of relationships with other supply chain members</li> <li>• Strives to accomplish goals that have been mutually defined with the supply chain leader</li> <li>• Contributes at a high level when not in a leadership position</li> <li>• Demonstrates commitment to overall supply chain success</li> </ul>
<p><b>Information Sharing</b> - IS1 - <i>Information Sharing Content</i> (Li, Ye, &amp; Sheu, 2014)</p>	<p><b>My supply chain leader shares his (...)</b></p> <ul style="list-style-type: none"> <li>• Production planning information with us</li> <li>• Production capacity information with us</li> <li>• Inventory information with us</li> </ul> <p><b>We share with our supply chain leader (...)</b></p> <ul style="list-style-type: none"> <li>• Our production planning information</li> <li>• Demand forecast information</li> </ul>
<p><b>Information Sharing</b> - IS2 - <i>Information Sharing Quality</i> (Li, Ye, &amp; Sheu, 2014)</p>	<p><b>The information shared by our supply chain leader and us is (...)</b></p> <ul style="list-style-type: none"> <li>• Timely</li> <li>• Accurate</li> <li>• Complete</li> <li>• Adequate</li> <li>• Reliable</li> </ul>
<p><b>Shared Values</b> - SVS - (Panayides, 2007)</p>	<p><b>Considering my supply chain leader (...)</b></p> <ul style="list-style-type: none"> <li>• We share the same world's view</li> <li>• We share opinions about most things</li> <li>• We share the same feelings towards things around us</li> <li>• We share the same values</li> </ul>
<p><b>Purchasing Social Responsibility</b> - PSR - (Salam, 2009)</p>	<p><b>The purchasing relation of my company with my supply chain leader contributes to (...)</b></p> <ul style="list-style-type: none"> <li>• My responsibility towards the environment</li> <li>• My responsibility towards diversity</li> <li>• My responsibility towards human rights</li> <li>• My responsibility towards safety</li> </ul>

CONSTRUCT	ITEM
	<ul style="list-style-type: none"> <li>• My responsibility towards philanthropy</li> </ul>
<b>Corporate Social Responsibility - CSR -</b> (Rettab, Brik, & Mellahi, 2009) <i>Community responsibilities</i>	<b>My company (...)</b> <ul style="list-style-type: none"> <li>• Give money to charities in the communities where we operate</li> <li>• Help improve the quality of life in the communities where we operate</li> <li>• Financially support community activities (arts, culture, sports)</li> <li>• Financially support education in the communities where we operate</li> </ul>
<i>Environmental responsibilities</i>	<ul style="list-style-type: none"> <li>• Incorporate environmental performance objectives in organisational plans</li> <li>• Voluntarily exceed government environmental regulations</li> <li>• Financially support environmental initiatives</li> <li>• Measure the organisation's environmental performance</li> </ul>
<i>Employee responsibilities</i>	<ul style="list-style-type: none"> <li>• Treat all employees fairly and respectfully, regardless of gender or ethnic background</li> <li>• Provide all employees with salaries that properly and fairly reward them for their work</li> <li>• Support all employees who want to pursue further education</li> <li>• Help all employees coordinate their private and professional lives</li> <li>• Incorporate the interests of all employees into business decisions</li> </ul>
<i>Investor responsibilities</i>	<ul style="list-style-type: none"> <li>• Incorporate the interests of all our investors into business decisions</li> <li>• Provide all investors with a competitive return on investment</li> <li>• Seek the input of all our investors regarding strategic decisions</li> <li>• Meet the needs and requests of all our investors</li> </ul>
<i>Customer responsibilities</i>	<ul style="list-style-type: none"> <li>• Provide all customers with very high-quality service</li> <li>• Provide all customers with the information needed to make sound purchasing decisions</li> <li>• Satisfy the complaints of all customers about the company's products or services</li> </ul>

CONSTRUCT	ITEM
	<ul style="list-style-type: none"> <li>• Adapt products or services to enhance the level of customer satisfaction</li> </ul>
<i>Supplier responsibilities</i>	<ul style="list-style-type: none"> <li>• Provide all suppliers of products and services with a commitment to a future relationship</li> <li>• Offer all suppliers of products and services some price guarantees for the future</li> <li>• Incorporate the interests of all suppliers of products and services into business decisions</li> <li>• Involve all suppliers in new product or service development</li> <li>• Inform all suppliers of products and services about organisational changes affecting purchasing decisions</li> </ul>

**Table 21 - Measurement scales (2/4)**

Confirmatory factor analysis was used to evaluate the psychometric properties of the scales and the measurement model, using AMOS 22. The final model shows a good fit (IFI=0,951; TLI=0,945; CFI=0,951; RMSEA=0,065; CMIN/DF=2,771; GFI=0,865). The two dimensions of IS showed high correlations and were turned into a second order variable. All the scales had values above 0,79 in the composite reliability (CR) and above 0,64 in the average variance extracted (AVE), as recommended by Hair *et al* (2006). The Means, Standard Deviations, Square Correlations, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted are presented in Table 17.

Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always smaller than the variance extracted for correspondent constructs (Shiu, Pervan, Bove, & Beatty, 2011), with the marginal exception of IS, thereby confirming the discriminant validity.

	SD	SCL	SCF	IS	SVS	PCR	CSR	CR	AVE
SCL	1,084	<b>0,950</b>						0,938	0,751
SCF	0,943	0,265	<b>0,935</b>					0,849	0,585
IS	1,329	0,676	0,308	<b>0,946</b>				0,786	0,678
SVS	1,223	0,406	0,326	0,540	<b>0,928</b>			0,928	0,763
PSR	1,479	0,397	0,125	0,471	0,442	<b>0,940</b>		0,931	0,773
CSR	0,868	0,095	0,305	0,229	0,401	0,176	<b>0,949</b>	0,866	0,526

**Table 22 - Standard Deviation, Correlations, Cronbach's Alpha, CR and AVE<sup>4</sup> (2/4)**

### 6.3.3 Common Method Variance

To minimize the risk of common method variance, we used some procedural methods proposed by Podsakoff *et al.* (2003): (a) all respondents were guaranteed anonymity and confidentiality of the information collected, and assured that there were no right or wrong answers; (b) there was randomness in the ordering of multiple items; (c) there was no use of scales with bipolar numerical values and verbal designations for the mid-points of the scales; (d) the questionnaire was divided into several sections with a brief explanation, reducing the risk of common method bias (Brammer & Millington, 2008). A single factor test was also performed.

A principal component analysis (unrotated solution) of all the items revealed 12 factors with values above 1. They accounted for 78% of the total variance, the first of which explained only 27% of the variance, suggesting that there were no problems with the common method variance. A single factor solution was tested (Podsakoff & Organ, 1986) and the fit of the model was very poor: IFI=0,381; TLI=0,358; CFI=0,379; RMSEA=0,149; CMIN/DF=10,460; GFI=0,240. All the methods used showed that there were no problems with common method variance.

<sup>4</sup> The principal diagonal presents Cronbach's Alpha; SD = Standard Deviation; CR = Composite Reliability; AVE = Average Variance extracted.

## 6.4 Findings

To perform a confirmatory factor analysis and structural equation modelling to test the hypotheses, it was used Amos 22. The final model shows a good fit (IFI=0,931; TLI=0,927; CFI=0,931; RMSEA=0,057; CMIN/DF=2,383; GFI=0,793). Two groups were created for SCLD. The first group, with lower SCLD levels was composed by 198 respondents, while the second group, with higher SCLD levels, was composed by 227 respondents. A multi-group analysis was performed to identify the differences between the two groups. The results presented in Table 20 show the relationships between the variables of the model and the introduction of SCLD as a moderating variable. Multi-group Moderation Tests were carried out, with the conclusion that the two groups are different.

HYPOTHESIS	GLOBAL				LOW SCLD				HIGH SCLD			
	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK
H1 SCL▷CSR	-0,475	-3,973	***	⊗	-0,488	-3,816	***	⊗	-0,538	-2,023	0,021	⊗
H2 SCF▷CSR	0,371	4,620	***	✓	0,399	3,522	***	✓	0,334	2,489	0,006	✓
H3 SCL▷IS	0,672	11,377	***	✓	0,559	5,933	***	✓	0,743	9,941	***	✓
H4 SCF▷IS	0,277	5,001	***	✓	0,318	3,419	***	✓	0,273	4,063	***	✓
H5 IS▷CSR	0,175	1,345	0,089	⊗	0,036	0,277	0,391	⊗	0,450	1,451	0,073	⊗
H6 SCL▷SVS	0,423	7,732	***	✓	0,331	3,768	***	✓	0,478	7,197	***	✓
H7 SCF▷SVS	0,370	6,451	***	✓	0,375	3,991	***	✓	0,418	5,989	***	✓
H8 SVS▷CSR	0,526	7,455	***	✓	0,597	6,297	***	✓	0,411	3,700	***	✓
H9 SCL▷PSR	0,576	9,601	***	✓	0,475	4,983	***	✓	0,625	8,337	***	✓
H10 SCF▷PSR	0,104	1,800	0,035	✓	0,113	1,193	0,116	⊗	0,142	2,041	0,020	✓
H11 PSR▷CSR	0,129	2,257	0,012	✓	0,229	3,056	0,001	✓	0,016	0,183	0,427	⊗

**Table 23 - Standardized Regression Summary<sup>5</sup> (2/4)**

<sup>5</sup> ✓ : Hypothesis Supported; ⊗ : Hypothesis Not Supported

Additionally, direct, indirect and total effects are presented in Table 21 to highlight the proposed mediation effects in the variables considered in the present investigation.

		PSR	SVS	IS	CSR
SCL	<b>Total</b>	0,576	0,423	0,672	-0,060
	<b>Direct</b>	0,576	0,423	0,672	-0,475
	<b>Indirect</b>	0,000	0,000	0,000	0,415
SCF	<b>Total</b>	0,104	0,370	0,277	0,627
	<b>Direct</b>	0,104	0,370	0,277	0,371
	<b>Indirect</b>	0,000	0,000	0,000	0,257

**Table 24 - Direct, Indirect and Total Effects (2/4)**

#### 6.4.1 Supply Chain Leadership, Supply Chain Followership and CSR

SCL has a negative impact on CSR (SRW=-0,475; p=0,000), therefore not supporting H1. This result is valid for both groups considered, namely for the group with higher dependency (SRW=-0,538; p=0,021) and for the group with lower dependency (SRW=-0,488; p=0,000). Considering the literature, e.g. Carter & Jennings (2002), Miao *et al.* (2012) and Dubey *et al.* (2015), it is expected that transformational leadership, based on ethical principles and values, will contribute to the adoption of socially responsible behaviours by the supply chain partners. Literature indicates that followers tend to trail leaders' behaviours, especially when they recognize that those behaviours can contribute to value creation for themselves. However, the results obtained show an antagonistic effect to the existing literature. The leadership practiced by the supply chain leader seems to have a negative effect on the adoption of socially responsible behaviours by the follower companies. Even if sustainable behaviours may be adopted by followers based on contractual relations with the supply chain leader (since they intend to guarantee the sustainability of the contractual relationship, fulfilling the established PSR requirements), when followers develop activities in other contexts those social responsible behaviours may not be maintained.

Perhaps, the action of the leader may be too strong, exercising a high pressure that may cause low motivation or rejection, therefore leading to a low CSR involvement. The observed effect may be related with resistance to change of supply chain partners, resulting from the lack of perception of the value of the socially responsible practices promoted by the supply chain leader or the intrinsic inability to change. An excessive pressure of the leader to comply certain practices, without proper explanation regarding their usefulness, through a rigid and coercive approach, can discourage followers from internalizing leader's culture, since they do not understand it and do not recognize

its value. Another factor that may explain this phenomenon is the inertia of society and the business in general, that limits responsible behaviours adopted by individuals and organizations.

Concomitantly, considering Table 4, the impacts from leadership on CSR may be transferred in an indirect and positive way through SVS, PSR and IS. Perhaps, when a supply chain leader (i) shares information with followers, in a systematic and transparent way, (ii) establishes a framework of shared values, with a clear purpose, able to contribute to a collaborative approach, furthering the greater mission of supply chain relationship and (iii) promotes contractual relationships where socially responsible behaviours are encouraged, a favourable environment can be established and supply chain partners can truly become socially responsible enterprises.

SCF has a positive impact on CSR (SRW=0,371; p=0,000), therefore supporting H2. Considering the literature, e.g. Carsten & Uhl-Bien (2013) and Defee *et al.* (2010), followership is expected to influence the adoption of social responsible behaviours, namely it is expected that the follower organization internalizes the practices of leader's organizations if they realize that they can contribute to the sustainability of their own business. Suppliers committed to collaborate with leaders in a synergistic way, aware of the importance of teamwork in the leader-follower relationship, will be more predisposed to follow the leader's behaviour and adopting it in their daily lives, since they recognize the value of this conduct for their own organizations.

This result is valid for both groups considered, namely for the group with higher dependency (SRW=0,334; p=0,006) and for the group with lower dependency (SRW=0,399; p=0,000). Followership, contrary to the effects of leadership, may be the acknowledgment that the supply chain has a leader and that the company is following the standards of the leader. The acceptance of a followership position may stimulate a positive attitude towards CSR that is similar for both groups.

#### 6.4.2 The mediating role of Information Sharing

SCL has a positive impact on IS (SRW=0,672; p=0,000), therefore supporting H3. According to the literature, e.g. Dubey *et al.* (2015), Miao *et al.* (2012) and Jennings *et al.* (2004), leadership is expected to have a positive impact on the availability to share information and to maintain an intense and profitable IS.

This result is valid for both groups considered, namely for the group with higher dependency (SRW=0,743; p=0,000) and for the group with lower dependency (SRW=0,559; p=0,000). Leadership appears to have positive influence on IS, stimulating an intense flow of information. This impact is stronger among companies with higher dependency, that seem more available to follow the leader. Kumar *et al.* (2013) consider that leaders who have the power to incite and influence information sharing activities have a natural advantage in their ability to play a central



role in the process of knowledge creation and thus build competitive power for organizations. Yet, dependency means that one part of the relationship exerts some kind of power over the other part, which may lead to the adoption of certain behaviours. In this case, the supply chain leader may encourage its suppliers to adopt a social responsible purchasing behaviour, and this effect is more intense in the relationship with more dependent companies.

SCF has a positive impact on IS (SRW=0,277; p=0,000), therefore supporting H4. Followership appears to have an impact on IS. The recognition of a followership position may create the feeling that an intense flow of information may be good for the relationship. IS may be the missing link to understand how followership relates to social responsible purchasing behaviours. King *et al.* (2009) consider that leadership and followership have grown to enable IS and coordinated group action in a wide variety of contexts. Price and Vught (2014) argue that leadership probably evolved initially to solve problems related to IS and social coordination.

Considering SCLD, the results obtained are valid for both groups under review. However, this relationship is more intense for the low dependency group (SRW=0,318; p=0,000), for whom cooperation may be better than imposition, than for the high dependency group (SRW=0,273; p=0,000). Less dependency from supply chain leader may increase the follower's confidence to adopt a more effective information sharing. In certain circumstances, sharing relevant information can improve the supply chain follower's perception concerning the vulnerability against the power of supply chain leaders, especially when the SCLD is high. This situation can negatively affect IS, since the follower eventually considers that less IS can give him some protection and competitive advantages to manage a potentially risky relation with a powerful supply chain leader.

Finally, the relation between IS and CSR (SRW=0,175; p=0,089) isn't significant, therefore not supporting H5. According to the literature, e.g. Radaelli *et al.* (2014) and Khan *et al.* (2016), corporations that encourage IS inside and outside the organizational limits are more probable to develop innovations and improve their performance, contributing to social responsible behaviours. IS allows the alignment and integration of certain processes, and the homogenization of organizational culture, creating a transparent decision-making platform that improves an open dialogue and encourages the reporting of health and safety issues, rewarded by those who assume leadership responsibilities.

This result isn't significant for both groups considered, namely for the group with higher dependency (SRW=0,450; p=0,073) and for the group with lower dependency (SRW=0,036; p=0,277). Subsequent investigations may explore this relationship more precisely. Yet, literature provides significant evidence regarding how IS represents a key factor, in order to promote social responsible behaviours on the organizations, since it can contribute to knowledge dissemination among supply chain partners that can be used to justify behavioural changes, in favour of more sustainable options.

### 6.4.3 The mediating role of Shared Values

SCL has a positive impact on SVS (SRW=0,423; p=0,000), therefore supporting H6. According to the literature, e.g. Amah & Ahiauzu (2014) and Gill (2003), the challenge of change has been stimulating the highlight of values-based leadership, that contributes to creating strong shared values which unite people and organizations in a fragmented world, enabling different supply chain partners to work well together to achieve common goals.

This result is valid for both groups considered, however this relationship is more intense for the high dependency group (SRW=0,478; p=0,000) than for the low dependency group (0,331; p=0,000). High dependency from the supply chain leader may increase the influence of SCL impact on SVS, because the remaining less influential supply chain partners are more interested in internalizing the dominant organization culture, guaranteeing the right alignment with the leader responsible for the sustainability of their own business. Avoiding sharing the same values with the supply chain leader could result in a dangerous situation affecting vulnerable companies, dependant from the relationship with the leader, who can be excluded from commercial relations with the leader, due to low-level alignment concerning SVS.

Additionally, SCF shows a positive impact on SVS (SRW=0,370; p=0,000), therefore supporting H7. According to the literature, e.g. Yung and Tsai (2013), followership contributes to identify and promote shared values. Considering effective followership points of view, the role of followers should be considered as positive, since it reflects that followers actively engage in the work and provide relevant feedback for leaders to establish SVS that enlighten the path of future supply chain decisions.

This result is valid for both groups considered. However, this relationship is more intense for the high dependency group (SRW=0,418; p=0,000) than for the low dependency group (0,375; p=0,000). High dependency from supply chain leaders may contribute to this relation, mainly because of the interest of highly dependent followers in keeping a virtuous relation with the leader, with the objective of increasing the commercial relationship.

Finally, SVS has a positive impact on CSR (SRW=0,526; p=0,000), therefore supporting H8. According to the literature, e.g. Butt *et al.* (2016), SVS can be a powerful agent of positive social change, contributing to organizational social responsibility behaviours. A SCL conducted in a sustainable way can enhance ethical values, contributing to organizational social responsibility behaviours, namely with supply chain partners that share the same values of the supply chain leader.

This result is valid for both groups considered. However, the relationship is more intense for the low dependency group (SRW=0,597; p=0,000) than for the higher dependency group (0,411; p=0,000). Possibly, under certain circumstances, when the level of dependence is lower, suppliers feel more able to genuinely freely embrace the values shared with the leader, recognizing their

importance to build a more sustainable business. When the level of dependence is higher, companies adopt socially responsible values and practices without a truly understanding of their importance, so the relationship will not be so intense, since there isn't a true motivation and understanding regarding values alignment and the consequent CSR adoption in activities carried out by supplier's organizations.

#### 6.4.4 The mediating role of Purchasing Social Responsibility

SCL has a positive impact on PSR (SRW=0,576; p=0,000), therefore supporting H9. Sustainable supply chain management requires leaders that act as ethical compasses in order to foster socially responsible behaviours in business relationships. Considering Wiengarten *et al.* (2017), a transformational and inspiring leadership, regarding the environmental, social and economic dimensions of business, in a holistic perspective, covering the medium and long-term horizon, is a key factor for higher PSR levels in contractual relations with suppliers. Thus, it is expected that sustainable leaders, capable of fostering collaboration and the focus on common good, produce socially responsible behaviours on the supply chain partners, who recognize the goodwill of the proposals and ethical standards.

This result is valid for both groups considered. However, the relationship is more intense for the higher dependency group (SRW=0,625; p=0,000) than for the lower dependency group 0,475; p=0,000). Perhaps, companies that are more dependent, are more interested to adopt the defined requirements established by the leader, since they understand that it is strategic to please all the standards and act in a fully collaborative way to assure the sustainability of the contractual relation. Companies with less dependency aren't so worried to guarantee this alignment with the leader, since they have other sources of revenues, that contribute to maintain their own business. Consequently, suppliers with lower dependency are more unpredictable, and maybe less aligned with supply chain leaders, since they aren't so dependent on the leader judgement to survive.

Moreover, SCF has a positive impact on PSR (SRW=0,104; p=0,035), therefore supporting H10. According to Kim and Schachter (2015), followership is the missing link between leadership and performance, namely the performance related with social responsible behaviours adoption at the purchasing function. The supplier's predisposition to act in a collaborative way is essential to PSR, since it provides synergies for a better alignment with the leader, contributing to value creation for all stakeholders, something that is strategic to business sustainability.

This result is valid only for the higher dependency group (SRW=0,142; p=0,020). The results obtained for the lower dependency group were not considered to be statistically significant (SRW=0,113; p=0,116). However, it is clear, that followers involved in the leadership process, capable of contributing to a sustainable supply chain in a diligent and committed way, are decisive

for the maintenance of socially responsible business relationships, advantageous for all the involved.

Finally, PSR shows a positive impact on CSR (SRW=0,129; p=0,012), therefore supporting H11. According to Gold (2017), sustainable supply chain management practices can contribute to firm's performance, and consequently to CSR. Considering Hong *et al.* (2018), when supply chain followers and supply chain leaders develop activities grounded on social responsible principles and behaviours, it is expected that, with the continuity of leader/follower relationship, followers internalize the practices of the leaders, assuming them as their own, with little differentiation. If the purchasing activities continuously improve social responsible behaviours, in a constructive and synergetic way, it is expected that suppliers change their own behaviours, setting a new paradigm to develop business. CSR becomes part of organization strategy, as consequence of the development of a truly social responsible awareness through meaningful PSR relations with supply chain leaders.

This result is valid only for the lower dependency group (SRW=0,229; p=0,001). The results obtained for the higher dependency group were not considered to be statistically significant (SRW=0,016; p=0,427). Regardless SCLD intensity, the continuity of socially responsible practices in commercial relations may lead to changes in the way companies do business, where more sustainable business approaches will prevail, in detriment of options merely focused in short-term financial results, for a restricted group of stakeholders.

## 6.5 Contributions, Implications and Recommendations

### 6.5.1 Contributions

According to Cadden, Marshall and Humphreys (2015), literature lacks explanation about the influence of a leadership position to improve social responsibility behaviours across the supply chain as well as about the behaviour of followers considering the supply chain leaders influence. At the same time, the role that dependency may exert on these behaviours are yet to be tested. This investigation contributes to investigation and practice showing: the influence of leadership and followership on the CSR adoption across supply chain; identifying the role of IS, PCR and SVS mediating this relationship; establishes the chain of effects between leadership and followership and the CSR adoption; and shows how dependency may affect these relationships.

This new approach of supply chain management identifies how a social responsible company may lead their suppliers to adopt and develop a true and committed socially responsible behaviour. Furthermore, this study integrates these ideas and relations in one empirical study with relevant data, offering a model that illustrates a chain of important effects, between the supply chain leadership and social responsible behaviour.

### 6.5.2 Implications for management

The research has concrete implications for experts by drawing their consideration to the encouraging links between SCL and SCF, SVS, IS, PSR and CSR. Thus, companies can change their behaviours by emphasizing the importance of a truly committed and diligent leadership and followership, concerned with the creation of value in a holistic and long-term way, specifically through social responsible behaviours, not only in the purchasing activities, but also in the entire organizational activities.

Leaders who adopt rigid behaviours, demanding followers' obedience, without a proper explanation, can conduct to a negative engagement of supply chain partners concerning CSR, since suppliers don't feel available to genuinely integrate social responsible behaviours into all organizational domains. Suppliers may feel forced to adopt social responsible behaviours at purchasing function, not truly understanding the advantage of adopting those behaviours. Consequently, in other circumstances, when suppliers perform actions without supply chain leader influence, they may feel impelled to don't adopt the behaviours usually demanded by the leader, because they don't recognize their value, and may even exhibits an antagonistic responsiveness of not adopting the supply chain leader requirements due to some kind of resentment and aversion, of previously having been forced to adopt behaviours in the purchasing function, without a proper explanation and a mutual consent, considering all suppliers personnel, including managers and employees.

However, when leaders promote socially responsible behaviours in purchasing relations established with suppliers, and at the same time, share critical information regarding business activities, keeping a shared values framework, where leaders and followers have a common understanding about what is important for both organizations, a truly engagement of supply chain partners with CSR can be achieved, in a lasting and meaningful way. When leaders share information and values in an authentic and inspirational way, followers may feel more motivated to adopt behaviours promoted by the leader in their daily practices, and not just on the purchasing function. In this way, suppliers are more likely to understand the value underlying the intentions of the leader. IS allows to understand the objectives that leader proposes for the business, as well as the approach to achieve them. SV allows to confirm that leaders and followers are aligned in the same purpose, searching for advantages that can benefit all the involved partners. If supply chain leaders can inspire and stimulate followers about the goodness of social responsible behaviours, PSR allows suppliers to learn about these behaviours in purchasing context, and later, implement CSR in all activities developed by supplier's companies in a lasting and meaningful way.

Present results can help firms realize the importance of SSCM and how leadership and followership can impact the social responsibility of the entire supply chain. Supply chain leaders and followers should develop an understanding of the entire supply chain and then communicate and collaborate with each other to ensure business sustainability. Therefore, with this new approach, it is possible to understand how a socially responsible company may lead their suppliers to adopt and develop true and committed social responsible behaviours, meeting stakeholders' expectations and creating value to business and society in general.

### 6.5.3 Limitations and recommendations for future research

Regardless of the contributions stated above, it is important to recognise limitations in our study, which can offer an opportunity for future research. Firstly, we specifically focused on a Portuguese energy supplier. Even though this work's environment may be notably effective for studying the SCL/PCR link, future research could be extended to other business environments, such as industries, communications, healthcare, retailing and education. Secondly, the cross-sectional nature of this study keeps us from stating final causal inferences about the relationships between variables. Further longitudinal studies may address this question. Studies following-up the present investigation could also contribute to the improvement of our model, by suggesting other variables that more widely explain the mediating mechanisms that translate SCL and SCF into CSR, and the reasons why supply chain leadership and followership are conducive to social responsible behaviours.

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# CHAPTER VII - THE IMPACT OF CSR ON COMPETITIVE ADVANTAGES AND PERFORMANCE: AN EMPIRICAL STUDY ABOUT A PORTUGUESE ENERGY SUPPLIER

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## **Abstract**

*The purpose of this study is to analyse how corporate social responsibility (CSR) affects a company's value. It does this specifically by analysing the effect of socially responsible behaviours on shared value (SV) creation, in order to foster higher performance (PRF) and greater competitive advantages (CA). In doing so, it provides new insights into CSR management to ensure business sustainability for supply chain management. This study uses a structured questionnaire to gather data from a cross-sectional sample of 425 supply chain partners of the Portugal's biggest energy supplier. Structural equation modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find how a supplier's dependency can impact on the suggested relationships. The findings suggest that CSR positively impacts CA, SV and PRF. Additionally, this study reveals that SV has a positive impact on PRF. However, supply chain leadership dependency appears to moderate some of the proposed relationships. This paper provides some empirical evidence of the influence of CSR on organisational value creation, contributing towards a better understanding of the impacts of socially responsible behaviours on business sustainability. The overall results may support the importance of CSR, identifying how a socially responsible company may create value for itself, and for all of those with whom it interacts. As such, researchers studying business strategy can incorporate these conceptual approaches as a key element in a company's strategic planning. Scholars of supply chain management can also incorporate CSR into their studies to evaluate how it impacts on tangible assets, life cycle management, time to market, quality and product innovation. The research considers only one company supplier. The relationships between variables need to be explored in other practical case studies and longitudinal investigations to improve upon the potential for making generalisations.*

**Keywords:** corporate social responsibility, shared value, performance, competitive advantages, sustainability, supply chain, sustainable supply chain management

## **7.1 Introduction**

In an ever-changing world, all actions have an impact. Beyond a company's shareholders, who seek to obtain the maximum return on their investments, society in general looks at a company's behaviours and can have a definitive bearing on the organisation's very existence (Lane & Devin, 2017). Companies are gradually waking up to this reality and realising that adopting socially

responsible behaviours is essential to ensure their sustainability (Pasricha, Singh, & Verma, 2018). Developing business models focused only on immediate financial returns is an approach that has been proven inadequate for organisations that aim to survive in the medium and long term (Mahoney & Thorne, 2005). However, going about business in a socially responsible way means thinking about the company's behaviours holistically, whereby business is developed with the purpose of creating value for all stakeholders related to the organisation, namely shareholders, managers, employees, customers, supply chain partners, governmental bodies and official authorities, and, last but not the least, society in general and the environment.

Through an integrated approach to addressing business multiple dimensions, companies are more likely to succeed once they ensure their legitimacy to operate (Curran, 2017). When responsibility for value creation is fully assured, taking all stakeholder expectations into account, favourable conditions for organisations to become more competitive in the marketplace are in place (Li & Lin, 2006), allowing superior levels of performance (Rettab, Brik, & Mellahi, 2009) and the ability to create value in everyday business interactions (Miguel, Brito, Fernandes, & Tescari, 2014). When business is conducted in a responsible way, society becomes more permissive, receptive and keen to empower business, as it is clear that organisations are directly involved in and committed to creating opportunities for all. Employees feel motivated, since there is the perception that the organisation cares about their well-being and will ensure fair compensation for effort expended (Kim & Scullion, 2013). Customers feel understood, since the products and services offered by socially responsible organisations are in accordance with their expectations and personal beliefs (Mattila, Wu & Choi, 2016). Suppliers feel valued and fairly treated, so in order to preserve their relationship with a socially responsible organisation, they will perform better in providing materials and services to their important client, while incorporating suppliers' interests and needs into their commercial activities (Blaisdell & Kruschwitz, 2012). The environment and the general public are not damaged by business activities (Gaurankumar, 2015), allowing the rightful alignment of a company's activities with legislation and other important regulations, and thus ensuring the proper monitoring of economic, environmental, social, reputational and legal non-compliance risk (Jo & Na, 2012).

Despite several attempts having been made to shed light on the importance of corporate social responsibility for performance, there remains a gap that can be explored with an empirical approach (Habaragoda B. S., 2018). Studying how companies' social responsibility behaviours can impact their ability to create shared value for their stakeholders and how these practices can contribute to higher performance levels and competitive advantages represents an opportunity to clarify how sustainable businesses can be driven, allowing firms to endure and grow together with their stakeholders, especially in a supply chain context. This is particularly important given that companies that are less engaged with social responsibility issues retain some level of scepticism as

to how social behaviours can contribute to shareholders' interests (Connors, MacDonald & Thomson, 2017), regardless of theoretical and empirical findings that show that socially responsible approaches are essential to guarantee organisational sustainability (Pistoni, Songini & Perrone, 2016). To fill this gap, our goal is to link corporate social responsibility (CSR), competitive advantages (CA), performance (PRF) and shared value (SV), since these variables contribute to a better understanding of the importance of socially responsible behaviours in value creation, as key drivers of corporate sustainability, especially in supply chains interactions.

Taking this as our starting point, we hope to engender a better understanding of the impacts and chain of effects between socially responsible behaviours and value creation, while also taking the role of supply chain leadership dependence into consideration as a moderating variable. The overall results may support the importance of adopting a truly socially responsible culture that is capable of promoting sustainable benefits to companies and, last but not least, their stakeholders.

## **7.2 Research background and hypothesis development**

### **7.2.1 Corporate social responsibility in the supply chain**

The growing significance of sustainable behaviour in business has improved its influence on supply chain management (SCM). While there is a considerable discussion as to what constitutes social sustainability in supply chains, CSR has emerged as one potential strategy for addressing social concerns in supply chains (Bhardwaj, 2016). SCM is crucial to assure that companies hold a sustainable market position. As such, it is vital that supply chain partners are aligned with enterprise values and fulfil enterprise regulations. The definition of SCM is '*management of material, information and capital flows as well as cooperation among the companies along the supply chain, while taking goals from all three dimensions of sustainable development, i.e. economic, environmental and social, into account, derived from customers and the stakeholders' requirements*' (Seuring & Müller, 2008).

From the early 1990s there has been a growing body of academic research on myriad issues relating to the environment, society and ethics in supply chains. An increasing number of SCM studies that look at the notion of sustainable supply chain management (SSCM) have also been conducted (Quarshie, Salmi, & Leuschner, 2016). As Carter *et al.* (2008) state, SSCM includes three dimensions – social, environmental and economic performance – which are, according to Elkington (1997), frequently called the triple bottom-line. Despite lacking a clear definition, CSR has remained a subject of immense interest and several attempts have been made by researchers to pin down exactly what it means. Spence *et al.* (2009) overlay Davis's (1973) description of CSR onto supply chains and explain it as '*chain-wide consideration of, and response to, issues beyond the narrow economic, technical and legal requirements of the supply chain to accomplish social (and*

*environmental) benefits along with the traditional economic gains which every member in that supply chain seeks'. This can help us to understand the strategies implemented by supply chains to address social problems.*

According to Sarkis, Zhu and Hee-hung (2011), cooperating with suppliers and customers has become enormously important for companies seeking to close the supply chain loop. At present, the literature recognises that social sustainability practices (like labour conditions, health and safety) positively affect performance in supply chains and bring about improvements to product and process quality (Yawar, 2014). There is an emphasis on the need for effective collaboration between buyers and suppliers and the implementation of supplier development strategies (like investing in technical and financial capabilities), which will then enable capacity development and help suppliers to build new skills (Yawar & Seuring, 2017). This is supported by Parmigiani *et al.* (2011), who state that investment into technical capabilities raises the ability of suppliers to deal with social issues, which in turn helps companies at risk, thereby improving financial performance.

The practice of CSR in supply chains requires the entrenchment of CSR throughout the whole administration. It must be dispersed to all functional areas, subsidiaries and offshore suppliers (Andersen & Skjoett-Larsen, 2009). To achieve such an intrinsic feature, it is necessary to have sharing and value co-creation mechanisms, a long-term relationship approach and sustainable supply chain leadership in place, in order to steer the business in ways that benefit all supply chain partners and, ultimately, to contribute to a better world for all stakeholders.

### 7.2.2 CSR and shared value

Creating shared value (SV), namely pursuing organisational success in a way that also benefits other stakeholders and even society at large, has become increasingly important to companies that are looking for new economic opportunities and seeking to regain the public's trust (Kramer & Pfitzer, 2016). Recent literature has emphasised the notion of a broader societal perspective on CSR's role in SV creation, in order to benefit companies and society (Høvring, 2017). Chaudhry (2016) argues that the 2000s sought a win-win situation through the development of SV creation as a result of adopting CSR initiatives. Vallentin (2015) considers that political organisations are progressively motivating companies to adopt socially responsible behaviours and get involved with issues that were previously considered to be the responsibility of the government by relating these issues to opportunities for SV creation. According to Porter and Kramer (2011), we can define SV through CSR as a management strategy focused on the creation of measurable business value by companies so that they can both identify and address social problems that intersect with their business. These authors believe that corporate aims must undergo a redefinition in order to result in the creation of SV, instead of just profit per se. In doing so, it will drive the next wave of innovation and productivity growth in the global economy.

One of the aspects of the SV concept includes improving the company's productivity or that of its suppliers by addressing the constraints on society and the environment that exist in its value chain (Bouchery, Corbett, Fransoo & Tarkan, 2017). An SV-related approach calls for the existence of specific areas of attention within the company's remit, as well as the need to take care of society's interests for the company's own benefit (Camilleri, 2012). Motilewa *et al.* (2016), considering the argument that organisations should focus on profit maximisation instead of solving societal issues that affect their profit, explain that creating SV offers a platform for addressing this argument. Furthermore, the authors argue that '*creating shared value is seen as the developed form of CSR, highlighting the shift from investing profits into solely solving societal challenges to a more strategic approach of solving societal challenges, whilst simultaneously creating economic value*' (Motilewa, Worlu, Agboola & Gberevbie, 2016, p. 2,445).

Strategies for creating SV take account of the fact that business has social roots, that business organisations take advantage of the numerous inputs that society provides and that the growth and amount of profits that a company sustains are limited by the existence of failures in society. According to Nichols (2016), strategies behind the creation of shared value enhance society in a targeted way, allowing a company to profit and grow. Font *et al.* (2016) believe that creating shared value hinges on the interdependence between a company's success and social welfare, and also the identification and expansion of connections between that company and society. Høvring (2017) believes that the creation of SV is closely related to the interdependence of organisational success and social justice, as well as to the identification and expansion of existing links between business and society. Jayakumar (2017) showed how sustainability-led initiatives can help a firm to differentiate itself from its competitors, creating shared value for its multiple stakeholders, including employees, customers and society. Through a more inclusive approach to activities in the supply chain and respectful and proactive attitudes towards the other partners, it has huge potential to contribute towards higher levels of organisational success, and to the creation of shared value that can be enjoyed by all.

*Consequently, the following hypothesis is proposed:*

H1: CSR has a positive impact on SV

### 7.2.3 CSR and competitive advantages

In an unpredictable business world where every action counts, CSR has become increasingly important to the improvement of a company's sustainable competitive advantages (CA). Acting in a sustainable manner provides key benefits that make CSR interesting from a business perspective (Yu, Kuo & Kao, 2017). When the company strengthens its relations with the organisation's stakeholders, it can prevent and limit potential conflicts related to its business activities (Lee, Lee, Pae & Park, 2016). Closer dialogue with stakeholders also enables the company to make better



decisions based on a deeper understanding of society's expectations regarding the company. At the same time, working diligently on communicating sustainability helps to improve the company's reputation and the stakeholders' and general public's confidence in the organisation. This means that companies gain CA and create access to new markets and innovation opportunities through their approach to CSR and sustainable business (Aagaard A. , 2016).

According to Litz (1996), an organisation's capability to be ethically and socially responsive can contribute to the company's CA. Cruz and Boehe (2008) confirmed that this involves CSR implementation and the promotion of value co-creation, and also suggested a different concept called '*Sustainable global value chains*'. Their investigation into this matter proved that such value chains may get further benefits, such as negotiating power. Husted and Allen (2007) contend that although stakeholder theory provides the basis for creating a firm's sustainable CA, it is still to be determined how CSR can be capitalised upon within the firm to achieve CA. Agrawal and Rahman (2015) believe that socially responsible and collaborative behaviours allow firms to have close connections with their supply chain partners, which in turn increase their involvement and result in greater value offered. Furthermore, if companies implementing strategically integrated CSR action create a CA through socially and ethically responsible activities, they then generate higher market value than firms that either do not practice CSR actions or are opposed to them (Mattera & Baena, 2015). As a result, by pursuing CSR actions and engaging in business ethics decisions, firms are able to increase their CA.

*Consequently, the following hypothesis is proposed:*

H2: CSR has a positive impact on CA

#### 7.2.4 CSR and performance

Much like the CSR concept, CSR outcomes, especially the link between CSR and firm performance (PRF), have gained significant attention by virtue of their support for claims of being a good corporate citizen (Habaragoda B. S., 2018). According to the literature, the relationship between CSR and firm performance (PRF) has been studied by scholars for more than thirty years, as they tried to figure out if firms can benefit by engaging CSR. Even though results are diverse, the tendency appears to support a moderately positive relationship between CSR and PRF (Galbreath, 2010). Nonetheless, the ostensible benefits of CSR are abundant and go beyond the purely financial sphere, such as maintaining a licence to operate, reducing risk, efficiency improvements and tax advantages (Weber, 2008).

There are several publications that conclude that CSR can contribute to PRF through higher levels of risk management (Walker, Di Sisto & McBain, 2008), quality (Hall & Soskice, 2001), optimising resources (Jayaraman, Singh & Anandnarayan, 2012), organisational culture (Zychlewicz, 2014),

retention and healthier employees (Aagaard A. , 2016), marketing benefits (Choi & La, 2013), effectiveness at doing business globally (Aguilera, Rupp, & Williams, 2007) and financial benefits (Nizamuddin, 2018). Nevertheless, even though investigation of the impact of CSR on PRF is an extensively researched area, the outcomes are still inconclusive.

It is commonly claimed in scientific articles that CSR could increase enterprise profits, with the result that most large companies are enthusiastically engaged in it. Bhardwaj (2016) argues that the only way to preserve the balance in the long run is if the company is able to take a holistic attitude to sustaining the financial flow (profit), resource flow (planet), and development flow (people) for the complete ecosystem, involving poor producers in emerging/developing markets, global supply chain partners, consumers in developed countries and the planet. The correlation between socially responsible behaviours, profitability and corporate sustainability is suggested by Tang and Zhou (2012). Although Nizamuddin (2018) states that there is some discussion over the fact that theoretical rationale suggests potentially positive (e.g. Rodgers *et al.*, 2013), negative (e.g. Peng and Yang, 2014), neutral (e.g. Soana, 2011) and curvilinear (e.g. Barnett & Salomon, 2012) relationship between CSR and CFP, the main findings of the empirical literature recognise a positive relationship between CSR and PRF.

*Consequently, the following hypothesis is proposed:*

**H3**: CSR has a positive impact on PRF

### 7.2.5 Shared value, competitive advantages and performance

A company's capacity to recognise and respond strategically to opportunities and threats enhances CA (Li & Liu, 2014). The literature suggests that shared value increases CA, since firms that move into sustainability-led initiatives, promoting synergies between business partners, are able to differentiate themselves from their competitors, creating asymmetries in access to vitally important resources compared to their competitors (Jayakumar, 2017). Spitzeck *et al.* (2013) consider that CA are driven by technological change, industry growth and market dynamism, facilitated in turn by favourable factors in the firm's internal environment, such as organisational culture, human resource practices, resource availability and top management support. The belief that CSR can help firms mitigate risk and also provide opportunities for SV creation is well understood (Strand & Freeman, 2015). However, comprehending how SV contributes to CA through active business collaborations remains a subject that deserves to be studied.

*Consequently, the following hypothesis is proposed:*

**H4**: SV has a positive impact on CA

In today's global economy, financial structure is raised as a fundamental parameter for corporate evaluation and capital market positioning (Algame & Pirzad, 2017). The primary goal of socially

responsible policies, programmes and practices for companies is shifting to the creation of SV for both business and society (Porter & Kramer, 2011) and developing advantages for the firm (McWilliams & Siegel, 2000). By creating SV, firms are economically rewarded by establishing differentiation based upon social action, using social action to attract investors or to attract, retain or increase satisfaction of employees (Bartkoski & Shahzad, 2017), clients, suppliers and other corporate stakeholders. This reward can be measured in terms of financial parameters, allowing us to determine the impact of this kind of synergetic value created between the firm and its business partners on the financial results of company itself, namely on PRF.

*Consequently, the following hypothesis is proposed:*

H5: SV has a positive impact on PRF

### 7.2.6 The moderating role of supply chain leadership dependence

Supply chain relationships are based on bonds of mutual dependence, where one party has some control over the accomplishment of its own goals and those of other parties (Narasimhan, Nair & Griffith, 2009). Cadden *et al.* (2015), consider one party to be more powerful if it can fulfil the goals of another supply chain member. In order to develop positive relationships, a party should act in a relationship-based manner, rather than maximising its own position.

According to Chaurasia (2014), the link between power and dependence in channel relationships has been the subject of frequent study. It is necessary for channel members to depend on one another in order to fulfil their shared goals, as each is an expert in the activity that lies within their core competencies (El-Ansary, 1975). These functions include information, promotion, negotiation, ordering, financing, risk-taking, possession, billing, payment, etc., and all flow forwards and/or backwards through the channel. Narasimhan *et al.* (2009) state that power is widely reported as a fundamental issue within supply chain management research. When buyer dependence is high and supplier dependence is low, the supplier may have power and opportunistic behaviour may occur. The opposite is also true if supplier dependence on the buyer is high, but if buyer dependence on the supplier is low, buyer power exists and the buyer will seek to use this power to influence the supplier's behaviour. However, Cadden *et al.* (2015) say that if the level of dependence on each other is high, there is interdependence. It is in this environment that a more collaborative culture can be formed and developed.

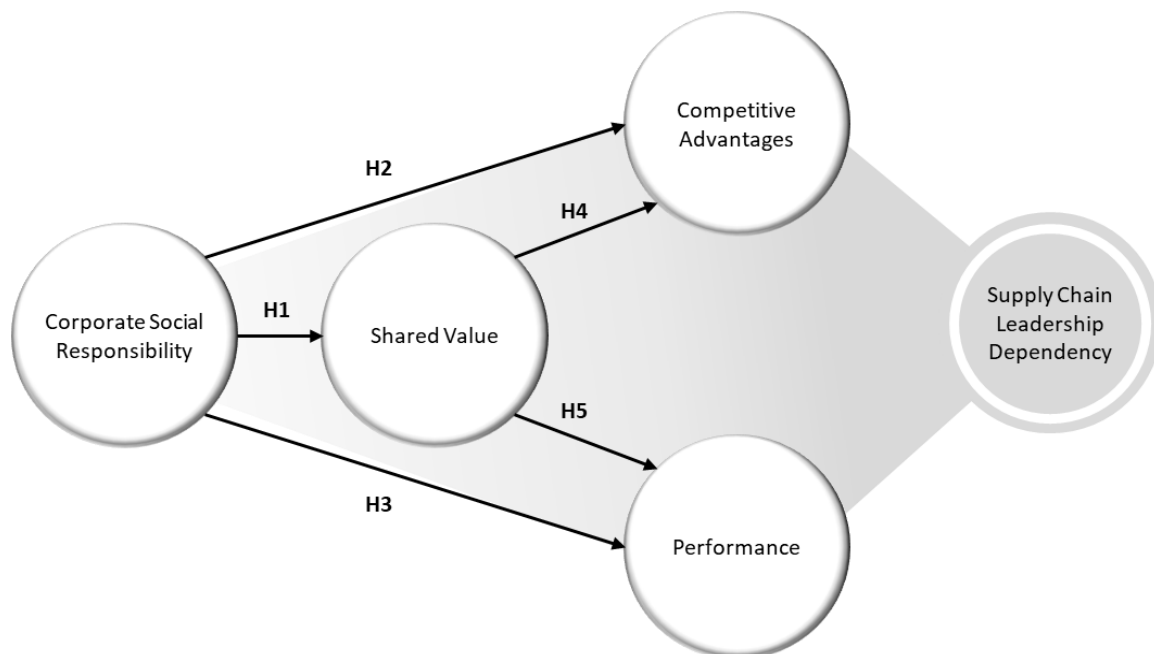
Dependence between business activities in supply chains leads to the necessity of cooperation and coordination between companies in order to achieve internal and, in some cases, mutual goals (Lambert, Cooper & Pagh, 1998). Svensson (2002) considers that relational dependence refers to business activities being dependent on interaction between companies in the supply chains. Yet when exchange partners share values, they will be more committed to their relationships (Morgan

& Hunt, 1994). Zhao *et al.* (2008) consider that through processes of commitment and information sharing, companies in a relationship build a collaborative culture that takes a long view. If this continues into the long-term, Cadden *et al.* (2015) conjecture that the repeated behaviours and actions will lead to a collaborative culture within the relationship.

In this study, I consider the moderator effect of supply chain leadership dependence (SCLD), which corresponds to the supplier’s dependence on the supply chain leader company. Accordingly, the follower’s dependence may create a special predisposition to adopt and interact with specific behaviours, namely sharing values, sharing information and reinforcing socially responsible behaviour when purchasing decisions are made.

### 7.3 Method

The research model presents a set of hypotheses. Given that each supplier has a different perception of the variables of the present investigation according to the level of dependency related with the supply chain leaser, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=198) and a group with high SCLD (n=227). The proposed hypotheses are analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 20).



**Figure 19 - Conceptual Model (3/4)**

### 7.3.1 Sample and Data Collection

A questionnaire was developed using the online LimeSurvey tool to test the proposed research model and hypotheses. Between June and September 2016, 1.466 suppliers of EDP Group – considering its overall universe of 5.275 suppliers that execute activities in Portugal – were contacted by e-mail to respond to the questionnaire. EDP is a vertically integrated utility company, and the largest generator, distributor and supplier of electricity in Portugal, the third largest electricity generation company in the Iberian Peninsula and one of the largest gas distributors in the Iberian Peninsula, with relevant presence in the world's energy landscape.

In the last years, EDP has aggressively invested in Sustainable Development and on marketing (Santos, 2011). EDP recognises the importance of sustainability in its operations and value chain, and integrates the economic, environmental and social opportunities and risks into its business strategy (EDP, 2016a). The main guiding principles, values and actions are set out in voluntary public commitments, policies, procedures and, in general, in the EDP Code of Ethics. This code applies to all Company's employees, and to all those who are in any way authorised to act on behalf of EDP, namely some of its suppliers and service providers (EDP, 2016b). Regarding the position of Defee *et al.* (2010), we have considered EDP as a supply chain leader, mainly because it is characterized as an organization that demonstrates high levels of the four elements of leadership regarding other member organizations (i.e. the organization is capable of greater influence, readily identifiable by its behaviours, creator of the vision, and establishes a relationship with other supply chain organizations).

From the 1.466 EDP which were contacted, only 979 agreed to participate in this survey. Of the 979 questionnaires collected, 425 were validated for use, the other 554 being rejected for incompleteness. The respondents were workers delegated by their companies to represent the contractual relation towards EDP namely CEO, CFO, Directors, Managers, Executives and Technicians.

### 7.3.2 Measures

The measures were created after reviewing the literature in the field and adapting scales that had already been validated in other research investigations. Such adaption included the translation of vocabulary from English to Portuguese, to be more appropriate and hence more easily understood by respondents. Each scale included a combination of items from existing scales adapted to the present study. Scale items are shown in Table 22. A seven-point Likert scale was used and participants were instructed to answer to each item based on the frequency of the actions they observed, ranging from “Not at all” (1) to “Frequently” (7).

CONSTRUCT	ITEM
<b>Corporate Social Responsibility</b> <b>- CSR -</b> Rettab <i>et al</i> (2009) <i>Community responsibilities</i>	<b>My company (...)</b> <ul style="list-style-type: none"> <li>• give money to charities in the communities where we operate</li> <li>• help improve the quality of life in the communities where we operate</li> <li>• financially support community activities (arts, culture, sports)</li> <li>• financially support education in the communities where we operate</li> </ul>
<i>Environmental responsibilities</i>	<ul style="list-style-type: none"> <li>• incorporate environmental performance objectives in organisational plans</li> <li>• voluntarily exceed government environmental regulations</li> <li>• financially support environmental initiatives</li> <li>• measure the organisation's environmental performance</li> </ul>
<i>Employee responsibilities</i>	<ul style="list-style-type: none"> <li>• treat all employees fairly and respectfully, regardless of gender or ethnic background</li> <li>• provide all employees with salaries that properly and fairly reward them for their work</li> <li>• support all employees who want to pursue further education</li> <li>• help all employees coordinate their private and professional lives</li> <li>• incorporate the interests of all employees into business decisions</li> </ul>
<i>Investor responsibilities</i>	<ul style="list-style-type: none"> <li>• incorporate the interests of all our investors into business decisions</li> <li>• provide all investors with a competitive return on investment</li> <li>• seek the input of all our investors regarding strategic decisions</li> <li>• meet the needs and requests of all our investors</li> </ul>
<i>Customer responsibilities</i>	<ul style="list-style-type: none"> <li>• provide all customers with very high-quality service</li> <li>• provide all customers with the information needed to make sound purchasing decisions</li> <li>• satisfy the complaints of all customers about the company's products or services</li> <li>• adapt products or services to enhance the level of customer satisfaction</li> </ul>
<i>Supplier responsibilities</i>	<ul style="list-style-type: none"> <li>• provide all suppliers of products and services with a commitment to a future relationship</li> </ul>

CONSTRUCT	ITEM
	<ul style="list-style-type: none"> <li>• offer all suppliers of products and services some price guarantees for the future</li> <li>• incorporate the interests of all suppliers of products and services into business decisions</li> <li>• involve all suppliers in new product or service development</li> <li>• inform all suppliers of products and services about organisational changes affecting purchasing decisions</li> </ul>
<b>Competitive Advantages</b> <b>- CA -</b> <i>Li et al (2004)</i> <i>Price/Cost</i>	<b>My company (...)</b> <ul style="list-style-type: none"> <li>• offer competitive prices</li> <li>• is able to offer prices as low or lower than our competitors</li> <li>• can adapt prices to market conditions</li> </ul>
<i>Quality</i>	<ul style="list-style-type: none"> <li>• is able to compete based on quality</li> <li>• offer products that are highly reliable</li> <li>• offer products that are very durable</li> <li>• offer high quality products to our customer</li> </ul>
<i>Delivery dependability</i>	<ul style="list-style-type: none"> <li>• deliver the kind of products needed</li> <li>• deliver customer order on time</li> <li>• provide dependable delivery</li> </ul>
<i>Product innovation</i>	<ul style="list-style-type: none"> <li>• provide customized products</li> <li>• alter our product offerings to meet client needs</li> <li>• respond well to customer demand for “new” features</li> </ul>
<i>Time to Market</i>	<ul style="list-style-type: none"> <li>• deliver product to market quickly</li> <li>• are first in the market in introducing new products</li> <li>• have time-to-market lower than industry average</li> <li>• have fast product development</li> <li>• are first in the market in introducing new products</li> </ul>
<b>Shared Value</b> <b>- SV -</b> <i>Miguel et al (2014)</i>	<b>Considering the relation that my company has with EDP (...)</b>

CONSTRUCT	ITEM
	<ul style="list-style-type: none"> <li>• the benefits arising out of the relationship are shared between both organizations</li> <li>• in emergency situations, both firms rely on the support of the other part</li> <li>• the management and corporate styles of the firms are similar</li> <li>• there is transparency in negotiations</li> <li>• there are proposals for projects aiming to reduce costs</li> <li>• there is priority in the assistance related to other buyers</li> <li>• there is priority in offering innovations related to other buyers</li> <li>• there is quality conformance to products and services</li> <li>• there is rapid confirmation of buyer orders</li> <li>• there is financial health</li> <li>• there is flexibility to meet requests for changes</li> </ul>
<b>Performance</b> <b>- PRF -</b> Rettab <i>et al</i> (2009)	<p style="text-align: center;"><b>Relative to our largest competitor, during the last year (...)</b></p> <ul style="list-style-type: none"> <li>• we had a larger market share</li> <li>• we were larger in size</li> <li>• we performed better relative to competitors</li> <li>• our return on investment has been substantially better</li> <li>• our return on assets has been substantially better</li> <li>• our sales growth has been substantially better</li> <li>• our profit growth has been substantially better</li> </ul>
Chen <i>et al.</i> (2012)	<p style="text-align: center;"><b>Relative to our largest competitor, during the last year (...)</b></p> <ul style="list-style-type: none"> <li>• our client satisfaction has been substantially better</li> <li>• our client retention has been substantially better</li> <li>• the quality of our products and services was substantially better</li> </ul>
Wiklund and Shepherd (2003)	<p style="text-align: center;"><b>Relative to our largest competitor, during the last year (...)</b></p> <ul style="list-style-type: none"> <li>• our employees number has substantially increased</li> </ul>

**Table 25 - Measurement scales (3/4)**

Confirmatory factor analysis was used to evaluate the psychometric properties of the scales and the measurement model, using AMOS 22. The final model shows a good fit (IFI=0,910; TLI=0,905;



CFI=0,909; RMSEA=0,064; CMIN/DF=2,717). All the scales had values above 0,79 in the composite reliability (CR) and above 0,64 in the average variance extracted (AVE), as recommended by Hair *et al* (2006). The Means, Standard Deviations, Square Correlations, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted are presented in Table 23.

Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always smaller than the variance extracted for correspondent constructs (Shiu, Pervan, Bove, & Beatty, 2011).

	SD	CSR	SV	CA	PRF	CR	AVE
CSR	0,876	<b>0,947</b>				0,987	0,767
SV	0,802	0,353	<b>0,941</b>			0,942	0,643
CA	0,917	0,799	0,263	<b>0,965</b>		0,988	0,841
PRF	0,856	0,147	0,118	0,127	<b>0,936</b>	0,941	0,733

**Table 26 - Standard Deviation, Correlations, Cronbach's Alpha, CR and AVE<sup>6</sup> (3/4)**

### 7.3.3 Common Method Variance

To minimize the risk of common method variance, we used some procedural methods proposed by Podsakoff *et al.* (2003): (a) all respondents were guaranteed anonymity and confidentiality of the information collected, and assured that there were no right or wrong answers; (b) there was randomness in the ordering of multiple items; (c) there was no use of scales with bipolar numerical values and verbal designations for the mid-points of the scales; (d) the questionnaire was divided into several sections with a brief explanation, reducing the risk of common method bias (Brammer & Millington, 2008). A single factor test was also performed (Harman, 1967).

A principal component analysis (unrotated solution) of all the items revealed 11 factors with values above 1. They accounted for 81% of the total variance, the first of which explained only 22% of the variance, suggesting that there were no problems with the common method variance. A single factor solution was tested (Podsakoff & Organ, 1986) and the fit of the model was very poor: IFI=0,48; TLI=0,46; CFI=0,48; RMSEA=0,15; CMIN/DF=11; GFI= 0,34. All the methods used showed that there were no problems with common method variance.

<sup>6</sup> The principal diagonal presents Cronbach's Alpha; SD = Standard Deviation; CR = Composite Reliability; AVE = Average Variance extracted.

## 7.4 Findings

To perform a confirmatory factor analysis and structural equation modelling to test the hypotheses, it was used Amos 22. The final model shows a good fit (IFI=0,921; TLI=0,917; CFI=0,921; RMSEA=0,059; CMIN/DF=2,500). Two groups were created for SCLD. The first group, with lower SCLD levels was composed by 198 respondents, while the second group, with higher SCLD levels, was composed by 227 respondents. A multi-group analysis was performed to identify the differences between the two groups. The results presented in Table 24 show the relationships between the variables of the model and the introduction of SCLD as a moderating variable. Multi-group Moderation Tests were carried out, with the conclusion that the two groups are different.

HYPOTHESIS	GLOBAL				LOW SCLD				HIGH SCLD			
	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK
H1 CSR ▷ SV	0,598	10,676	***	✓	0,543	6,542	***	✓	0,646	8,461	***	✓
H2 CSR ▷ CA	0,906	12,575	***	✓	0,965	8,906	***	✓	0,849	8,701	***	✓
H3 CSR ▷ PRF	0,290	4,656	***	✓	0,262	3,151	0,002	✓	0,341	3,661	***	✓
H4 SV ▷ CA	-0,029	-0,734	0,463	⊗	-0,038	-0,828	0,408	⊗	-0,02	-0,313	0,754	⊗
H5 SV ▷ PRF	0,171	2,819	0,005	✓	0,272	3,292	***	✓	0,045	0,498	0,618	⊗

**Table 27 - Standardized Regression Summary<sup>7</sup> (3/4)**

### 7.4.1 CSR, competitive advantages and performance

#### 7.4.1.1 Corporate social responsibility and shared value

CSR has a positive impact on SV (SRW=0.598; p=0.000), thus supporting H1. In terms of the literature, e.g. Miguel *et al.* (2014), CSR is expected to influence SV, in particular through the creation of common resources that can be shared between the company and its stakeholders through win-win relationships in which the needs and expectations of the partners are taken into consideration when developing business activities. Since CSR contributes to SV creation for those who interact with the company, socially responsible firms create collaborative environments where all can benefit, reducing risks, generating synergetic opportunities and allowing cooperative responses to eventual contingencies.

This result is valid for both groups considered, i.e. for the group with lower dependence (SRW=0.543; p=0.002) and for the group with higher dependence (SRW=0.646; p=0.000). It is

<sup>7</sup> ✓ : Hypothesis Supported; ⊗ : Hypothesis Not Supported

likely that firms with high dependence on the supply chain leader will try to make the best use of the existing relationship in order to derive the maximum possible value from the relationship. As the supply chain leader is the main source of income, firms tend to put their utmost efforts into SV creation in order to maximise the results that they can obtain from the relationship with their business partner.

#### *7.4.1.2 Corporate social responsibility and competitive advantages*

CSR has a positive impact on CA (SRW=0.906; p=0.000), thus supporting H2. In terms of the literature, e.g. Lee *et al* (2016), CSR is expected to influence CA, as it is probable that socially responsible companies have unique capacities that make them more proficient at value creation compared to their competitors. Since firms engaged with CSR are concerned with offering the best value-added solutions for their stakeholders, they are able to maintain a better market position, especially in a world where customers (and other stakeholders) are increasingly informed and motivated to make the best possible choices. Still, there are companies that continue to fail to address CSR issues in a serious and fully committed way. This situation favours organisations that *do* address social responsibility, allowing them to be positively differentiated from their competitors.

This result is valid for both groups under consideration, namely for the group with lower dependence (SRW=0.965; p=0.002) and for the group with higher dependence (SRW=0.849; p=0.000). Perhaps when the firms are too dependent on a supply chain leader they feel less need to develop CA, since they are not proficient at seeking out new business partners. Eventually companies become less dependent, feel more vulnerable, and actively seek new business partners to ensure their sustainability. This requires companies to continue improve their skills, developing new competencies that make them more competitive in the market.

#### *7.4.1.3 Corporate social responsibility and performance*

CSR has a positive impact on PRF (SRW=0.290; p=0.000), thus supporting H3. Considering the literature, e.g. Rodgers (2013), CSR is understood to influence PRF and it is expected that socially responsible behaviours increase firms' outcomes, although some benefits of CSR may be delayed to future periods (Habaragoda B. S., 2018). High-performance firms show a strong correlation with CSR activities and better performance in terms of profitability and productivity than other firms. The results suggest that a company's level of PRF is improved by their CSR efforts. As CSR is a stakeholder-focused tactic, firms with strong CSR are rewarded for their efforts by higher performance from customers and superior synergies with stakeholders such as communities, employees, investors, suppliers and authorities, avoiding legal constraints and maximising value for business partners.

This result is valid for both groups under consideration, namely for the group with lower dependence (SRW=0.262; p=0.002) and for the group with higher dependence (SRW=0.341; p=0.000). For the higher-dependence group, the action of the leader may be too strong, exercising great pressure that may cause low motivation or rejection, thus leading to low CSR involvement in PRF outcomes. The observed effect may be related to resistance to change supply chain partners as a result of the lack of perception of the value of socially responsible practices promoted by the supply chain leader or the intrinsic inability to change. Excessive pressure by the leader to comply with certain practice through a rigid and coercive approach, without proper explanation of their usefulness, can discourage followers from internalising the leader's culture, as they neither understand it nor recognise its value. Another factor that may explain this phenomenon is inertia among society and business in general, which limits responsible behaviours adopted by individuals and organisations.

## 7.4.2 The mediating role of shared value

### 7.4.2.1 *Shared value and competitive advantages*

SV has a negative impact on CA (SRW=-0.029; p=0.463), and therefore does not support H4. This result is valid for both groups under consideration, namely for the group with lower dependence (SRW=-0.038; p=0.408) and for the group with higher dependence (SRW=-0.020; p=0.754). In terms of the literature (e.g. Herrera, 2015), it is expected that organisations that share resources, seeking to maximise value creation through collaborative behaviours, will promote CA creation, differentiating themselves from organisations that do not seek to create SV through socially responsible approaches. SV is expected to have a positive impact on CA, since firms that drive social improvements with their business model improves their ability to survive. However, companies have multiple relationships among themselves, and it is not a forgone conclusion that SV in a single relationship will single-handedly bring about significant CA for a specific company.

### 7.4.2.2 *Shared value and performance*

SV has a positive impact on PRF (SRW=0.171; p=0.005), thus supporting H5. In terms of the literature (e.g. Bartkoski & Shahzad, 2017), it is expected that organisations that share resources, seeking to create value in a synergistic way, will obtain superior results. SV allows firms to leverage their ability to develop their business, empowering them with revenues that derive from the virtuous relationships they establish with other business partners. Collaboration between companies, proper valorisation of organisational and individual efforts, the creation of an agenda of trust and resource-sharing allow higher levels of PRF, opening the way for corporate innovation, productivity and economic growth.

This result is valid only for lower-dependence group (SRW=0.272; p=0.002). Under certain circumstances, firms with lower supply chain leader dependence may strive for financial results in a more independent way in order to obtain superior PRF on a short-term horizon. Since these firms may not be so aligned with the socially responsible culture of the supply chain leader, they may not contribute as actively to SV creation in business relationships. For instance, they may choose not to implement certain risk management practices. Investments that the supply chain leader may consider valuable for business sustainability may be seen by some partners as pointless costs that will contribute to short-term lower outcomes, despite the intangible value of the medium- and long-term outcomes of such socially responsible investments.

## **7.5 Contributions, implications and recommendations**

### **7.5.1 Contributions**

CSR forms part of corporate responsibilities oriented towards all stakeholders. Under the Stakeholder Theory (Friedman & Miles, 2002), a firm can raise its reputation, thus positively influencing its PRF. When stakeholders notice the efforts that the firm is making in order to meet their expectations, they enhance their collaborative behaviours, thus contributing directly and indirectly to enhancing SV and PRF. It is strategically vital for an organisation to understand the factors that influence the development and implementation of interorganisational PRF with its partners in supply chains. When both sides in a supply chain perceive that cooperation with one another will bring benefits, organisations tend to increase the closeness of ethically-based relationships. The results of our study indicate that there is ample evidence of the relationship between CSR and a firm's CA in terms of cost, quality, delivery dependability, product innovation and time to market. Additionally, it highlights the positive influence of socially responsible behaviours on a company's PRF and SV creation.

Firms engaged in socially responsible behaviours are likely to enjoy improved overall performance such as profitability, sales growth, better return on investment and increased market share when they invest in CSR activities. This is consistent with other findings that firms are compensated by a range of direct and indirect benefits. This study emphasises that a collaborative approach between supply chain partners makes it possible to attain a higher level of PRF and increased CA, which can all parties. Ultimately, this study claims that profit alone is no longer sufficient for the legitimisation of business. As an alternative, SV creation has become the new goal for businesses seeking to regain and improve societal trust.

## 7.5.2 Implications for management

This study provides some empirical evidence of CSR influence on organisational value creation, contributing to a better understanding of the impacts of socially responsible behaviours on business sustainability. Under this approach, the findings may serve as a diagnostic tool for ongoing improvement in companies. Across all business areas, from creating SV to engaging customers and employees, this study found that socially responsible behaviours added value, increasing firms' profitability and performance. The message to businesses is clear: CSR, PRF, CA and SV are more closely linked than ever. Additionally, this study shows that firms that place CSR policy and practice at the very heart of their business strategy improve their PRF results.

The overall results support the importance of CSR, identifying how a socially responsible company can create value for itself and all those who interact with it. Consequently, researchers studying business strategy can incorporate these conceptual approaches as key elements of a company's strategic planning. Additionally, executives who are not so familiar with the CSR concept may find support for adopting socially responsible practices in their firms, as this study contains empirical evidence corroborating the value of these practices, as a response to scepticism that may exist concerning the pecuniary value of socially responsible investments. The theoretical foundation set out here suggests that firms can create SV with their business partners by understanding stakeholders' current and future needs. CSR programmes that are strategically aligned with overall company-level objectives should create CA, SV and PRF.

Managers must overcome their fear of the cost, as CSR implementation will positively affect the company's PRF. Given the outcomes of this study, managers may wish to be proactive, as the current marketplace has an emphasis on social responsibility, and firms that include CSR programmes to address issues of social responsibility before their competitors could gain a first-mover advantage. Nonetheless, in order to achieve significant outcomes, CSR needs to be considered as a fundamental business function, a strategic component of vital importance to firm-level success, and a central part of a firm's strategic agenda. Unfortunately, CSR is frequently used as a tactic by most firms in the marketplace, and as such those firms that ignore this trend will find their PRF to be lower than those that implement CSR in a meaningful way.

## 7.5.3 Limitations and recommendations for future research

Regardless of the contributions stated above, it is important to recognise limitations in this study, as these can offer an opportunity for future research. Firstly, we focused specifically on a Portuguese energy supplier. Even though this environment may have been particularly effective for studying the proposed relationship, future research could be extended to other business environments, such as industry, communications, healthcare, retail and education. Secondly, the cross-sectional nature of this study keeps me from stating final causal inferences about the

relationships between variables. Further longitudinal studies may address this question. Follow-up studies to this investigation could also contribute to the improvement of my model by suggesting other variables that more widely explain the mediating mechanisms that translate CSR into PRF and CA, and the reasons why socially responsibility behaviour by companies are conducive to SV, thus improving organisational sustainability. Scholars in fields relating to supply chain management can also incorporate consideration of CSR into their studies in order to evaluate how it reflects on tangible assets, life cycle management, time to market, quality and product innovation.

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# CHAPTER VIII - THE IMPACT OF SUPPLY CHAIN LEADERSHIP AND FOLLOWERSHIP ON ORGANIZATIONAL PERFORMANCE: AN EMPIRICAL STUDY ABOUT A PORTUGUESE ENERGY SUPPLIER

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## Abstract

*The purpose of this study is to analyse how supply chain leadership (SCL) and supply chain followership (SCF) affect a company's value. Specifically, this will take place through an analysis of transformational leadership and followership behaviours on shared value (SV) creation, in order to achieve higher performance (PRF) and greater alignment of common values (CV)<sup>8</sup>. In doing so, this study provides new insights into sustainable supply chain management to ensure business sustainability. The study uses a structured questionnaire to gather data from a cross-sectional sample of 456 supply chain partners of the largest Portuguese energy supplier. Structural equation modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find out how supplier dependence can impact the suggested relationships. Findings suggest that SCL positively impacts SCF, SV and CV. Additionally, this study makes it clear that SCF has a positive impact on SV and CV. Furthermore, it was observed that CV and SV have a positive impact on PRF. It was possible to observe that the influence of SCL and SCF on PRF occurs in an indirect way through the mediation of SV and CV. Nevertheless, supply chain leadership dependence appears to constrain some of the proposed relationships. The study provides a better understanding of the impacts and chain of effects between SCL and SCF on PRF, while considering the role of dependence as a moderating variable. The overall results may support the importance of truly sustainable business leadership capable of promoting shared value creation along the entire supply chain. Consequently, researchers studying business strategy can incorporate these conceptual approaches into the strategic planning of companies as a key element, promoting transformational leadership practices and engaged followership behaviours in order to achieve better organizational performance. Scholars of supply chain management can include these variables in their studies to evaluate how SCL and SCF reflect on tangible assets when driven by CV and focusing on SV creation. However, the study has some limitations. The research considers only one company's suppliers. The relationships between variables need to be explored in other practical case studies and longitudinal investigations to improve the possibility of generalizations.*

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<sup>8</sup> It should be noted that, considering the suggestions presented in the peer review process, shared values (SVS) was renamed to common values (CS). Therefore, this paper, in order to give a response to peer's review concerns, "avoiding confusion with shared value (SV)", uses CS instead of SVS, although both variables have the same meaning in the scope of the present investigation.

**Keywords:** supply chain leadership, supply chain followership, shared value, common values, performance, sustainable supply chain management

## 8.1 Introduction

Uncertainty is a constant in life and in business. In increasingly volatile markets, where the certainties of today are the uncertainties of tomorrow, it is essential to develop mechanisms to deal with the unknown in order to make the best possible decisions, given the knowledge available and current resources (Amjad *et al.*, 2017; Kivipõld 2015). As such, it is essential to have responsible leaders who are capable of reinventing themselves when necessary, but with a set of solid values that allow them to act with an internal ethical compass towards creating sustainable value (Liu & Lin, 2018). The existence of this type of leadership, designated by some authors as transformational, is particularly important in the supply chain, since decisions made by one partner can have a marked effect on the sustainability of the other partners (Chaturvedi, 2013). On the other hand, diligent followers who take advantage of strong and positive leadership, acting as facilitators in the implementation of win-win solutions, enable leaders to exercise their leadership in an incremental way (Yuan & Lo, 2018), leveraging shared value creation and performance to higher levels (Epitropaki *et al.*, 2017). At the same time, the existence of common values between supply chain leaders and followers boosts collaboration and trust (Bastardo & Vugt, 2019), enabling a context where everyone works together to build a more sustainable business.

In an increasingly connected world, where companies depend on each other to thrive, supply chain sustainability is closely related to a healthy dichotomy between leaders and followers. The leaders do this by defining and implementing strategies that make business prosper, benefiting themselves and the other supply chain partners, and considering the needs and expectations of supply chain stakeholders (Jang *et al.*, 2017). The followers contribute to the implementation of these strategies, presenting suggestions that can be integrated by the leaders to guarantee a better alignment with common objectives, thus improving shared value creation (Newton, 2013). The literature challenges deeper investigations exploring the relationships between supply chain partners (Jadhav *et al.*, 2018), in order to better understand how to establish collaborative environments that contribute to higher organizational performance. There is a need for a better understanding of how to leverage value creation through responsible leadership by those who have the power to influence. Additionally, comprehending how leaders can motivate smaller and less influential companies to become stronger and more capable of transforming themselves into agents of change is something that requires greater attention from academics and practitioners. Despite several attempts at shedding light on the importance of leadership and followership on performance, this remains an area that can be explored with an empirical approach (Gosling *et al.*, 2016). Studying how supply chain leaders and followers can contribute together to achieve superior performance through a

proper alignment of values, beliefs and efforts to create shared value represents an opportunity to clarify how responsible businesses can be driven (Matinheikki *et al.*, 2017; Svensson *et al.*, 2014), aiming to contribute to the sustainability of companies and to all those that depend on a healthy business ecosystem. This is particularly relevant, since powerful companies that abdicate their responsibility towards their business partners will sooner or later cause value depletion that can affect the entire supply chain (Busse *et al.*, 2016). On the other hand, smaller companies that do not take advantage of the synergies resulting from relationships with more mature companies may miss unique opportunities to last and grow (Wu & Chiu, 2018).

Although some studies have been carried out advocating the importance of collaborative behaviours in the supply chain context (Liao *et al.*, 2017), highlighting the relevance of transformational leadership for value creation, no studies have been carried out to explore how governance mechanisms and leadership in the supply chain may improve performance through collaborative practices (Mokhtar *et al.*, 2019). Additionally, supply chain management and the chain of effects leading to performance remain unclear (Gong *et al.*, 2018), specially through shared value, the effects of which are yet to be investigated, probably its power “is still in its genesis” (Porter and Kramer, 2019, pp. 329). To fill this gap, our goal is to link supply chain leadership (SCL), supply chain followership (SCF), common values (CV), shared value (SV) and performance (PRF), since these variables may contribute to a better understanding of the importance of collaborative behaviours at supply chain level in value creation phenomena. In view of this, in this investigation we intend to understand how a leadership and followership dichotomy in the logistics chain, when established in a collaborative and transformational way, can contribute to the creation of higher levels of PRF, through the effects of CV e SV.

This investigation is based on data collected using a structured questionnaire, answered by 456 supply chain partners of the largest Portuguese energy supplier. Structural equation modelling is used to test the proposed hypotheses. Supply chain leader dependence was used as a moderator and a multi-group analysis is conducted to access the moderation effects. The findings attest to the importance of using power and influence in a proper way, creating better businesses and allowing companies to align with best practice, and thus attain excellence.

## **8.2 Research background and hypotheses development**

### **8.2.1 Leadership and Followership in the Supply Chain**

In recent years, supply chains have become increasingly complex and vast, incorporating a growing body of organizations that depend on mutual support to subsist and grow. The actions and behaviours of supply chain partners can have a marked influence on the balance of the other partners, who are directly and indirectly interrelated. Leadership studies usually try to better

understand the individual characteristics of leaders, exploring how they can contribute to the success of organizations (Waldman *et al.*, 2001). These studies are now being applied to supply chain management, looking for better answers about how business should be conducted in order to generate value for supply chain partners (WECED, 1987). In fact, according to Mokhtar *et al.* (2019), the management of supply chains and their governance mechanisms may influence the performance of companies. This influence and the chain of effects leading to a superior performance are not well known, but the adoption of collaborative practices could bring a better comprehension of this process, according to the same authors. For instance, the growth of the leader might influence and lead to increasing business among their partners through a spillover effect (Pyo and Lee, 2018). Furthermore, Porter and Kramer 2019 suggest that SV is a powerful tool to increase global value and economic success, which might explain how these effects are transferred.

Supply chain leadership (SCL) has been considered as the ability of a given organization to influence other organizations, impacting the activities and business equilibrium of other partners (Lockstrom *et al.*, 2010). Bowersox and Closs (1996) consider that leaders' behaviours go beyond the boundaries of their own organizations and can affect other supply chain members in a far-reaching way. These behaviours allow us to identify which companies in the logistics chain assume the role of leaders. Stevens (1989) and Cooper *et al.* (1997) consider that supply chain leaders are those that identify required changes and seek alternatives for value creation. They are those that have a vision of what may be the best for the logistics chain, looking ahead and opening the way to get there (Lambert *et al.*, 1998).

Closely related to the leaders are the followers, namely organizations with less capacity to influence other partners in the logistics chain, more vulnerable to the decisions of bigger companies, yet essential to the smooth functioning of the business networks of which they form part (Defee *et al.*, 2009). Effective followers (i) are both active workers and critical thinkers, valuing their role to offer constructive criticism to their leaders (Frisina, 2005), (ii) have potential for leadership (Kilburn, 2010); (iii) work honestly according to their own values (Lundin & Lancaster, 1990); (iv) share with leaders the determination to achieve common goals (Potter *et al.* 2001) and (v) help supply chain leaders to attain goals if they are in harmony with the followers' personal aims and the long-term goals of the supply chain (Defee *et al.*, 2010).

To harness the full potential of followers' capabilities, it is not enough to have a supply chain leader (Hollander, 1992). Inspirational leaders who are able to motivate organizations and individuals to work for a common purpose, where all can win, are considered transformational leaderships (Schaubroeck *et al.*, 2007). Defee *et al.* (2010) clarify that the supply chain leader is considered to be the firm that reveals increased performance in the leadership fundamentals, in terms of the relationship with other supply chain partners, in the sense that it (i) has a greater impact/influence



on other supply chain partners, (ii) is easily recognizable by its actions, (iii) drives the vision, and (iv) is able to establish relationships along the entire supply chain.

According to Choi *et al.* (2013), in a supply chain the emergence of a leadership may induce the adoption of a followership behaviour among others even if the process might not be clear. When supply chain leaders adopt a transformational approach, and followers recognize the value of leaders' proposals, this establishes a synergetic relationship that allows co-influence and mutual respect, where both parties recognize their importance in the construction of shared value-added solutions that benefit all partners (Colbert, 2004). A healthy relationship between leaders and followers is different from a paternalistic approach whereby organizations follow a supply chain leader in a passive way. However, transformational leaders encourage followers to develop intellectually independent behaviours by promoting their participation in the decision-making process and asking for feedback to adjust their leadership approach whenever necessary to better meet the needs and expectations of all stakeholders. Pitron (2007) suggests that leadership should promote exemplary followership to increase performance.

*Consequently, the following hypothesis is proposed:*

H1: SCL has a positive impact on SCF

### 8.2.2 Supply Chain Leadership, Supply Chain Followership and Performance

Leadership is intended to push organizations and individuals towards a specific purpose. However, in order to do that, it needs followers to recognize the value of the proposals presented by the leaders. The literature claims that transformational leaderships can contribute to higher levels of performance among supply chain partners, despite the existence of several conceptual approaches that use different mediating variables to explain the phenomenon. In fact, the relationship with performance has been investigated, but it remains unclear if this relationship is rather direct or indirect, and what variables might mediate these relationships (Sundram *et al.* 2016). Noruzy *et al.* (2013) consider that if leaders adopt a transformational role and use organizational learning and knowledge management, this will facilitate organizational innovation and will thus improve organizational performance. Hult *et al.* (2007) argue that transformational leadership has a positive moderating effect on performance. Teoman and Ulengin (2018) considers that transformation leadership style of managers has a significant and positive impact on a firm's performance. Akhtar *et al.* (2017) consider that suitable leadership is crucial to achieve the effectiveness of supply chain coordination, enabling performance. Mehrjerdi (2009) claims that to make supply chain management successful, leaders must be committed to a high standard of performance, including long-term collaborative relationships that can deliver results independent of industry and sector type.

*Consequently, the following hypothesis is proposed:*

**H2: SCL has a positive impact on PRF**

For leaders to be able to effectively conduct their leadership, they need followers who actively collaborate in the implementation of leaders' proposals. Peak (1995) argues that followership is the ability to follow a proposed path, develop activities according to a certain plan, be part of a team and deliver the expected results. As such, leadership is expected to lead to higher levels of performance in the logistics chain, while participating in relevant projects in a collaborative and diligent manner as a follower will contribute to value creation, supporting leaders' strategies and actions. Sampietro and Villa (2014) set out the benefits of using project followership to improve performance, stating that project team members play a pivotal role in project management excellence. Mosley and Patrick (2011) claim that a good working relationship between leaders and followers provides the basis for the flexibility and rapid response required for organizational success. In a different context, Favara (2009), supported by empirical evidence, indicates that there is a significant positive relationship between followership style and performance. Kim and Schachter (2015) examine the influence of followership on organizational performance, suggesting that followership is an important criterion for organizational performance. Bingol and Polat (2017) consider that followers, namely subcontractors, have an important role to ensure business outcomes. When followers actively contribute to supply chain integration, sharing information with the leader, participating in the planning process, boosting transparency business decisions (Mahamid, 2017), it is possible to leverage capabilities and create benefits for both (Rhee and Cho, 2016). A good interface between followers and leaders may increase the followers' performance, reducing risk, time and cost and increasing quality (Lee *et al.*, 2018).

*Consequently, the following hypothesis is proposed:*

**H3: SCF has a positive impact on PRF**

### 8.2.3 The mediating role of Shared Value

When leaders seek to exert their influence in a positive way by fostering collaboration and developing efforts for the common good, taking the needs and expectations of other business partners into consideration, it is possible to create shared value for leaders and followers, from which everyone can benefit. Peak (1995) states that leadership that takes a holistic, personal, principle-centered approach allows the creation of a culture that leverages shared value creation. McKinney and Paulus (2017) explain that leaders must understand their compliance responsibilities in order to ensure a set of actions to guarantee shared value creation for related organizational stakeholders. McCormick and Cole (2015) exemplify how a leader organization can commit to corporate responsibility and provide shared value to its business and communities by (i) creating

opportunities for individuals to reach their full potential, (ii) strengthening communities where the company operates, (iii) celebrating cultural diversity and inclusion, and (iv) living sustainably through the measurement, analysis and improvement of the company's use of natural resources. Stead and Elliot (2009) present a new leadership model, both empirically and theoretically informed, inviting the exploration of new pathways to sustainability through shared value creation. Humala (2015) highlights the importance of co-creative and assertive leadership to foster followers' creativity in order to create shared value. Bonau 2017 argues that it is becoming evident that self-awareness and authenticity are the main foundations for inspiring followers and implementing a shared vision that allow shared value creation. Leaders that exercise leadership in a meaningful way and form constructive dialogue with followers, based on a set of ethical values, can contribute to the development of shared value initiatives that are meaningful to both (Chen *et al.*, 2018). Alexandra and Doina (2018) consider that shared value arises from leader's ability to establish sincere and trustful connections with followers, based on a series of beliefs that are shared by each other, resulting in cooperation between both.

*Consequently, the following hypothesis is proposed:*

**H4**: SCL has a positive impact on SV

Truly committed followers who are engaged with the creation of sustainable businesses play a key role, together with leaders, in shared value creation. Zoogah (2016) defines followership as the process by which an individual, based on shared interdependence, actively influences another in a way that yields shared value to the relationship. Kellerman (2008) considers that, over time, followers have played increasingly vital roles and are now becoming more important in shared value creation. Zoogah (2019) argues that greater good behaviour by the leader and response from the follower maximize value generation, as the follower seeks to optimize the value generated by the relationship with the leader. Increasingly engaged followers who are motivated to work together with transformational leaders for a better future actively contribute to the creation of shared value, since leaders' proposals take into account the needs and expectations of the stakeholders with which they are associated. Choi *et al.* (2018) consider that when business partners develop shared growth effort as a value-enhancing strategy, they can effectively contribute to shared value creation and the value improvement of firms. Candelo *et al.* (2018) argued that empowered followers are crucial in value co-creation projects. For that, it is vital to ensure collaborative relationships between supply chain partners, the fair achievement of expectations, and a balanced level of capabilities, skills, and knowledge to gain influence over events and other important matters, enabling sustainable shared value creation (Porter and Kramer, 2019).

*Consequently, the following hypothesis is proposed:*

**H5**: SCF has a positive impact on SV

SV creation between organizations opens up resources that can be used internally for companies. When supply chain partners mutually support each other, establishing integrated solutions for value creation, they become stronger and more capable of meeting organizational challenges, allowing them to thrive. Park and Park (2016) demonstrate that collaborative behaviours enable SV creation, as they are comprehensively related to individual and group performance. Leavy (2012) explains how shifting the focus to SV allows the creation of new business, where a company can achieve long-term value and social responsibility. Through shared value created in meaningful relationships established between leaders and followers, companies become more capable of growing and forging their own path to success, taking advantage of the synergies arising from the support and collaboration offered by supply chain partners.

In a world of interconnected business ecosystems, firms should focus on SV creation with the surrounding stakeholders in order to achieve better organizational results (Matinheikki et al, 2017). Tate and Bals (2018) clarifies that SV allows firms to endure, ensuring sustainable outcomes, guaranteeing economic success, a positive environmental impact, and social benefits that leave the firms' stakeholders in a better position than without the business. Mendy (2019) suggests that negative externalities that are due to companies' limiting themselves to objectives such as maximization of profits can be mitigated with the creation of SV. According McManus (2019), businesses do not operate in a short-term profit vacuum, so they should also create value for other business partners and the wider society, in order to maximize the firms' outcomes in a broader way.

*Consequently, the following hypothesis is proposed:*

H6: SV has a positive impact on PRF

#### 8.2.4 The mediating role of Common Values

According to Ouchi (1980, pp. 138) common values (CV) or shared values “provide the harmony of interests that erase the possibility of opportunistic behaviour.” When a leader exercises leadership in a transformational way, acting by example and guided by solid values, it tries to comprehend its followers' needs and expectations in order to better understand and lead its business partners. To do so, it needs appropriate social intelligence to positively influence followers and ensure value alignment. This alignment allows CV that permit a better understanding between companies, facilitating decision-making, since dialogue is facilitated through a common ideological framework, thus avoiding misunderstandings and leveraging strategical alliances. Fairholm (1994) argues that leadership is a process of first developing a culture founded on values that most group members share (or learn to share) and then enrolling them in joint action to accomplish the leader's vision. Gillespie and Mann (2004) examined the relationships between a broad set of leadership practices, as well as common values between leaders and members, concluding that leadership has a positive effect on CV. Morden (1997) considers that leaders with

holistic objectives and strong vision enable better organizational alignment, boosting the establishment of CV. Quang *et al.* (1998) argue that effective leadership is vital to successful partnerships, considering it an important factor in organizational culture orientation and accomplishing effective organizational change. Jang *et al.* (2017) highlighted the importance of the influence of managers on the construction of strong, solid common values with their stakeholders, enabling corporate sustainability. Grewal *et al.* 2017 propose that leaders that use consciousness as a foundational philosophy can create a more engaging and meaningful stakeholder experience, producing emotional connections with business partners, and establishing a shared identity based on a clear purpose and values. Gravis and Sarkis 2018 consider that transformational leaders may positively influence followers' motivation to adopt CV and socially responsible behaviours.

*Consequently, the following hypothesis is proposed:*

**H7:** SCL has a positive impact on CV

On other hand, the role of followers in the alignment of organizational values is essential to the leadership process. Fairholm (1994) states that leadership is impossible outside of a community defined by shared values and vision. To ensure CV alignment, followers must play an active role, recognizing the value proposition of leaders and predisposing themselves to realign their values. Riggio *et al.* (2008) consider that when followers and leaders work together, it is important to keep a vision in mind and to clarify shared values and identities among followers, promoting unification and combined efforts towards a common goal. Alvesson *et al.* (2017) believe that followership contributes to CV or understanding when leadership is accepted, supported and reinforced. Blair and Bligh (2018) consider that proactive followers who are committed to excellence can effectively contribute to the cultivation of shared values with other business partners. Using self-determination theory as a foundation, Lumpkin and Achen (2018) examined how serving and caring for a common propose can increase CV, namely integrity, trust, and respect. This was emphasized by Afsar and Shahjehan (2018), namely through the ability of followership to contribute to value congruence and moral efficacy. Sidani and Rowe (2018) sustain that followers legitimize the set of values considered in business partnerships, since they are in the genesis of common values adoption and implementation.

*Consequently, the following hypothesis is proposed:*

**H8:** SCF has a positive impact on CV

When organizations share the same values, it becomes easier to adopt collaborative behaviours, since trust is leveraged through a common framework of beliefs that allows a better understanding between supply chain partners. This understanding facilitates the dialogue and the alignment of efforts for the construction of advantages, which allows followers and leaders to prosper. Common shared values might be a basis for managing relationships effectively among companies, therefore,

making them operate with superior performance (Nohria and Ghoshal, 1994). Lages *et al.* (2018) describe shared values as a key resource that enhances service delivery performance, driving positive outcomes. Ibarra (2017) considers that CV can lead to unprecedented results, arguing that an organization's norms and values tell its business partners what is important and deserves their attention. Posner *et al.* (1985) argue that clearly articulated organizational values which are shared by business partners make a significant difference to the lives of employees, as well to their organization's performance. Barret (2006) states that CV are at the very core of decision-making, enabling commitment, creativity, diligence and organizational well-being. This author considers that organizations that work together based on a common set of values are more resilient, more sustainable and more successful than other companies. Eveland *et al.* (2018) consider that firms must strategically consider their values to build and care for long-term relationships with their stakeholders, in order to achieve superior organizational outcomes. Petrucci and Rivera (2018) refers that there is a causal relationship with desirable organizational outcomes, between shared values and organizational performance. Bernal *et al.* (2018) argue that for firms to effectively pursue sustainability, companies need to promote a set of common values in their strategy and cultural change which align global sustainability with organizational performance. Cantù (2018) sustains that PRF are positively influenced by unity of the actors and their co-evolution, founded on the CV that drive business goals.

*Consequently, the following hypothesis is proposed:*

H9: CV has a positive impact on PRF

### 8.2.5 The moderating role of Supply Chain Leadership dependency

The supply chain relationships are based on bonds of mutual dependence, where one party has some control over the accomplishment of its own goals and those of other parties (Narasimhan et al, 2009). Cadden et al (2015), consider that one party is more powerful if it can fulfil the goals of another supply chain member. In order to develop positive relationships, a party should act in a relational manner, rather than maximizing its own position.

According to Chaurasia (2014), the link between power and dependence in channel relationship has been frequently studied. It is necessary for channel members to depend on one another in fulfilling their shared goals, because each one is expert in the activity that lies within their core competencies (El-Ansary, 1975). These functions include information, promotion, negotiation, ordering, financing, risk-taking, possession, billing, payment, etc., and all flow forward and/or backward through the channel. Narasimhan et al (2009) stated that power is widely reported as a fundamental issue within the supply chain management research. When the buyer dependency is high and supplier dependence is low, there is a supplier's power and opportunistic behaviour may be present. The opposite is also true, when the supplier dependency on the buyer is high, but the

buyer dependency on the supplier is low, buyer power exists, and the buyer will seek to use his power to influence the supplier's behaviour. However, Cadden et al (2015) say that if the level of dependence on each other is high, there is interdependence. It is in this environment that a more collaborative culture can be formed and developed.

The dependence between business activities in supply chains leads to the necessity of cooperation and coordination between companies, in order to achieve internal and, in some cases, mutual goals (Lambert et al, 1998). Svensson (2002) considers that relational dependence refers to business activities being dependent on the interaction process between companies in the supply chains. Yet, when trade partners share values, they will be more committed to their relationships (Morgan & Hunt, 1994). Zhao et al (2008) consider that through processes of commitment and information sharing, companies in a relationship build a collaborative and long-term oriented culture. If this continues into the long-term, Cadden et al (2015) conjecture that the repeated behaviours and actions will lead to a collaborative culture within the relationship.

The governance mechanisms of a supply chain are important drivers of performance (Mokhtar *et al.*, 2019) as well as the collaborative approach adopted in its management (Gong *et al.*, 2018). Consequently, the dependency on the leader might reinforce these governance mechanisms and influence. Therefore, in the present study, we consider the moderator effect of supply chain leadership dependency (SCLD) that corresponds to the supplier's dependency on the supply chain leader company. Accordingly, the follower's dependency may create a special predisposition to adopt and interact with specific behaviours, namely, sharing values, sharing information and reinforcing their socially responsible behaviour on the purchasing decisions.

## 8.3 Method

The research model presents a set of hypotheses. Given that each supplier has a different perception of the variables of the present investigation according to the level of dependency related to the supply chain leader, SCLD is considered a moderating variable. Consequently, two groups are created to consider the impact of SCLD: a group with low SCLD (n=206) and a group with high SCLD (n=250). The proposed hypotheses are analysed overall and also according to each group, to test the impacts of SCLD on the proposed relationships. The following research model shows the main hypotheses considered in the present investigation (see Figure 20).

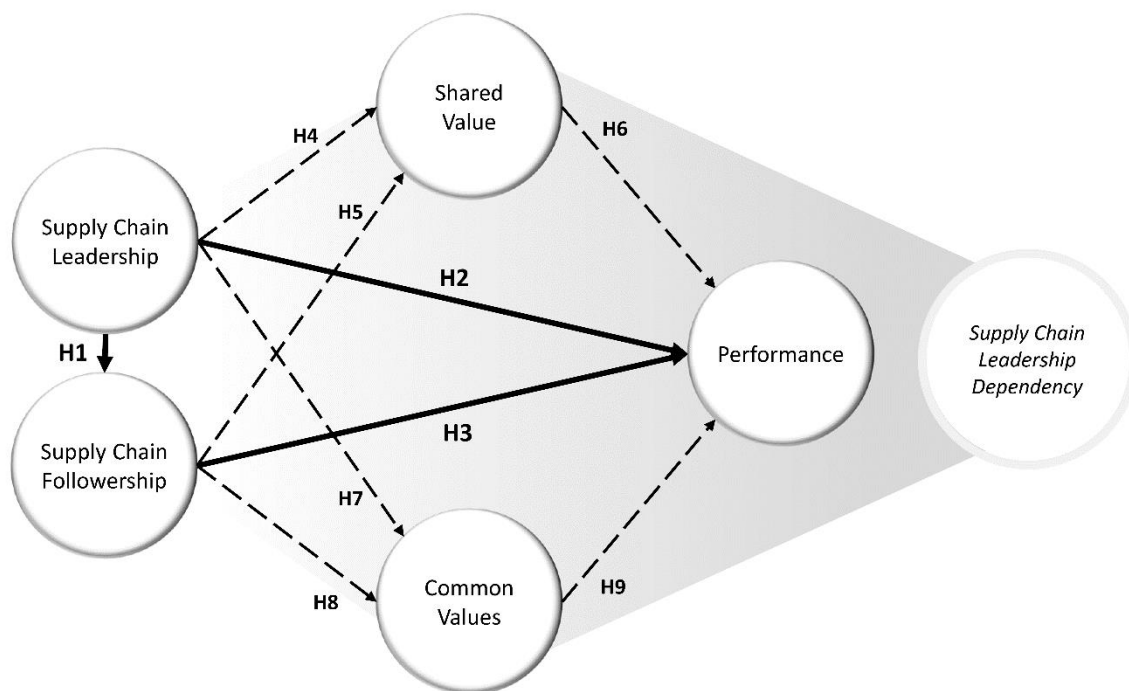


Figure 20 - Conceptual Model (4/4)

### 8.3.1 Sample and Data Collection

A questionnaire was developed using the online LimeSurvey tool to test the proposed research model and hypotheses. Between June and September 2016, from among the overall universe of 5,275 suppliers of the EDP Group that carry out activities in Portugal, 1,466 were contacted by e-mail to respond to the questionnaire. EDP is a vertically-integrated utility company, and the largest generator, distributor and supplier of electricity in Portugal, the third largest electricity generation company in the Iberian Peninsula and one of the largest gas distributors in the Iberian Peninsula, with a significant presence in the world's energy landscape.

In recent years, EDP has aggressively invested in Sustainable Development and on marketing (Santos, 2011). EDP recognizes the importance of sustainability in its operations and value chain,



and integrates the economic, environmental and social opportunities and risks into its business strategy (EDP, 2016a). The main guiding principles, values and actions are set out in voluntary public commitments, policies, procedures and, in general, in the EDP Code of Ethics. This code applies to all Company's employees, and to all those who are in any way authorised to act on behalf of EDP, namely some of its suppliers and service providers (EDP, 2016b). Regarding the position of Defee *et al.* (2010), we have considered EDP as a supply chain leader, mainly because it is characterized as an organization that demonstrates high levels of the four elements of leadership in relation to other member organizations (i.e. the organization is capable of greater influence, is readily identifiable by its behaviours, is the creator of the vision, and it establishes a relationship with other supply chain organizations).

Of the 1,466 EDP suppliers who were contacted, only 979 agreed to participate in this survey. Of the 979 questionnaires collected, 456 were validated for use, the other 523 being rejected as incomplete. The respondents, one key respondent per company, were the individuals who represent the contractual relation with EDP, namely, the CEO, CFO, Director, Manager, Executive or a senior Technician.

### 8.3.2 Measures

The measures were created after reviewing the literature in the field and adapting scales that had already been validated in other research investigations. Such adaption included the translation of vocabulary from English to Portuguese, to be more appropriate and hence more easily understood by respondents. Each scale included a combination of items from existing scales adapted to the present study. Scale items are shown in Table 28. A seven-point Likert scale was used, and participants were instructed to answer to each item ranging from 1 (“strongly disagree”) to 7 (“strongly agree”).

CONSTRUCT	ITEM	FACTOR LOADING
<b>Supply Chain Leadership</b> <b>- SCL -</b> (Defee <i>et al.</i> , 2010)	<b>My supply chain leader (...)</b>	
	• Articulates a compelling vision of the supply chain’s future	0.792
	• Clarifies the central purpose underlying actions of all supply chain members	0.833
	• Seeks differing perspectives from my company when solving problems	0.870
	• Induces my company to look at problems from many different angles	0.848

CONSTRUCT	ITEM	FACTOR LOADING
	<ul style="list-style-type: none"> <li>• Asks my company to contribute with ideas for improving supply chain problems</li> </ul>	0.834
	<ul style="list-style-type: none"> <li>• Helps my company to strengthen the supply chain execution</li> </ul>	0.915
	<ul style="list-style-type: none"> <li>• Encourages my company to continuously improve its supply chain skills</li> </ul>	0.932
<hr/>		
<b>Supply Chain Followership</b>		
<b>- SCF -</b>		
(Defee <i>et al.</i> , 2010)		
	<b>My company (...)</b>	
	<ul style="list-style-type: none"> <li>• Independently thinks of new ideas that contribute to the supply chain goals</li> </ul>	0.618
	<ul style="list-style-type: none"> <li>• Champions the need for change in the supply chain</li> </ul>	0.464
	<ul style="list-style-type: none"> <li>• Builds a record of success in tasks important to the supply chain leader</li> </ul>	0.718
	<ul style="list-style-type: none"> <li>• Seeks out and completes assignments that go above and beyond what's required</li> </ul>	0.730
	<ul style="list-style-type: none"> <li>• Makes sound decisions that benefit the entire supply chain</li> </ul>	0.791
	<ul style="list-style-type: none"> <li>• Works hard to support the supply chain leader's goals</li> </ul>	0.929
	<ul style="list-style-type: none"> <li>• Develops a network of relationships with other supply chain members</li> </ul>	0.764
	<ul style="list-style-type: none"> <li>• Strives to accomplish goals that have been mutually defined with the supply chain leader</li> </ul>	0.944
	<ul style="list-style-type: none"> <li>• Contributes at a high level when not in a leadership position</li> </ul>	0.928
	<ul style="list-style-type: none"> <li>• Demonstrates commitment to overall supply chain success</li> </ul>	0.875
<hr/>		
<b>Shared Value</b>		
<b>- SV -</b>		
Miguel <i>et al.</i> (2014)		
	<b>Considering the relation that my company has with EDP (...)</b>	
	<ul style="list-style-type: none"> <li>• the benefits arising out of the relationship are shared between both organizations</li> </ul>	0.839
	<ul style="list-style-type: none"> <li>• in emergency situations, both firms rely on the support of the other part</li> </ul>	0.830
	<ul style="list-style-type: none"> <li>• the management and corporate styles of the firms are similar</li> </ul>	0.768

CONSTRUCT	ITEM	FACTOR LOADING
	• there is transparency in negotiations	0.779
	• there are proposals for projects aiming to reduce costs	0.855
	• there is priority in the assistance related to other buyers	0.873
	• there is priority in offering innovations related to other buyers	0.830
	• there is quality conformance to products and services	0.825
	• there is rapid confirmation of buyer orders	0.720
	• there is financial health	0.802
	• there is flexibility to meet requests for changes	0.750
<hr/>		
<b>Common Values</b>		
- CV -		
Panayides, (2007)		
	<b>Considering my supply chain leader (...)</b>	
	• We share the same world view	0.900
	• We share opinions about most things	0.905
	• We share the same feelings towards things around us	0.853
	• We share the same values	0.824
<hr/>		
<b>Performance</b>		
- PRF -		
Rettab <i>et al.</i> (2009)		
	<b>Relative to our largest competitor, during the last year (...)</b>	
	• we had a larger market share	0.943
	• we were larger in size	0.618
	• we performed better relative to competitors	0.918
	• our return on investment has been substantially better	0.904
	• our return on assets has been substantially better	0.944
	• our sales growth has been substantially better	0.927
	• our profit growth has been substantially better	0.718
Chen <i>et al.</i> (2012)	<b>Relative to our largest competitor, during the last year (...)</b>	
	• our client satisfaction has been substantially better	0.801

CONSTRUCT	ITEM	FACTOR LOADING
Wiklund and Shepherd (2003)	• our client retention has been substantially better	0.691
	• the quality of our products and services was substantially better	0.708
	<b>Relative to our largest competitor, during the last year (...)</b>	
	• our employees number has substantially increased	0.587

**Table 28 - Measurement scales (4/4)**

Confirmatory factor analysis was used to evaluate the psychometric properties of the scales and the measurement model, using AMOS 22. The final model shows a good fit (IFI=0.956; TLI=0.951; CFI=0.956; RMSEA=0.057; CMIN/DF=2.494). The Standard Deviations, Square Correlations, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted are presented in Table 29. Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly smaller than 1 and the squared correlation calculated for each pair of constructs is always smaller than the variance extracted for correspondent constructs (Shiu *et al.*, 2011). CR is always significantly above 0.7, and all the items load above 0.5, therefore showing evidence of convergent validity.

	SD	SCL	SCF	SV	CV	PRF	CR	AVE
<b>SCL</b>	0.873	<b>0.953</b>					0.941	0.763
<b>SCF</b>	0.829	0.164	<b>0.948</b>				0.937	0.687
<b>SV</b>	0.877	0.373	0.340	<b>0.927</b>			0.909	0.877
<b>CV</b>	0.876	0.449	0.228	0.397	<b>0.958</b>		0.908	0.876
<b>PRF</b>	0.874	0.048	0.043	0.147	0.087	<b>0.970</b>	0.951	0.874

**Table 29 - Standard Deviation, Correlations, Cronbach's Alpha, CR and AVE<sup>9</sup> (4/4)**

### 8.3.3 Common Method Variance

To minimize the risk of common method variance, we used some procedural methods proposed by Podsakoff *et al.* (2003): (a) all respondents were guaranteed anonymity and the confidentiality of the information collected and were assured that there were no right or wrong answers; (b) there was randomness in the ordering of multiple items; (c) there was no use of scales with bipolar numerical

<sup>9</sup> The principal diagonal presents Cronbach's Alpha; SD = Standard Deviation; CR = Composite Reliability; AVE = Average Variance extracted.

values or verbal designations for the mid-points of the scales; (d) the questionnaire was divided into several sections with a brief explanation, reducing the risk of common method bias (Brammer & Millington, 2008). Statistical tests to explore the possible effects of common method variance have been carried out.

A principal component analysis (unrotated solution) of all the items revealed 6 factors with values above 1. They accounted for 74.9% of the total variance, the first of which explained only 32% of the variance, and when we use a one-factor solution, the explained variance is 41.7%, suggesting that there were no problems with the common method variance. A single-factor solution was tested (Podsakoff & Organ, 1986) and the fit of the model was very poor: IFI=0,478; TLI=0,438; CFI=0,476; RMSEA=0,195; CMIN/DF=18,229. All the methods used showed that there were no problems with common method variance.

## 8.4 Findings

To perform a confirmatory factor analysis and structural equation modelling to test the hypotheses, Amos 22 was used. The final model shows a good fit (IFI=0.954; TLI=0.949; CFI=0.954; RMSEA=0.058; CMIN/DF=2.554). Two groups were created for SCLD. The first group, with lower SCLD levels was composed of 206 respondents, while the second group, with higher SCLD levels, was composed of 250 respondents. An invariance test was carried out, and the fit for the multigroup test was IFI=0.950, TLI=0.948, CFI=0.949 and RMSEA=0.048, which shows a good fit and the variance in CFI is below 0.01, the sample being above 200 (Meade *et al.*, 2008). A multi-group analysis was performed to identify the differences between the two groups. The results presented in Table 30 show the relationships between the variables of the model and the introduction of SCLD as a moderating variable. Multi-group Moderation Tests were carried out, comparing unconstrained and constrained models, with the conclusion that the two groups are different:  $\Delta DF=30$  and  $\Delta \chi^2 =55.7$ .

HYPOTHESIS	GLOBAL				LOW SCLD				HIGH SCLD			
	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK	SRW	C.R.	P	CHECK
H1 SCL → SCF	0.405	6.910	***	✓	0.395	4.778	***	✓	0.396	4.646	***	✓
H2 SCL → PRF	-0.095	-1.283	0.100	⊗	-0.178	-1.762	0.078	⊗	-0.052	-0.468	0.320	⊗
H3 SCF → PRF	-0.047	-0.781	0.217	⊗	-0.083	-0.982	0.163	⊗	-0.050	-0.558	0.288	⊗
H4 SCL → SV	0.456	10.600	***	✓	0.489	7.772	***	✓	0.417	6.874	***	✓
H5 SCF → SV	0.401	7.275	***	✓	0.416	5.350	***	✓	0.370	4.612	***	✓
H6 SV → PRF	0.383	5.338	***	✓	0.561	4.924	***	✓	0.238	2.663	0.004	✓
H7 SCL → CV	0.576	13.161	***	✓	0.510	7.414	***	✓	0.604	11.183	***	✓
H8 SCF → CV	0.247	5.274	***	✓	0.182	2.624	0.004	✓	0.347	4.865	***	✓
H9 CV → PRF	0.146	2.077	0.019	✓	0.139	1.633	0.050	✓	0.179	1.460	0.071	⊗

**Table 30 - Standardized Regression Summary<sup>10</sup> (4/4)**

Additionally, direct, indirect and total effects are presented in Table 31 to highlight the proposed mediation effects in the variables considered in the present investigation.

EFFECTS	SCF		SV		CV		PRF		
	r	p	r	p	r	p	r	p	
SCL	Total	0.405	0.001	0.618	0.002	0.676	0.002	0.222	0.002
	Direct	0.405	0.001	0.456	0.001	0.576	0.003	-0.095	0.133
	Indirect	0	0	0.162	0.001	0.100	0.001	0.317	0.002
SCF	Total	0	0	0.401	0.002	0.247	0.002	0.143	0.001
	Direct	0	0	0.401	0.002	0.247	0.002	-0.047	0.095
	Indirect	0	0	0	0	0	0	0.190	0.002

r: Standardized Estimate | p: Significance

**Table 31 - Direct, Indirect and Total Effects (4/4)**

<sup>10</sup> ✓ : Hypothesis Supported; ⊗ : Hypothesis Not Supported

#### 8.4.1 Supply Chain Leadership and Supply Chain Followership

SCL has a positive impact on SCF ( $r=0.405$ ;  $p=0.000$ ), thus supporting H1. Considering the literature, e.g., Defee *et al.* (2010), Zogjani *et al.* (2014) and Gomez (2016), transformational leaders are expected to apply their influence in a positive way, motivating collaboration towards common goals, resulting in a greater predisposition among followers to cooperate with leaders in the fulfilment of common objectives. Motivated followers who believe in the value of leaders' proposals will be more willing to work on initiatives where everyone can win. This result applies to both groups considered, namely the group with higher dependence ( $r=0.396$ ;  $p=0.000$ ) and the group with lower dependence ( $r=0.395$ ;  $p=0.000$ ). The relationship is stronger in the higher-dependence group, suggesting that when followers are more dependent on the leader, they may be more predisposed to be influenced and adopt collaborative behaviours to keep the leader satisfied. Once followers know that the leader is critical to their business sustainability, they will increase their openness to a greater leader influence, contributing to the leader's vision and goals.

#### 8.4.2 Supply Chain Leadership, Supply Chain Followership and Performance

The relationship between SCL and PRF ( $r=-0.095$ ;  $p=0.100$ ) is not significant and therefore does not support H2. This result is not significant for either group under consideration, namely for the group with higher dependence ( $r=-0.052$ ;  $p=0.320$ ) and for the group with lower dependence ( $r=-0.178$ ;  $p=0.078$ ). In terms of the literature, e.g., Noruzy *et al.* (2013), Hult *et al.* (2007), and Teoman and Ulengin (2018), transformational leaderships are expected to lead to higher levels of performance in the logistics chain, contributing to higher outcomes for follower organizations, which will be positively influenced by their relationship with supply chain leaders. This positive influence may contribute to the adoption of best practice by the followers, opening up additional resources due to the relationship with the leader. This will enhance the ability of followers to perform their activities in a positive way, with leadership playing an important role in supply chain sustainability.

In terms of SCF and PRF ( $r=-0.047$ ;  $p=0.217$ ), the relationship between these variables is also insignificant and therefore does not support H3. This result is not significant for either group under consideration, namely, the group with higher dependence ( $r=-0.050$ ;  $p=0.288$ ) and the group with lower dependence ( $r=-0.083$ ;  $p=0.163$ ). In terms of the literature, e.g., Sampietro and Villa (2014), Favara (2009), and Kim and Schachter (2015), when followers use their relationships with other supply chain partners in a positive way, internalizing best practice and leveraging organizational synergies to enable sustainable businesses, they create opportunities to achieve higher PRF levels. Companies that take advantage of good leaderships to develop competencies, using the benefits derived from learning via the leader-follower relationship, can create additional synergetic resources to compete in the marketplace, achieving better results.

Even if past literature suggests a positive relationship of these variables with performance, our results do not support a direct relationship. In fact, this relationship might be rather indirect, depending on mediating variables (Sundram *et al.*, 2016), giving additional relevance to the investigation of the direct and indirect effects between these variables.

### 8.4.3 The mediating role of Shared Value

SCL has a positive impact on SV ( $r=0.456$ ;  $p=0.000$ ), thus supporting H4. According to the literature, e.g., Peak (1995), McKinney and Paulus (2017) and Humala (2015), it is expected that virtuous leaders who are focused on creating value with a holistic perspective will lead to the creation of SV, benefiting both leaders and followers. When leaders develop their business in a transformational way, taking into account the needs and expectations of their stakeholders, they execute actions that benefit followers, as they understand that the success of business partners provides a healthy environment that is favourable to the success of their own organizations. Transformational leaders know that the logistics chain is interconnected, and failures by followers can have a marked effect on the leader's success, since all parties depend on each other to survive and grow. As such, SCL enables a win-win approach, aimed at higher performance for all supply chain partners. This result applies to both groups under consideration, namely, the group with higher dependence ( $r=0.417$ ;  $p=0.000$ ) and the group with lower dependence ( $r=0.489$ ;  $p=0.000$ ). If dependence on the leader is higher, this behaviour may be accentuated, as companies are exposed to greater transformational influence and are therefore more affected by the good practices advocated in the process of leadership, which are conducive to higher PRF levels.

SCF has a positive impact on SV ( $r=0.401$ ;  $p=0.000$ ), thus supporting H5. In the literature, e.g., Zoogah (2016) and Kellerman (2008), it is expected that diligent followers will contribute to value creation, benefiting various supply chain partners, including the leaders. When followers seek to respond to leaders' proposals by collaborating with them to create benefits for all, higher levels of SV are supposed to be achieved, allowing everyone to benefit from the collaborative relationships established. This result is valid for both groups under consideration, namely, the group with higher dependence ( $r=0.370$ ;  $p=0.000$ ) and the group with lower dependence ( $r=0.416$ ;  $p=0.000$ ). Higher levels of SCL dependence may result in a lower SCF influence on SV. It is probable that in certain circumstances of greater dependence, followers may not be sufficiently proactive in SV creation because they have less autonomy and organizational independence to add more value to the relationship established with the leaders, as opposed to followers with lower SCL dependence. Dependence may contribute to a certain inertia and less diligence in actively contributing to SV creation as a result of organizational immaturity.

The relationship between SV and PRF ( $r=0.383$ ;  $p=0.000$ ) is significant, therefore supporting H6. According to past literature (Park and Park, 2016; Leavy, 2012), collaborative behaviours might



enable SV creation, therefore contributing to performance, both individually and collectively, and our results support this. This result is valid for both groups considered, but higher for the low dependency group ( $r=0.561$ ;  $p=0.000$ ) when compared to high dependency ( $r=0.238$ ;  $p=0.004$ ). According to the literature, e.g., Park and Park (2016) and Leavy (2012), SV contribute to higher levels of organizational performance, in particular through the creation of shared resources, which benefit leaders and followers, creating healthy business environments. Through SV creation, companies gain additional resources that allow them to survive and grow, which facilitates the development of business, taking advantage of the synergies established between supply chain partners. However, this relationship is stronger if there is less dependence from SCL, building a relationship based on partnership rather than on power and supremacy. If there is less dependence, companies may become more proactive, making the most of the synergies established without losing their autonomy and making them willing to fight for competitive advantages that enable them to be more effective in their response to market challenges.

#### 8.4.4 The mediating role of Shared Values

SCL has a positive impact on CV ( $r=0.576$ ;  $p=0.000$ ), thus supporting H7. According to the literature, e.g., Gillespie and Mann (2004), Morden (1997) and Quang *et al.* (1998), it is expected that the challenge of change stimulates values-based leadership, contributing to creating strong shared values which unite people and organizations in a fragmented world and enabling different supply chain partners to work well together to achieve common goals. This result applies to both groups under consideration, namely, the group with higher dependence ( $r=0.604$ ;  $p=0.000$ ) and the group with lower dependence ( $r=0.510$ ;  $p=0.000$ ). High dependence on the supply chain leader may increase the influence of SCL on CV, as the other, less influential supply chain partners are more interested in internalizing the dominant organization culture, guaranteeing the right alignment with the leader, which is responsible for the sustainability of their own business. Avoiding sharing the same values with the supply chain leader could result in a dangerous situation for vulnerable companies that depend on the relationship with the leader, and they could be excluded from commercial relationships with the latter due to low-level alignment in relation to CV.

SCF has a positive impact on CV ( $r=0.247$ ;  $p=0.000$ ), thus supporting H8. According to the literature, e.g., Fairholm (1994), Riggio *et al.* (2008) and Alvesson (2017), followership contributes towards identifying and promoting shared values. In terms of effective followership, the role of followers should be seen as positive, as it indicates that followers are actively engaging in the work and providing relevant feedback for leaders to establish CV that will have a bearing on future supply chain decisions. This result applies to both groups under consideration, namely, the group with higher dependence ( $r=0.347$ ;  $p=0.000$ ) and the group with lower dependence ( $r=0.182$ ;  $p=0.004$ ). The relationship is more intense for higher dependence, perhaps because highly dependent

followers are concerned with maintaining a virtuous relationship with the leader in order to deepen their commercial relationship and secure extra organizational advantages.

CV has a positive impact on PRF ( $r=0.146$ ;  $p=0.019$ ), thus supporting H9. This result is not significant for the group with higher dependence ( $r=0.179$ ;  $p=0.071$ ), but it is significant for the group with lower dependence ( $r=0.139$ ;  $p=0.050$ ). According to the literature, e.g., Ibarra (2017), Posner *et al.* (1985) and Barret (2006), CV can be a powerful agent of positive change, contributing to sustainable organizational behaviours. SCL conducted in a responsible way can enhance organizational behaviours guided by a set of values, contributing to higher PRF, especially for supply chain partners that share the same values as the supply chain leader. When CV are aligned and well established, incorporating dimensions such as ethics, quality, trust, innovation, goals, customers, teamwork, responsibility and compliance, it is easier for organizations to work collaboratively in order to achieve excellence and higher PRF outcomes. When dependence is higher, the existence of values that are common and shared with the leader might decrease the bias introduced by supremacy, transforming dependence into partnership, therefore contributing to increased performance.

## **8.5 Contributions, Implications and Recommendations**

### **8.5.1 Contributions**

This paper makes 4 major contributions, filling the gaps identified in literature: (i) this paper empirically tests how supply management, namely, through SCL and SCF, impacts PRF; (ii) the role of SV on the supply chain has been introduced to improve the comprehension of how SCL and SCF lead to PRF; (iii) this investigation shows how, through collaborative behaviours in the supply chain, a big company might transfer its experience, values and practices to smaller companies, in a synergetic way; (iv) the moderating role of dependence introduces a set of relationships that might stimulate this transfer of effects.

This study has contributed towards exploring the intersection between leadership and performance in a supply chain context, particularly through analyses of SCL and SCF in terms of SV creation and CV alignment, with a view to the achievement of higher PRF among supply chain partners. In doing so, it provides new insights into sustainable supply chain management to ensure business sustainability, opening the way for further investigation and shedding light on how collaboration at supply chain level, through meaningful relationships between leaders and followers, can improve a company's ability to deliver value. According to Porter and Kramer (2019), the important role of SV, which may be a new way to increase economic success, must be investigated in the company relationships, both with society and its partners, exploring new collaborative ways of increasing value.

Additionally, this study highlights how the largest Portuguese energy supplier committed to sustainability can play an important role in inspiring other companies to integrate better governance practices into all of their business dimensions, especially the supply chain management and responsible purchasing. The moderating role of dependence shows how these relationships may be reinforced if a company exerts a kind of supremacy over the suppliers.

This new approach to supply chain management demonstrates how transformational leaderships may induce supply chain partners to develop higher performance outcomes in win-win relationships between leaders and followers, where all can benefit from collaboration and a proper alignment with common goals. Furthermore, this study brings these concepts and relationships together in a single empirical study with relevant data, providing a model that illustrates a chain of important effects linking SCL and supply chain partners' PRF outcomes. These findings contribute towards a better understanding of the connections between SCL, SCF and PRF, allowing the exploitation of strategies with a focus on sustainability for all the partners involved in the supply chain. With a view to gaining better insights into leadership as a key driver of sustainable supply chain management, this investigation provides a starting point for understanding the impact of SCL and SCF on PRF, and thus contributes to the growing number of studies on the diffusion of responsible and transformational leadership in supply chains. In specific terms, this article offers an understanding of the influence of leadership on the supply chain in its capacity as a key driver of organizational excellency.

## 8.5.2 Implications for Management

The goal of this article is to discuss why and how a supply chain leader can contribute to value creation at a supply chain level through collaborative relationships with other supply chain partners, namely, its follower organizations. The results demonstrate that SCL has a positive impact on SCF, SV and CV. This indicates that in order to harness the maximum potential of supply chain leaders, it is vital to have managers with transformational, attentive and socially responsible attitudes, who promote collaboration with other supply chain partners. Collaborative behaviour and practices might be more effective to create value in synergetic relationships established between supply chain members. Additionally, this study makes it clear that SCF and SCL have a positive impact on SV and CV. This emphasizes the crucial role played by smaller companies, namely, supply chain followers, in the creation of value for all. In doing so, companies with greater power should treat smaller companies with respect, inviting them to participate in the leadership process as equals that are capable of contributing to and benefiting from shared goals and ambitions. Furthermore, CV and SV were observed to have a positive impact on PRF. This demonstrates that collaboration brings tangible benefits to those who are predisposed to work as a team for a better future. While SV provides advantages that can be used to improve PRF, CV facilitate communication between business partners, acting as a guiding light and signposting the path towards higher levels of PRF

and organizational sustainability. It was also evident that SCL and SCF indirectly affect PRF, through the mediation of SV and CV. This underlines the importance of managers' attitudes and beliefs in the adoption of responsible behaviours. The business world does not need purely financial managers who are disconnected from their company's overall context. Instead, there is a need for leaders who try to grasp the situation as a whole, integrating financial and non-financial information and managing the needs and expectations of stakeholders, namely, supply chain followers. Through a transformational, socially responsible approach that draws upon the maximum potential of the relationships, it becomes possible to create more sustainable businesses in which everyone can win.

Under this approach, the findings may be used as an analytical instrument for supply chain leaders and participative supply chain followers to assess the network style present in the supply chain and find opportunities for increasing the value created based on existing relationships between supply chain partners, and ultimately ensure sustainable business development. The authors therefore hope that this article will provide a backdrop for further empirical investigations exploring those relationships, providing arguments for managers to adopt transformational leaderships that may improve supply chain partners' PRF and contribute to the use of power and influence in a proper way, with a view to creating better businesses, allowing companies to align with best practice and attaining excellence.

### 8.5.3 Limitations and recommendations for future research

This work has some inherent limitations that should be addressed in future research. Firstly, we specifically focused on a Portuguese energy supplier. Even though this environment might be particularly effective for studying the SCL/PRF link, future research could be extended to other business environments, such as industry, communications, healthcare, retail and education. Secondly, the cross-sectional nature of this study prevents us from drawing definite causal inferences about the relationships between variables. Further longitudinal studies might address this issue. Follow-up studies to this investigation could also contribute to improving our model, suggesting other variables that more comprehensively explain the mediating mechanisms that translate SCL and SCF into PRF, and the reasons why supply chain leadership and followership are conducive to organizational excellence.

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## CHAPTER IX - GENERAL CONCLUSIONS, CONTRIBUTIONS, MANAGEMENT IMPLICATIONS AND FUTURE RESEARCH

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### 9.1 General conclusions

Even in times of crisis there are opportunities, and the ability to change and adapt to these options is a necessity. The companies that are able to adapt continuously to development in technology and markets, the environment and society, the customers and their requirements and needs, and the supply chain challenges, integrating CSR in all business functions, will always have a future.

The purpose of this investigation aimed to contribute to better understand SCL and SCF conceptualization, measurement and its impacts on firms social responsible behaviours and performance. But for this purpose to be achieved, many goals were established as follows: (1) to map academic publications on the subject and the intellectual knowledge contained therein, while covering past research trends and identifying potential future paths of research in the fields of corporate social responsibility and supply chain management through a systematic review and bibliometric analysis; (2) to investigate the impact of SCL and SCF on PSR, considering the mediator effects of IS and SVS, since these variables contribute to a better understanding of the leadership and followership phenomena as key drivers of a SSCM; (3) to identify the impact of SCL and SCF on CSR, considering the mediating effects of SVS, IS and PSR; (4) to identify how CSR affects firm value, specifically through the analyses of social responsible behaviours on SV creation, in order to higher PRF and greater CA; (5) to analyse how SCL and SCF affects firm value, specifically, through the analyses of transformational leadership and followership behaviours on SV creation, in order to higher PRF and greater SVS alignment. By doing so, new insights on sustainable supply chain management to assure business sustainability were provided.

The investigation was based on a quantitative methodological design. This study used a structured questionnaire to gather data from a cross-sectional sample of 456 supply chain partners of Portugal's biggest energy supplier. Structural equation modelling was used as the statistical tool to test the hypotheses and to provide a significant and parsimonious explanation of the data.

The literature review and bibliometric analysis shows that there is a growing academic appeal to perform empirical studies involving supply chain partners, with the objective of monitoring the performance of companies through robust indicators and understanding how actions taken by leading organisations are contributing to the creation of value and competitive advantages, in a multidimensional and holistic approach. Therefore, this investigation tried to give additional insights to the comprehension on how to increase and disseminate social practices and how they may influence the relationships among supply chain partners, the impacts on organizational outcomes and finally, to anticipate possible effects on the companies' activity on their communities, on their environment and on the world we are living in.

The empirical results show that SCL interact with SCF to increase IS, SV, SVS and PSR. These effects are apparently transferred to the adoption of CSR practices and to create value and increase the overall performance. These variables showed to mediate and these relationships and helped to establish the chain of effects between the supply chain leader social practices and the desired outcomes. The results also show that CSR has a positive influence on CA, SV and PRF. This influence demonstrates how, through collaborative behaviours in the supply chain, companies may create and share value, in a synergetic way, reinforcing their performance and competitiveness. When stakeholders notice the efforts that the firm is making in order to meet their expectations, they enhance their collaborative behaviours, thus contributing directly and indirectly to enhancing SV and PRF. When both sides in a supply chain perceive that cooperation with one another will bring benefits, organisations tend to increase the closeness of ethically-based relationships. Still, the moderating role of dependence of the supply chain leader, introduces a set of relationships that provides a better comprehension of how these relationships take place and how they might stimulate this transfer of effects.

This new approach of supply chain management identifies how a socially responsible company may lead their suppliers to adopt and develop a true and committed socially responsible behaviour. Furthermore, this study integrates these ideas and relations through an approach with relevant data, offering a model that illustrates a chain of important effects, between supply chain leadership and social responsible behaviours.

## **9.2 Contributions and management recommendations**

First, this study reveals which fields represent the greatest interest for future investigations, with potential to expose new approaches to sustainable supply chain management. For instance, (i) evaluating social implications in the development of products and services, considering their life-cycle, represents a field of investigation that can be further developed. In parallel, (ii) integrating social responsibility into strategic planning and corporate purchasing functions, (iii) strengthening partnering mechanisms, (iv) the impact of emerging economies (such as India and China) on manufacturing and of global availability of goods, and (v) the implication of legislative changes in social responsibility in the supply chain may be interesting areas for further study.

Second, this study contributes to both, investigation and practice, showing the influence of supply chain leadership and followership on firms' social responsible behaviours across supply chain: identifying the role of IS, PCR and SVS mediating this relationship; establishing the chain of effects between leadership and followership and the CSR adoption and showing how dependency may affect these relationships.

Third, it emphasises that a collaborative approach between supply chain partners makes it possible to attain a higher PRF level of increased CA, which can benefit all parties. The investigation claims that profit alone is no longer sufficient for business legitimisation. As an alternative, SV creation has become the new goal for businesses seeking to regain and improve social trust.

Fourth, it identifies how transformational leaderships may conduct supply chain partners to develop higher performance outcomes, in win-win relations between leaders and followers, where all can benefit from collaboration and a proper alignment with common goals. With the purpose of a better understanding of leadership as a key driver of sustainable supply chain management, this research provides a starting point for understanding the impact of SCL and SCF on PRF, contributing to the increasing amount of studies about the diffusion of responsible and transformational leaderships in the supply chains. Explicitly, it offers an understanding of the influence of leadership in the supply chain, as an important driver of organizational excellency.

Fifth, the moderating role of dependency showed how the proposed relationships may be boosted when a company exerts a kind of supremacy over the suppliers. Overall, this investigation shows how leadership on the supply chain can be improved when there is some kind of followers' dependency and how this dependency should be managed to improve results

Finally, it highlights the importance of Portuguese companies engaged with a leadership through CSR, namely EDP, on inspiring other companies to integrate CSR in all business dimensions, namely in the supply chain management and on responsible purchasing.

This research provides some empirical evidence of SCL, SCF and CSR influence on organizational value creation, contributing to better understand the impacts of social responsible behaviours on business sustainability. The overall results may support the importance of a social responsible leadership, identifying how a sustainable company may create value for itself's, and for everyone with whom it interacts. Consequently, researchers studying business strategy can incorporate this conceptual approach as a key element in firms strategic planning. Researchers in the fields of supply chain management can also evaluate the inclusion of SCL, SCF and CSR into their studies to evaluate how it reflects on tangible assets, life cycle management, time to market, quality and product innovation.

Additionally, executives who are not so familiar with the CSR concept may find support for adopting socially responsible practices in their firms, as this study contains empirical evidence corroborating the value of these practices, as a response to scepticism that may exist concerning the pecuniary value of socially responsible investments. The theoretical foundation set out here suggests that firms can create SV with their business partners by understanding stakeholders' current and future needs. CSR programmes that are strategically aligned with overall company-level objectives should create CA, SV and PRF.

Managers must overcome their fear of the cost, as CSR implementation will positively affect the company's PRF. Given the outcomes of this investigation, managers may wish to be proactive, as the current marketplace has an emphasis on social responsibility, and firms that include CSR programmes to address issues of social responsibility before their competitors could gain a first-mover advantage. Nonetheless, in order to achieve significant outcomes, CSR needs to be considered as a fundamental business function, a strategic component of vital importance to firm-

level success, and a central part of a firm's strategic agenda. Unfortunately, CSR is frequently used as a tactic by most firms in the marketplace, and as such those firms that ignore this trend will find their PRF to be lower than those that implement CSR in a meaningful way.

Furthermore, the investigation highlights the importance of Portuguese companies, engaged with a leadership through CSR, inspiring other companies integrating CSR in all business dimensions, namely in supply chain management. Considering that the ideologies of sustainable leadership are related with improved brand and reputation, the contentment of both the customer and staff and with financial performance, this provides arguments for corporate leaders to accomplish this purpose, integrating CSR in all business dimensions, namely in supply chain management.

CSR will continue to become an increasingly important issue for investors, regulators and consumers and better leaderships with social responsible behaviours will arise long-term rewards for all. Given that, the overall results may support the importance of a truly sustainable business leadership, capable of promoting social responsibility along the entire supply chain. The research has concrete implications for experts by drawing their consideration to the encouraging links between SCL, CSR and PRF. Thus, companies can change their behaviours by emphasizing the importance of a truly committed and diligent leadership and followership, concerned with the creation of value in a holistic and long-term way, specifically through socially responsible behaviours, not only in the purchasing activities, but also in the entire organizational activities.

The investigation sustains that leaders who adopt rigid behaviours, demanding followers' obedience, without a proper explanation, can conduct to a negative engagement of supply chain partners concerning CSR, since suppliers don't feel available to genuinely integrate socially responsible behaviours into all organizational domains. Suppliers may feel forced to adopt socially responsible behaviours at purchasing function, not truly understanding the advantage of adopting those behaviours. Consequently, in other circumstances, when suppliers perform actions without the supply chain leaders influence, they may feel impelled to not adopt the behaviours usually demanded by the leader, because they don't recognize their value. They may even exhibit an antagonistic responsiveness by refusing the supply chain leaders requirements due to some kind of resentment and aversion, for previously having been forced to accept behaviours in the purchasing function, without a proper explanation and a mutual consent, considering all suppliers personnel, including managers and employees.

However, when leaders promote socially responsible behaviours in purchasing relations established with suppliers and, at the same time, share critical information regarding business activities, keeping a shared values framework, where leaders and followers have a common understanding about what is important for both organizations, a true engagement of supply chain partners with CSR can be achieved, in a lasting and meaningful way. When leaders share information and values in an authentic and inspirational way, followers may feel more motivated to adopt behaviours promoted by the leader in their daily practices, and not just on the purchasing function. In this way, suppliers are more likely to understand the value underlying the intentions of the leader. IS allows



to understand the objectives that the leader proposes for the business, as well as the approach to achieve them. SVS confirms that leaders and followers are aligned for the same purpose, searching for advantages that can benefit all of the involved partners. If supply chain leaders can inspire and stimulate followers about the goodness of social responsible behaviours, PSR allows suppliers to learn about these behaviours in purchasing context and, later, implement CSR in all activities developed by supplier's companies in a lasting and meaningful way.

Present results can help firms to realize the importance of SSCM and how leadership and followership can impact the social responsibility of the entire supply chain. Supply chain leaders and followers should develop an understanding of the entire supply chain and then communicate and collaborate with each other to ensure business sustainability. Therefore, with this new approach, it is possible to understand how a socially responsible company may lead their suppliers to adopt and develop true and committed social responsible behaviours, meeting stakeholders' expectations and creating value to business and society in general.

Under this approach, the findings may be used as an analytical instrument for supply chain leaders and participative supply chain followers to assess the network style present in the supply chain and to find opportunities to increase the value created on the existing relationships between supply chain partners, ultimately assuring a sustainable business development. It is therefore the hope of the authors that this article will provide a background to further empirical investigations, exploring those relationships, providing arguments for managers to adopt transformational leaderships that may improve supply chain partners PRF and contribute to the use of power and influence in a proper way, to create better businesses, allowing companies to align with best practices, in order to reach excellency.

### **9.3 Limitations and further work**

This work has some inherent limitations that should be addressed in future research. Firstly, we specifically focused on a Portuguese energy supplier. Even though this work's environment might be particularly effective for studying the proposed relations, future research could be extended to other business environments, such as industries, communications, healthcare, retailing and education. Secondly, the cross-sectional nature of this study prevents us from drawing definite causal inferences about the relationships between variables. Further longitudinal studies might address this issue. Studies following-up the present investigation could also contribute to improve our model, by suggesting other variables that more comprehensively explain the mediating mechanisms that translate all the relations, and the reasons why the impacts between variables occur. Some of the variables that might be interesting to introduce could be ownership and control, the amount and nature of communication shared by partners, the formal ties between partners and the level of supply chain integration and the rewards in the supply chain, among others. Additionally, other investigations could be carried out considering more and more diversified supply chain leader companies, to have a better comprehension about the better ways of leading supply chains.

## APPENDIX - SURVEY

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### Investigação sobre a relação existente entre a EDP e os seus Parceiros de Negócio

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Exmo(a). Sr(a).

Na sequência de investigação que está a ser efetuada em parceria com a Faculdade de Economia da Universidade de Coimbra para analisar as relações existentes entre a EDP e os seus parceiros de negócio, e o impacto que elas podem ter na adoção de práticas de Responsabilidade Social, agradecemos o preenchimento do questionário cujo link anexamos:

<https://surveys.uc.pt/index.php/419392?token=QIddILjvCxLvRe&lang=pt>

O preenchimento do questionário ocupa no máximo 15 minutos. As respostas individuais permanecerão anónimas e confidenciais. A vossa resposta é fundamental para o desenvolvimento de um maior alinhamento empresarial capaz de criar valor partilhado para todos.

Melhores Cumprimentos,

Pedro Fontoura

EDP Comercial - Direção de Relações Institucionais, Comunicação e RH

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### *Supply Chain Leadership*

*A nossa Empresa considera que a EDP...*

	1	2	3	4	5	6	7
→ proporciona uma visão desafiante para o futuro da nossa empresa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ mostra claramente a importância da nossa empresa para o desenvolvimento do negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ procura conhecer a opinião da nossa empresa quando é necessário resolver um problema	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ coloca-se no papel da nossa empresa de forma a analisar os problemas sobre diferentes perspetivas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ solicita à nossa empresa a apresentação de ideias e sugestões que contribuam para a resolução dos problemas do seu negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ ajuda a nossa empresa a desenvolver capacidades para uma melhor resposta aos desafios do negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ encoraja a nossa empresa a contribuir para a melhoria global do negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## *Supply Chain Followership*

*A nossa Empresa...*

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
→ de uma forma independente desenvolve novas ideias que contribuem para a parceria com a EDP e restantes parceiros	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ defende a necessidade da mudança na parceria com a EDP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem efetuado com sucesso importantes tarefas que ajudam a EDP a conduzir melhor o negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ procura e desenvolve projetos cujo âmbito se encontra para além das exigências requeridas pela parceria com a EDP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ efetua decisões que beneficiam a parceria com a EDP e restantes parceiros de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ executa a sua atividade de uma forma diligente para cumprir os objetivos da EDP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ desenvolve uma rede de relacionamentos com a EDP e restantes parceiros de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ procura cumprir os objetivos que foram definidos em conjunto com a EDP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ demonstra compromisso na procura do sucesso global da parceria com a EDP e restantes parceiros de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ procura posicionar-se ao mais alto nível, mesmo reconhecendo a liderança da EDP no negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**1** discordo fortemente... **2** **3** **4** **5** **6** ... **7** concordo fortemente

## *Shared Values*

*A nossa Empresa e a EDP...*

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
→ partilham a mesma visão do mundo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ partilham a mesma opinião sobre a maior parte dos assuntos relevantes para o negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ partilham as mesmas preocupações relativamente ao meio envolvente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ partilham os mesmos valores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**1** discordo fortemente... **2** **3** **4** **5** **6** ... **7** concordo fortemente

## Shared Value

A nossa Empresa considera que a EDP...

	1	2	3	4	5	6	7
→ tem criado benefícios partilhados entre as duas organizações	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido um suporte mútuo em situações de emergência	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem criado um estilo de gestão semelhante	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem mantido transparência nas negociações	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem proposto projetos com o intuito de reduzir custos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido uma maior interajuda, em comparação com outros parceiros de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem gerado mais produtos e/ou serviços inovadores, em comparação com outros parceiros de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido uma maior qualidade dos produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido uma rápida confirmação das ordens de compra	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem contribuído para uma maior estabilidade financeira	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido flexibilidade na adaptação a novos pedidos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Competitive Advantage: Delivery Dependence

A nossa Empresa...

	1	2	3	4	5	6	7
→ entrega os produtos e/ou serviços que correspondem às necessidades do cliente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ entrega os produtos e/ou serviços nos prazos previstos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ proporciona ao cliente segurança/fiabilidade na entrega dos produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

### Competitive Advantage: Price/Cost

A nossa Empresa...

	1	2	3	4	5	6	7
→ oferece preços competitivos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ oferece frequentemente as propostas economicamente mais vantajosas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ consegue adaptar os seus preços às condições do mercado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

### Competitive Advantage: Price/Cost

A nossa Empresa...

	1	2	3	4	5	6	7
→ oferece preços competitivos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ oferece frequentemente as propostas economicamente mais vantajosas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ consegue adaptar os seus preços às condições do mercado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

### Competitive Advantage: Product Innovation

A nossa Empresa...

	1	2	3	4	5	6	7
→ providencia produtos e/ou serviços otimizados, que dão resposta às necessidades dos clientes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ altera os produtos e/ou serviços, de forma a responder às necessidades dos clientes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ é capaz de dar uma resposta à procura de novos atributos dos produtos e/ou serviços por parte dos clientes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ está sempre a oferecer ao mercado novas soluções que criam valor para os clientes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Competitive Advantage: Quality

A nossa Empresa...

	1	2	3	4	5	6	7
→ é capaz de ser competitiva com base na qualidade dos seus produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ coloca no mercado produtos e/ou serviços que apresentam uma elevada fiabilidade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ oferece produtos e/ou serviços aos seus clientes com uma elevada qualidade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Competitive Advantage: Time to Market

A nossa Empresa...

	1	2	3	4	5	6	7
→ coloca novos produtos e/ou serviços no mercado de uma forma rápida	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ introduz rapidamente no mercado novos tipos de produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ apresenta um tempo de introdução de novos produtos e/ou serviços no mercado, inferior à média dos seus concorrentes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ é capaz de desenvolver novos produtos e/ou serviços de uma forma rápida	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Purchasing Social Responsibility

A nossa Empresa...

	1	2	3	4	5	6	7
→ a responsabilidade pelo meio ambiente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ a responsabilidade pela diversidade, encorajando a contratação de pessoas com deficiência, em situações desfavorecidas ou de outras culturas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ a responsabilidade pelos direitos humanos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ a responsabilidade pela filantropia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ a responsabilidade pela segurança e saúde no trabalho	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Corporate Social Responsibility / Community Responsibilities

A nossa Empresa...

	1	2	3	4	5	6	7
→ efetua doações para projetos de apoio às comunidades locais onde opera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ ajuda a melhorar a qualidade de vida nas comunidades locais onde opera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ suporta financeiramente atividades nas comunidades locais onde opera (p.ex. arte, cultura, desporto)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ suporta financeiramente projetos de educação nas comunidades locais onde opera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Corporate Social Responsibility / Environmental Responsibilities

A nossa Empresa...

	1	2	3	4	5	6	7
→ incorpora objetivos de desempenho ambiental na planificação da sua atividade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ de uma forma voluntária vai além do mero cumprimento da regulamentação ambiental legislada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ suporta financeiramente iniciativas de proteção do meio ambiente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ monitoriza o seu desempenho ambiental	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Corporate Social Responsibility / Investor Responsibilities

A nossa Empresa...

	1	2	3	4	5	6	7
→ incorpora os interesses de todos os nossos investidores nas decisões de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ providencia a todos os investidores um retorno competitivo do seu investimento	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ considera a opinião dos seus investidores na tomada de decisões estratégicas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ encontra-se alinhada com as necessidades e solicitações de todos os seus investidores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Corporate Social Responsibility / Employee Responsibilities



*A nossa Empresa...*

	1	2	3	4	5	6	7
→ trata todos os colaboradores de uma forma justa e respeitadora, independentemente do género, perfil étnico e sociocultural	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ providencia a todos os colaboradores salários justos, recompensando adequadamente o mérito de cada um	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ apoia todos os colaboradores que desejam investir na sua educação	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ ajuda todos os colaboradores a coordenarem a sua vida privada com a profissional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ incorpora os interesses de todos os colaboradores nas decisões de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

***Corporate Social Responsibility / Customer Responsibilities***

*A nossa Empresa...*

	1	2	3	4	5	6	7
→ providencia a todos os clientes um elevado nível de qualidade nos produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ providencia a todos os clientes a informação necessária para a realização das melhores decisões de compra	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ gere as reclamações de todos os clientes relacionadas com os produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ adapta os produtos e/ou serviços de forma a melhorar o nível de satisfação dos clientes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Corporate Social Responsibility / Supplier Responsibilities

A nossa Empresa...

	1	2	3	4	5	6	7
→ providencia a todos os seus fornecedores de produtos e/ou serviços um sentido de compromisso para a manutenção da relação no futuro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ oferece a todos os fornecedores de produtos e/ou serviços algumas garantias de preços para o futuro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ incorpora os interesses dos fornecedores de produtos e/ou serviços nas decisões do negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ envolve todos os fornecedores no desenvolvimento de novos produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ informa todos os fornecedores de produtos e/ou serviços sobre mudanças organizacionais passíveis de afetar decisões de compra	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Information Sharing

O nosso cliente EDP...

	1	2	3	4	5	6	7
→ partilha com a nossa empresa informação de planeamento de atividades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ partilha com a nossa empresa informação sobre as suas atividades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ partilha com a nossa empresa informação sobre a evolução dos seus stocks ou necessidades de serviço	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ recebe informação da nossa empresa sobre o nosso planeamento de atividades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ recebe informação da nossa empresa sobre as nossas previsões de atividades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ e a nossa empresa partilham informação em tempo útil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ e a nossa empresa partilham informação com precisão	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ e a nossa empresa partilham informação de uma forma completa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ e a nossa empresa partilham informação de uma forma adequada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ e a nossa empresa partilham informação de uma forma fiável	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Financial Performance

Relativamente ao nosso maior concorrente, no último ano a nossa Empresa...

	1	2	3	4	5	6	7
→ obteve um maior crescimento da cota de mercado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve um maior aumento do negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve um melhor desempenho	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve um melhor retorno do investimento	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve um maior aumento das vendas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve um maior crescimento dos resultados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve uma maior satisfação dos clientes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve uma maior retenção de clientes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve uma melhor qualidade de produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ obteve um maior aumento do número de empregados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Shared Value

A nossa Empresa na relação que mantém com a EDP...

	1	2	3	4	5	6	7
→ tem criado benefícios partilhados entre as duas organizações	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido um suporte mútuo em situações de emergência	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem criado um estilo de gestão semelhante	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem mantido transparência nas negociações	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem proposto projetos com o intuito de reduzir custo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido uma maior interajuda, em comparação com outros parceiros de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem gerado mais produtos e/ou serviços inovadores, em comparação com outros parceiros de negócio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido uma maior qualidade dos produtos e/ou serviços	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido uma rápida confirmação das ordens de compra	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem contribuído para uma maior estabilidade financeira	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
→ tem promovido flexibilidade na adaptação a novos pedidos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1 discordo fortemente... 2 3 4 5 6 ... 7 concordo fortemente

## Other information

Idade da pessoa responsável pelo preenchimento do Questionário?

R: \_\_\_\_\_

Cargo na Empresa da pessoa responsável pelo preenchimento do Questionário?

R: \_\_\_\_\_

Antiguidade na Empresa da pessoa responsável pelo preenchimento do Questionário?

R: \_\_\_\_\_

Código de Atividade Económica (CAE) principal da Empresa?

R: \_\_\_\_\_

Volume anual de negócios da Empresa?

R: \_\_\_\_\_

*Número de funcionários da empresa?*

- |             |                       |
|-------------|-----------------------|
| 1 a 10      | <input type="radio"/> |
| 11 a 25     | <input type="radio"/> |
| 26 a 50     | <input type="radio"/> |
| 51 a 100    | <input type="radio"/> |
| mais de 100 | <input type="radio"/> |

*Tipo de Empresa?*

- |         |                       |
|---------|-----------------------|
| anónima | <input type="radio"/> |
| quotas  | <input type="radio"/> |
| outra   | <input type="radio"/> |

*Qual o peso da EDP Produção no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |

*Qual o peso da EDP Distribuição no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |

*Qual o peso da EDP Valor no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |

*Qual o peso da EDP Gás no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |

*Qual o peso da EDP Comercial no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |

*Qual o peso da EDP Soluções Comerciais no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |

*Qual o peso da EDP Renováveis no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |

*Qual o peso de outras empresas da EDP no volume de negócio da minha Empresa?*

- |               |                       |
|---------------|-----------------------|
| não aplicável | <input type="radio"/> |
| menos de 5%   | <input type="radio"/> |
| 5% a 10%      | <input type="radio"/> |
| 10% a 20%     | <input type="radio"/> |
| 20% a 50%     | <input type="radio"/> |
| mais de 50%   | <input type="radio"/> |