Lisbon School of Economics & Management
Universidade de Lisboa

MESTRADO

CONTABILIDADE, FISCALIDADE E FINANÇAS EMPRESARIAIS

TRABALHO FINAL DE MESTRADO

DISSERTAÇÃO

A SYSTEMATIC LITERATURE REVIEW OF CIRCULAR ECONOMY PRACTICES, ITS PRESSURES AND THE IMPACTS ON THE COMPANY'S SUSTAINABLE PERFORMANCE

BEATRIZ NÓBREGA BRANCO

JUNHO 2025

Lisbon School of Economics & Management
Universidade de Lisboa

MESTRADO EM

MESTRADO EM CONTABILIDADE, FISCALIDADE E FINANÇAS EMPRESARIAIS

TRABALHO FINAL DE MESTRADO

DISSERTAÇÃO

A SYSTEMATIC LITERATURE REVIEW OF CIRCULAR ECONOMY PRACTICES, ITS PRESSURES AND THE IMPACTS ON THE COMPANY'S SUSTAINABLE PERFORMANCE

BEATRIZ NÓBREGA BRANCO

ORIENTAÇÃO:

PROFESSORA GRAÇA MIRANDA SILVA

JUNHO-2025

ABSTRACT

Climate change and how to fight it has been under discussion in the scientific world since the 20th century, with the "First Earth Summit" being held in Stockholm, Sweden. In 2015, the Paris Agreement was adopted by 195 countries with the goal to limit the increase of average global temperature until the year of 2030 and the Sustainable Development Goals (SDGs) were published for the first time. Specifically, the goal #12 who is related to the concept of Circular Economy (CE) has become also the sustainable goals that several firms are pursuing nowadays.

Literature around the topic has been studying the different practices each company implements in their environment and how these practices influence the firm's Triple Bottom Line (TBL) Performance, which includes the economic, environmental and social aspects of a firm's performance. Additionally, literature also started studying how different pressures impacted the application of each and general Circular economy practices in the corporate environment.

This SLR was aimed to bridge a gap in the literature related to CE. Through a rigorous bibliometric and content analysis of 104 articles, published between 2010 and 2024, this SLR identifies the institutional pressures that influence the adoption of key CE practices, describing and summarising the most common practices adopted, and their individual impact in each dimension of the TBL.

Keywords: Circular Economy; Sustainable performance; Institutional Pressures; Triple Bottom Line

ACKNOWLEDGMENTS

Completing the dissertation marks another goal achieved in my academic path and I could have not achieved this without the help of several people who supported and guided me toward this path.

First, I would like to thank Professor Graça Miranda Silva, who took me in under her wing during this last year and guided me and supported me during this process of writing a dissertation. Her insights and guidance were essential to finish this work, specially after the bumps in the road that I had.

Secondly, I want to thank my friends and family for everything they did for me, for keeping me happy, stable and focused on my goals, not letting me give up after life throws big obstacles against you.

Lastly, a very special thank you for the ones that picked me up when I was close to giving up on concluding this step, the ones that made it clear that nothing was worth letting this final step win me over and all the efforts I had already done shouldn't be thrown out. These people don't need mentions – they clearly know who they are.

List of Contents

List of Figures

List of Tables

List of Abbreviations

CC – Customer Cooperation
CE – Circular Economy
CLSC – Closed Loop Supply Chain
CP – Circular Procurement
CPD – Circular Product Design
CSR – Corporate Social Responsibility
ECO – Eco innovation
E-EM – Externally oriented Environment Management
EL – Eco labelling
EMS – Environmental Management Systems
EO – Entrepreneurial Orientation
EU – European Union
GHG – Green House Gases
GHRM – Green Human Resources Management
GLM – Green Logistics Management
GP – Green Purchasing
GSCM – Green Supply Chain Management
I-EM – Internally oriented Environment Management
IR – Investment Recovery
JIT – Just-in-time
MNCs – Multinational companies
PRISMA – Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RL – Reverse Logistics
SC – Supplier Cooperation
SDG – Sustainable Development Goals
SGSM – Sustainable Global Supplier Management
SLR – Systematic Literature Review
SMEs – Small and Medium Enterprises
SMP – Sustainable Manufacturing Practices
SP – Sustainable Performance
SS – Strong Sustainability
SSGM – Sustainable Supply Chain Management
TBL – Tripple Bottom Line
TMC – Top Management Commitment
UK – United Kingdom
UN – United Nations
WS – Weak Sustainability

1. Introduction

Climate change is not a new topic, it has been under discussion in the scientific world since the 20th century, with the "First Earth Summit" being held in Stockholm, Sweden, by the United Nations (UN) in the year of 1972 (Cifuentes-Faura, 2022). However, as the years pass by, fighting the climate change has become a priority for everyone, with bodies like the European Union (EU) and its institutions (European Commission, European Parliament among others) promoting and increasing legislation toward a more sustainable world.

In 2015, the Paris Agreement was adopted by 195 countries with the goal to limit the increase of average global temperature until the year of 2030 (United Nations Framework Convention on Climate Change, 2025) and the UN published the 2030 agenda for sustainable development, where the Sustainable Development Goals (SDGs) were published (United Nations, 2015). The SDGs have become the new focus of companies and have incentivised the creation of guidelines for companies and has led to a bigger customer awareness and pressure to produce and manufacture with environmental concerns in mind (Passaro et al., 2023). There is a total of 17 SDGs, but the SDG number 12 – "Ensure sustainable consumption and production patterns" (United Nations, 2015) is the backbone behind the new ideology of Circular Economy (CE), which has stand out due to its ability to address the Triple Bottom Line (TBL) – economic, environmental and social performance.

A substantial body of literature reviews on CE has emerged since 2016, reflecting the rapid growth in CE literature during this period. CE promotes resource efficiency and stepping back of a linear production line, encouraging sustainable development (Magnano et al., 2024) – just like what is defended by the UN.

When researching existing literature related to CE, several systematic literature reviews (SLRs) were looked at and summarized in Table A1 in Appendix A. However, a closer examination of these reviews reveals significant divergence in their thematic orientations, resulting in a disconnected understanding of the CE discourse. Additionally, the current literature on the topic of CE and its influences on the TBL and what is causing and pressuring firms to adopt CE practices is growing exponentially and several SLRs focus on the implementation of CE practices and their impact on performance but we seem to be missing a SLR that connects the pressures driving the application of CE practices, describes the most common practices implemented and how they finally impact a firm's sustainable performance.

Considering these limitations, the present SLR dives into the literature and seeks to answer the following questions:

i) What are the common pressures for CE practices?

ii) What are the CE practices being implemented?

iii) What relationship links the adoption of CE practices to each sustainable performance dimensions?

To answer the research questions, we conducted a SLR following the three-stage guideline presented by Tranfield et al. (2003). This SLR contributes to the existing literature by initially providing a compilation of the most common CE practices presented through the literature. Secondly, we present what pressures are behind the implementation of the mentioned CE practices and how each effect individually the application of each CE practice. Lastly, we present how each CE practice will impact the TBL of firms, showing the different impacts on each performance dimension.

This study is structured in the following manner: first we present the scope and the methodology for conducting the SLR. Second, we outline the sample selected for analysis. Third, we describe the CE practices, the pressures before its application, and impacts on performance and how each relates with each other. Finally, we discuss the conclusions and outline the limitations of this study.

2. Methodology

To work towards answering these research questions, we employed different methodological techniques. First, we conducted bibliometric analysis, a well-established form of meta-analytical research of literature (Kim & McMillan, 2008). This is a method that analyses published data, measuring texts and information such as authorship, affiliation, citations, and keywords (De Bellis, 2009), unveiling articles and illustrating linkages between and among articles about a certain research topic (Fetscherin & Usunier, 2012). It can be used to describe, evaluate and monitor the state of a particular field over time, evaluating meta-analytically the development of a given research area to identify their key components and underlying theoretical frameworks (Fetscherin & Heinrich, 2015).

This study is a systematic literature review (SLR) of empirical work focusing on circular economy practices and its drivers, plus the intersection of this topic with the impact of a company's performance, which integrates a bibliometric and content analyses, following a systematic review approach recommended in the literature (Hiebl, 2023; Thomé et al., 2016; Tranfield et al., 2003).

An SLR uses rigorous technique and identify, appraise and synthesize the literature of about one topic, and possesses several uses: centralization of information, it's an efficient and less

costly scientific technique, and helps explain data inconsistency and contradictory (Thomé et al., 2016).

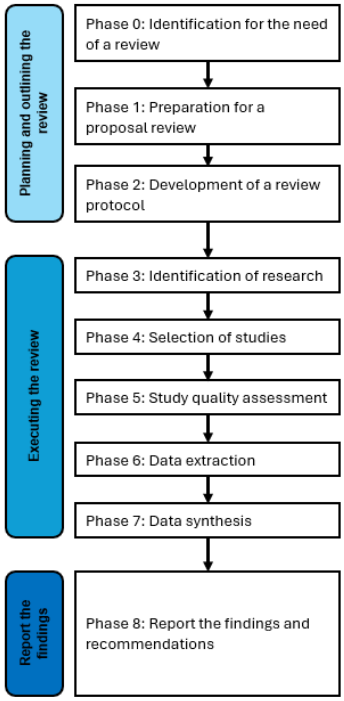

Figure 1 - Steps to conduct a SLR
Source: Adapted from Tranfield et al. (2003)

To produce this SLR, this study follows a three-stage approach: 1) planning and outlining the review, 2) executing the review, and 3) reporting the findings (Tranfield et al., 2003) (See fig 1). In addition, to select and evaluate the studies to be included in this SLR we followed a structured and transparent approach. More specifically, we use the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to ensure rigor, reliability, and reproducibility. This framework involves four steps identification, screening, eligibility and inclusion - that allows systematic refinement of the literature selection to ensure inclusion of relevant studies (Page et al., 2021).

Further, to enhance the validity of the study, other SLRs published by different authors were consulted during the first step (Abdulla et al., 2019; Han et al., 2020; Negri et al., 2021; Stewart & Niero, 2018; Tetteh et al., 2024). The rest of this section details how we tackled each step to produce the SLR. Table A1 in Appendix A summarizes SLR in CE.

2.1. Planning the review

2.1.1. Scope of the review

To start a SLR, it is essential that we define the scope of the review and the boundaries. This process starts with reading existing literature on the topic of CE and reaching our research

questions: 1) What are the common CE practices? 2) How do pressures affect the application of CE practices? 3) How do CE practices affect sustainable performance?

The aim of this study is to highlight the institutional pressures associated with the adoption of CE practices and how these practices affect a firm's sustainable performance, but after having selected the articles to be reviewed, additional data was collected about the mediators that exist in the studied relationships and the barriers and incentives behind the application of CE practices.

Finally, the study offers insights for practical implications and future research directions.

2.1.2. Selection of the databases

The data collected for this study was retrieved from both Scopus and Web of Science databases. These databases are within the most comprehensive databases (Fahimnia et al., 2015; Tetteh et al., 2024; Thomé et al., 2016) offering an extensive coverage of peer-reviewed and are available for academic institutions, and have been used in similar recent studies related to CE practices (e.g. Magnano, et al., 2024; López et al. (2024))

2.1.3. Selection of keywords

The keywords used for this study were drawn from previous research on current existing literature. The goal was to cover all the literature covering the existent practices related to circular economy, the current pressures behind these practices, and how these practices affect sustainable performance dimensions for the companies. The keywords used for CE practices included the 3Rs and a list of the most used keywords related to CE practices in previous literature reviews (Fang & Zhang, 2018; Magnano et al., 2024). Subsequently, we obtained search terms related to sustainable performance (SP) from the literature review developed by Magnano et al. (2024), and we used the keywords presented in Govindan & Hasanagic (2018) to search for the pressures behind the CE practices. Articles that included the selected string of keywords in their title, abstract or keywords were selected for the initial screening, with a time frame of 14 years. Table A2 (Appendix A) presents the keywords used for this literature review.

2.2. Execution of the review

The selected keywords were transformed into search strings using Boolean logic and incorporating operators such as 'AND' and 'OR'. These strings were then used to search the titles, abstracts and keywords of electronic databases, producing 699 results in Scopus of which 79 were directly eliminated due to lack of full content access and produced 334 results in Web of Science of which 27 were directly eliminated due lack of full content access. Following the

initial search, duplicates were removed (n = 277), and the remaining articles were undergone screening based on relevance to the review objectives.

To select the articles for the SLR, it is crucial to define clear inclusion and exclusion criteria to define the scope and boundaries of the review. To ensure the quality and credibility of the final dataset, our search was restricted to peer-reviewed journal articles published in English. The time frame for the search covered articles published between the years 2010 and 2024 (both included). Table I shows the inclusion and exclusion criteria used in the SLR.

Table I - Inclusion and exclusion criteria

	Inclusion criteria	**Exclusion criteria**	**Rationale**
Document type	Journal articles	Conference proceedings, book chapters books, or review articles, editorials, and reports	Peer-reviewed journals are recognized as more rigorous and credible sources of scientific information than non-peer-reviewed publications, due to their formal peer-review process by experts in the field.
Publication	Published articles	In revision, only available online, programmed to be published in 2025	Work that has been verified and diminishes the risk of misinformation
Language	Published in the English language		English is the dominant language in the field of CE, sustainability performance
Time frame	Between 2010 and 2024	Older than 2010	Based on other SLRs, the topic of circular economy starts to have more publications in the most recent decades
Scope	CE practices, its pressures and sustainable performance	Any topic outside the inclusion criteria	Several studies were selected with the array search, but their scope was different than the scope of this review.

After the initial screening, title, abstracts and keywords are reviewed based on predetermined conceptual boundaries and inclusion and exclusion criteria (see Table I) to confirm what articles should be excluded from the analysis (Thomé et al., 2016). During this stage, from the 650 articles to review, 544 were eliminated from the review because they did not correspond to the scope of the study (see Table I), leaving 104 articles to proceed with a full text examination and continue with the SLR. Figure 2 shows the PRISMA flow used for the gathering of the samples for this SLR.

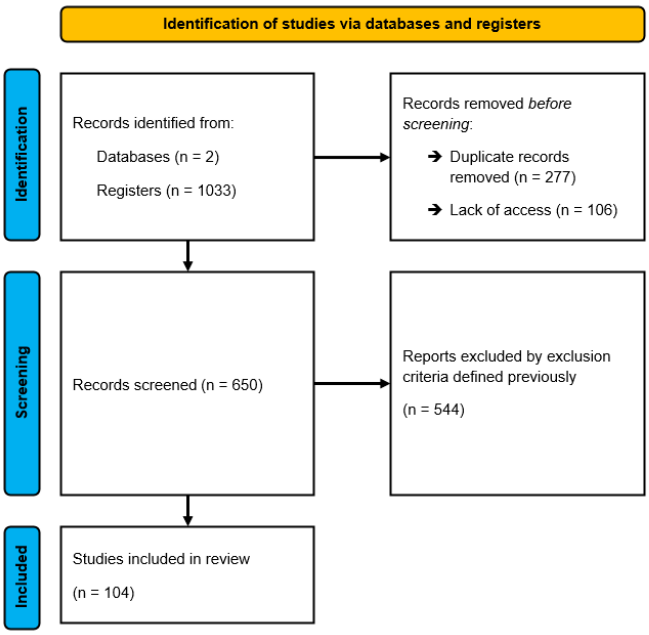

Figure 2 - PRISMA flow diagram

2.3. Review reporting and dissemination

This stage of the review involved extracting data from the selected articles, including publication details, methodology, geography scope while reporting the different CE practices studied, the pressures and the dimensions of sustainable performance. We divided and grouped the analysis in three main sectors: the CE practices; the pressures that affect the application of CE practices; and impact of CE practices on sustainable performance. Table A3 in Appendix A reports the areas studied by each article reviewed in the SLR.

3. Review reporting

Although there is no standard procedure for analysing the findings, in line with recent literature reviews, we have divided our analysis into two parts: a bibliographic overview and a content analysis. The bibliographic analysis begins with an examination of publication trends across the 104 studies that were sampled. This includes variations in publications over time, in journals, in industries and in countries.

3.1. Bibliometric analysis

3.1.1. Journals

The area of sustainability has been emerging during the 21st century, with recent increase showing an increased number of articles published in the area. From our analysis we show that from 2010 to 2024 there has been a substantial increase (see Fig. 3) in the number of articles

published based only in the scope of our review, but the same growth has been showed in other related SLRs (e.g. Han et al. (2020); López et al. (2024); Magnano et al. (2024), etc.).

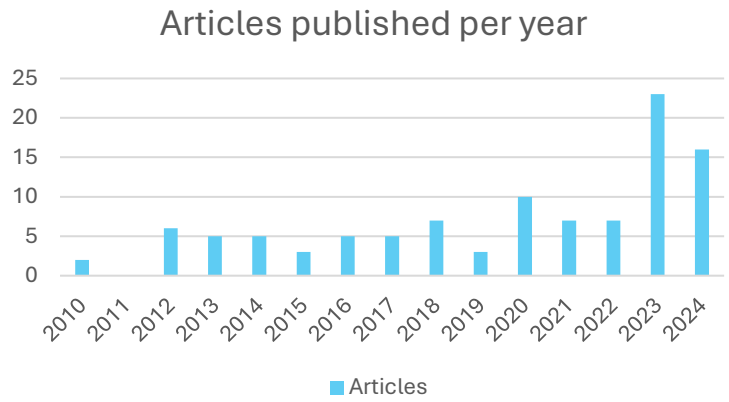

Figure 3 - Articles published per year

As seen in Fig. 3, more than 50% of the studied articles are concentrated in the most recent years, between the years of 2020 and 2024. Additionally, Fig. 4 shows the articles published per year divided by geographical region, which shows that Asia and Europe have been a constant publisher of articles in the scope of our SLR, having published, at least one article per year (except for the year of 2011 where no articles were published). Additionally, Fig. 5 shows an overall geographic distribution of the publications and more than 50% are concentrated in Asian countries, of which 52% is concentrated in studies published by China and India. The second biggest contributor is Europe with 28% of the published articles, where 72% publications were made by countries today in the EU and the rest of the European sample was published by the United Kingdom (UK).

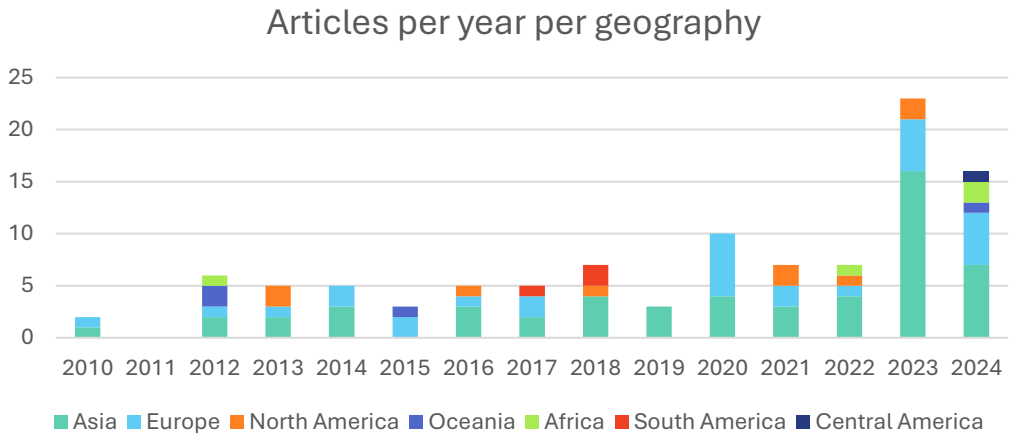

Figure 4 - Articles published per year per region

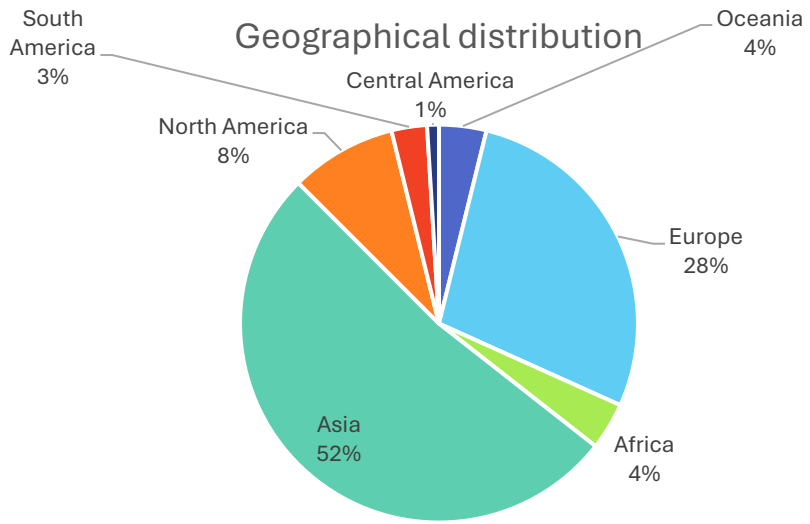

Figure 5 - Geographical distribution of publications

Fig. 6 represents the top 10 journals with more published articles within our sample, and the top 10 journals encompass 60% of the articles reviewed in the SLR. Table A4, in the Appendix A, shows the complete distribution of articles published per journal. The journal with the highest number of publications is the Journal of Cleaner Production with 15 articles, covering 14% of the sample, followed by Business Strategy and Environment with 12 articles, covering 12% of the sample.

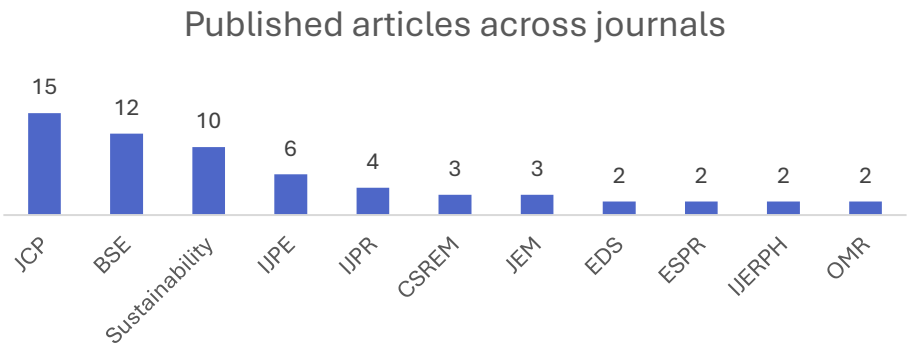

Figure 6 - Published articles across journals[1]

3.1.2. Research context and design

Focusing on what was study in the literature selected, Fig. 7 shows that 52% of the regions studied were in Asia, followed by 19% in the European Union and 13% in North America.

[1] JCP – Journal of Cleaner Production; BSE – Business Strategy and Environment; IPJE - International Journal of Production Economics; IPJR - International Journal of Production Research; CSREM - Corporate Social Responsibility and Environmental Management; JEM - Journal of Environmental Management; EDS - Environment, Development and Sustainability; ESPR - Environmental Science and Pollution Research; IJERPH - International Journal of environmental research and public health; OMR - Operations Management Research

Interestingly, studies that didn't focus on a specific region, by using worldwide databases, counted for 7% of our article sample. From the studies focus on Asian countries, 63% are concentrated between China, India and Pakistan (35%, 16% and 12%, respectively).

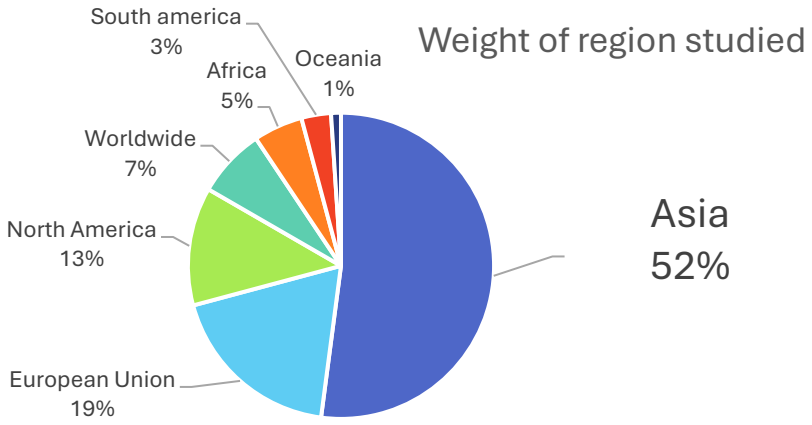

Figure 7 - Weight of region studied

From the 104 articles selected in the sample, the biggest sector of activity industry was general manufacturing (meaning researchers didn't specify the investigation into the manufacturing of a specific product), whilst 30% researched general companies with no specific focus on the activity sector the selected firms act in. The category "other sectors" includes sectors that the weight was 1% or less (see Fig. 8).

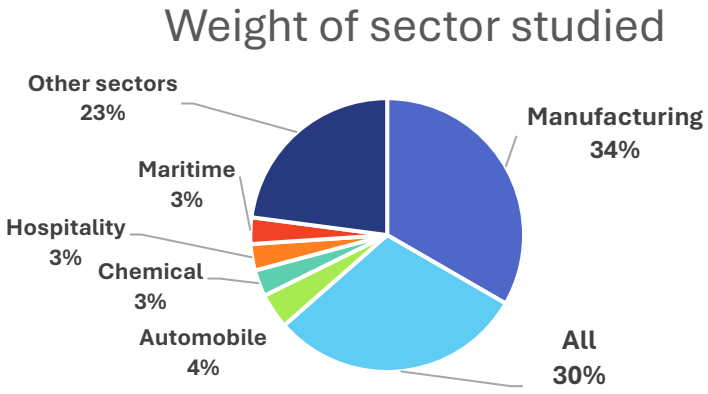

Figure 8 - Weight of each sector of activity studied

Regarding the use of research methodologies (Fig. 9), we found that 82% of the sample used quantitative research methods, whilst only 13% used qualitative research methods. From the qualitative research methods, 62% of the articles selected were SLRs (8% of the total sample), followed by case studies. From the articles using quantitative research methods, 87%

resorted to questionnaires to gather numerical data (through the usage of Likert scales and/or multiple-choice questions).

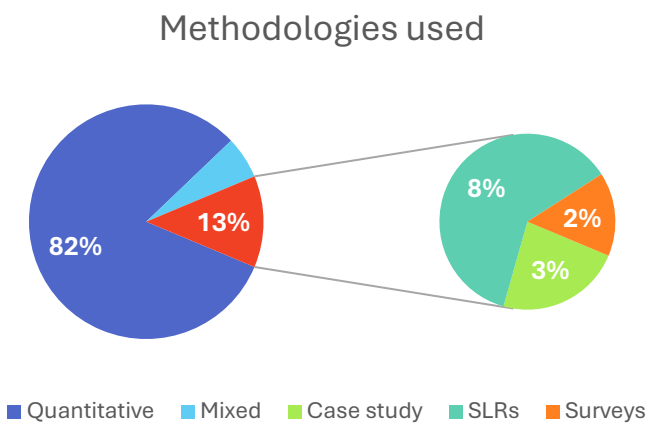

Figure 9 - methodologies used

3.2. Content analysis

3.2.1. Circular Economy Practices

Since the turn of the millennium, companies have been shifting into becoming more sustainable and greener, and initially firms started to apply sustainable manufacturing practices into their supply chains. With the shift in the companies' focus, the literature related to sustainability and circular economy has also evolved with the world environment, starting with a general overview of sustainable practices, which then went deeper into Green Supply Chain Management (GSCM) practices, and more recently GSCM practices have been evolving into CE practices, a more intense view of practices that firm should apply to improve their own performance.

Sustainable manufacturing practices (SMP) includes all practices done within organisational management, which we can also include the definitions of GSCM and Sustainable Supply Chain Management (SSCM) (Grekova et al., 2014; Magon et al., 2018; Moori et al., 2018) and can encompass practices like sustainable product development (or eco-innovation), green purchasing, and other practices (Grekova et al., 2014; Hebaz et al., 2024; Magon et al., 2018) – aimed at reducing, reusing, recycling, reworking, returning and remanufacturing – the 6Rs (Abualfaraa et al., 2020; Nureen et al., 2023).

Across industries and countries, the practices used by each company vary due to different pressures and different firm characteristics and provide different outcomes (Hong et al., 2018; Phan & Baird, 2015), but a consistent result is that supply chains can gain green capability by being the first to adopt environmental sustainability (Chiu & Hsieh, 2016; Khan & Qianli, 2017).

Circular Economy shows up as a more radical term (Alhawari et al., 2021), since its main focus is on the production line and adding value to the recovered material; instead of simply recovering the used material to reduce the usage, like it is the focus of GSCM (Hussain & Malik, 2020), but both shows several practices in common (Jain et al., 2020; Magnano et al., 2024). A systematic literature review defines Circular Economy as "the set of organisational planning processes for creating, delivering products, components, and materials at their highest utility for customers and society through effective and efficient utilization of ecosystem, economic and product cycles by closing loops for all the related resource flows." (Alhawari et al., 2021).

Literature shows a spectrum of sustainability going from Weak Sustainability (WS) to Strong Sustainability (SS). Weak Sustainability encompasses companies that are just doing the bare minimum to meet the demands of society and legislation, and Strong Sustainability are the companies going above and beyond to become sustainable (Kitsis & Chen, 2021). The implementation of GSCM practices shows up behind Circular Economy practices in the spectrum, however the current development of new ideologies like Closed Loop Supply Chains, has helped companies bridged this gap closer (Hussain & Malik, 2020), trending closer to the SS extreme of the spectrum.

Most of the adopted practices in developing countries are "end-of-the-pipeline" solutions, where the companies try to eliminate or reduce negative impacts after they are created, instead of preventing them (Diabat et al., 2013; Khan & Qianli, 2017). Green practices can also be proactive or reactive, and for the case of SMEs, they have mainly been reactive, focusing mainly on compliance with legislation (Choudhary & Sangwan, 2018; Ghadge et al., 2017).

Green Supply Chain Management (GSCM)

Literature consensus on GSCM practices argues that they are a way for companies to achieve operating profit by reducing environmental risks while improving their ecological efficiency (Diabat et al., 2013, 2014; Govindan et al., 2015; Hong et al., 2018; Khan & Qianli, 2017; Moori et al., 2018; Pinto, 2020; Saeed et al., 2018; Schrettle et al., 2014; Silva & Gomes, 2023; Vanalle et al., 2017; Wang et al., 2018). There is no clear definition available but the scope of the practices included ranges from Green Purchasing (GP) to integrated green supply chains and even application of Environmental Management Systems (EMS) (Bag et al., 2022; Caniëls et al., 2016; Chiu & Hsieh, 2016; Choudhary & Sangwan, 2019; Kirchoff et al., 2016; D. Liu et al., 2024; Pinto, 2020; Q. Zhu et al., 2012) and are typically divided into internal and external practices (Saeed et al., 2018; Vanalle et al., 2017; Wang et al., 2018; Wu et al., 2022).

Using the Best-Worst-Method, Hebaz et al. (2024) shows that Internally oriented Environment Management (I-EM) is the most applied practice by the surveyed firms, and Eco-innovation (ECO) and GP are the following ranked practices.

It is important to note that internal practices appear to be a prime determinant and a mediator in sustainability-performance models (Magon et al., 2018). These internal practices can be applied in parallel with other practices (Magon et al., 2018) because the management teams need to consider both the upstream and downstream firms included in their supply chains (Chiu & Hsieh, 2016; Hebaz et al., 2024) and additionally internal practices seem to be a prerequisite for the development of external practices (Choudhary & Sangwan, 2019; Magon et al., 2018; Saeed et al., 2018).

The idea of GSCM practices pyramid has been discussed, in which internal practices are implemented before the external ones. I-EM is the core condition for applying the other practices (Silva et al., 2021). The success of one practice can also be extended to other companies through by imitation or knowledge transfer, and to other practices, the property of trialability (Zhu et al., 2012). This helps to sustain the idea of a practices pyramid.

Internal practices comprise what can be designed, planned and implemented within the firm and can include activities like I-EM (Choudhary & Sangwan, 2019; Micheli et al., 2020; Saeed et al., 2018; Vanalle et al., 2017; Wang et al., 2018). External practices, on the other hand, depend on cooperation with external parties and can include practices such as GP, Cooperation with Customers (CC), and even Investment Recovery (IR) (Saeed et al., 2018; Vanalle et al., 2017). The literature includes many other practices within the scope of GSCM, such as EMS and Reverse Logistics (RL) (Chiu & Hsieh, 2016; Govindan et al., 2015; Kirchoff et al., 2016; Zhu et al., 2012).

The following subsections will be analysed what each practice involve.

External Practices

Even though internal practices are needed to apply most of the external practices, the list of external practices is more extensive.

Starting with **Externally oriented Environment Management (E-EM),** E-EM emerged as a complex approach to the design of sustainable supply chains by involving all the supply chain partners toward the reduction of environmental impact (Grekova et al., 2014) and it will include the adoption of other practices.

Reverse logistics (RL) is defined as the process of planning, implementing and controlling the flow of materials from the point of consumption to the point of origin for the purpose of

recapturing value or proper disposal (Ghosh, 2019; Khor et al., 2016). The most frequently adopted product disposition options are repair, recondition, remanufacture, recycle and disposal (Khor et al., 2016). RL has been recognized as a critical factor toward the sustainability of firm's operations (Ghadge et al., 2017) and is the basis for another practice**, Investment Recovery (IR)**, which is the capacity of the company to obtain some economic advantages from its environmental actions which were previously considered as waste (Saeed et al., 2018; Vanalle et al., 2017).

Green purchasing (GP) is a costly task that brings economic value to the firm due to improved resource conservation and improved reputation (Chiu & Hsieh, 2016; Govindan et al., 2015; Khan & Qianli, 2017) by reducing the sources of waste and encouraging recycling activities (Khan & Qianli, 2017). It focuses on cooperating with the suppliers in the chain to effectively produce environmentally sustainable products (Saeed et al., 2018) and implies buying from suppliers that have several environmental attributes (Ghosh, 2019).

Sustainable global supplier management (SGSM) must go beyond the supplier own declaration to foster responsible behaviour of the entire supplier base of a firm. The key processes are supplier evaluation, supplier selection, and supplier development, sponsored by the firm acquiring the goods (Reuter et al., 2010). Purchasing and Supply Management (PSM) is the capability of the firms to respond to the different stimuli coming in from globally dispersed stakeholders and it will determine the effectiveness of SGSM to mitigate sustainability-related risks (Hollos et al., 2012).

Supplier cooperation (SC) are the joint actions taken over an extended period to reach sustainability on the supplier's level on a supply chain, thereby generating benefits for both parties (Ahmed et al., 2020; Govindan et al., 2015; Hollos et al., 2012). It's a core process in buyer-supplier relationship (Hollos et al., 2012) and it intensifies the level of supply chain integration (Govindan et al., 2015), which increases the company's commitment toward a CE.

And just like there is supplier co-operation, **customer cooperation (CC)** is an external practice where businesses acknowledge their own customers as a strategic partner (an important stakeholder) and try to involve them in several processes within the supply chain (Ahmed et al., 2020; Saeed et al., 2018; Vanalle et al., 2017; Wu et al., 2022).

Internal Practices

Internal Environmental Management (I-EM) is the incorporation of GSCM into a firm's strategy (e.g., changes in the vision of the company) and proactive companies toward sustainability focus on I-EM as the main practice (Saeed et al., 2018). It usually is measured

based on the firms' capability and commitment to implement other internal practices such as EMS (Hebaz et al., 2024). Within the I-EM, authors suggests at least four types of environmental strategies a firm can choose from: eco-efficiency (leads to lower costs and higher gains but reduces the impact on the environment) (Schrettle et al., 2014); strategies beyond those of compliance leadership (which uses eco-labelling and market instruments to leverage their position in the markets); eco-branding (differentiate itself in the market with eco-friendly products and services); and environmental cost leadership (competing on lower prices, sometimes even entering new industries or rethinking the product) (De Marchi et al., 2013). But the adoption of these strategies also varies between industries and countries, just like the practices are implemented differently due to different contexts.

López Pérez and Sánchez (2024, p. 1321-1340) define **Eco-innovation (ECO)** as "the exploitation, assimilation or production that is novel for the company and that reduces negative impacts on the environment compared to other alternatives". ECO across the literature also appears as green innovation, eco-design and green design. It's a practice to improve the firms' environmental management processes that result in a reduction of environmental burdens (Bag et al., 2022; Chan et al., 2016; Chiu & Hsieh, 2016; Maldonado-Guzmán et al., 2023; Nureen et al., 2023; Rahman et al., 2021; Rodríguez-Espíndola et al., 2022; Ullah Khan et al., 2023) and will facilitate the re-use, recycle and recuperation of the product throughout its life (Ghosh, 2019; Vanalle et al., 2017). ECO is also known for being a proactive approach instead of a reactive approach toward sustainable development (Agrawal et al., 2023; Liu, 2024; Saeed et al., 2018), which will improve the firms' competitive advantage because their products will be designed already considering sustainability and its environmental impact for its entire life cycle (Bag et al., 2022; Chan et al., 2016; Costantini et al., 2017; Ganapathy et al., 2014; Govindan et al., 2015). This practice should influence the product's cost, its demand, and its environmental impact on the different stages of its life cycle (Saeed et al., 2018; Yu & Ramanathan, 2015). ECO can be divided into exploratory (expands new knowledge) and exploitative (redevelopment of existing knowledge) innovation (Chen et al., 2023). There are four types of eco-innovation: product, process, organisational, and marketing (López Pérez et al., 2024). Eco-innovation is the path for companies to achieve the SDGs set by the UN in 2015 and achieve a CE (Agrawal et al., 2023; López Pérez et al., 2024; Passaro et al., 2023).

Green Logistics Management (GLM) is highly associated to CE adoption featuring the three R's (recycling, reuse and reduce). It considers product return flows and eco-efficiency to turn the logistics of the supply chain more sustainable (Lai & Wong, 2012).

Environmental Management Systems (EMS) is an internal tool to organise a company's environmental work in such a way that continuously improves the firm's environmental performance, and it can manage any other practice the company is implementing (Govindan et al., 2015; Massoud et al., 2010; Phan & Baird, 2015; Urban & Govender, 2012). It also provides standards that the companies can be evaluated upon and measured for comparison (Phan & Baird, 2015; Urban & Govender, 2012) and specifies policies, procedures and audit standards for controlling operations (Diabat et al., 2013). For example, EMAS – Eco-Management and Audit Scheme – which is promoted by the European Commission, integrates the ISO 14001 certification and GHRM – Green Human Resources Management, and is an example of an EMS used broadly throughout the industries (Marrucci et al., 2023). EMS might be costly to implement but some authors proved that EMS should be incorporated into long-term sustainable strategies to be effective (Urban & Govender, 2012).

Eco-labelling (EL) encourages a move toward greener consumption patterns all around and is incentivised by the governments and other organisations to improve environmental characteristics of the products available in the markets and helps identify the products with environmental advantages. For example, in China there is the program China's Environmental Label I, so products with these labels is assured to have sustainable practices associated with its production (Zhu et al., 2012). EL can be assessed as a certification of sustainable practices in the firm, showing the goal of the company to become more environmentally friendly. The ISO 14001 certification is an example of an environmental certification that reenforces the application of several different CE practices like EL used by companies detailing the requirements of a successful EMS, created in 1996 and revised in 2004 (Govindan et al., 2015; Liu et al., 2023; Mariotti et al., 2014; Massoud et al., 2010; Phan & Baird, 2015), that provides guidance and flexibility for firms addressing both business and environmental issues (Mariotti et al., 2014). It is among the most widely adopted EMS (Govindan et al., 2015; Jain et al., 2020) and multinational companies (MNCs) tend to opt for this type of certifications to create a global environmental standard, with no need to adopt to each location the firm has any activity (Moori et al., 2018).

Circular Economy

China is the country that has produced the most articles in the area of sustainability because China is one of the first emerging countries implementing circular economy-oriented legislation (Han et al., 2022; Lai & Wong, 2012; López Pérez et al., 2024; Rodríguez-Espíndola

et al., 2022; Yang et al., 2021) to increase their exports and to attract foreign investment (Ahmed et al., 2020; Farooque et al., 2024).

Circular Economy focuses on networks of interacting components, in the exchange of material and on resource efficiency, in increasing resource productivity and decoupling resource utilization from economic growth leading to the overall reduction for the need of new materials (Bag et al., 2022; Chiappetta Jabbour et al., 2020; Dagiliene et al., 2020; Ghaithan et al., 2023; Khan et al., 2023). Circular Economy, as a policy framework, is based on the 4Rs – reduce, reuse, recycle, and recover - from which "reduce" is the focus on EU countries (Dagiliene et al., 2020; Sumarsono et al., 2023) - and later a 6Rs framework was introduce – adding redesign and remanufacturing (Hernández-Arzaba et al., 2022). The most recent addition was the creation of a 10Rs framework: reject, rethink, reduce, reuse, repair, renew, remanufacture, reconvert, recycle, and recover (López Pérez et al., 2024). CE-based practices are becoming imperative to achieve the SDGs developed by the UN in 2015 (Agrawal et al., 2023; Passaro et al., 2023) and literature sustains the importance of CE to achieve a smooth energetic transition into clean energy (Sumarsono et al., 2023).

Circular Economy is different than GSCM, but both have several practices in common. CE targets a regenerative production system within a closed system, reducing the need for new inputs (Bag et al., 2022; Chiappetta Jabbour et al., 2020; Hussain & Malik, 2020). CE shifts the focus from profitability on selling goods to making a profit from the flow of products over time (Rodríguez-Espíndola et al., 2022) and requires changes at the macro-, meso-, and micro-level (Farooque et al., 2024; Rodríguez-Espíndola et al., 2022; Sumarsono et al., 2023).

A meta-analytic investigation affirmed that there are seven enables of CE adoption (listed by significance): managing product returns; green manufacturing; environmental strategy; management support; supply chain flexibility; supply chain integration; and green innovation (Tiwari et al., 2024). Some of these antecedents are GSCM related practices which concludes that GSCM practices supports the adoption of a Circular Economy (Bag et al., 2022; Liu et al., 2023; Ullah Khan et al., 2023).

Several GSCM practices are shared with CE practices: ECO; IR; I-EM and E-EM; RL; GP and others (see Table A5 in Appendix A), but there are practices that were developed into the CE ideology, as depicted in the next paragraphs.

Circular Product Design (CPD), which comes from eco-design/innovation, applies CE principles to enable product design to think beyond the product's functional focus and consider the circulation of resources in the supply chain (Liu et al., 2023).

A closed-loop supply chain (CLSC) focuses on integrating reverse supply chain operations with forward supply chain operations while carrying out manufacturing activities (Bhatia & Kumar Srivastava, 2019). It includes practices like product recovery and sustainable production, but it has been less studied than GSCM (Bhatia & Kumar Srivastava, 2019) and it extends the traditional reverse logistics practices to include the 5Rs – reuse, repair, remanufacture, recycle, and refurbishment (Hussain & Malik, 2020). **Circular Procurement (CP)** has emerged recently as it aims to transform supply chain practices from the linear model to an interconnected and closed loop, minimizing negative environmental impacts – creating a CLSC (Farooque et al., 2024). The emergence of these CLSCs bring GSCM closer to the philosophy of Circular Economy (Hussain & Malik, 2020). Literature shows that EMS, a GSCM practice, are a strong antecedent for the application of Circular Procurement (Farooque et al., 2024).

Green Human Resource Management (GHRM) is a set of human resources practices intended to achieve organisational goals on an environmental point of view (Magnano et al., 2024; Marrucci et al., 2023; Truong et al., 2024). It can include actions like share of knowledge and skills of just employee awareness.

Table A5 (see Appendix A) summarizes the different practices presented above.

3.2.2. Types of Pressures

Many researchers analysed the pressures behind CE practices from their country's perspective since the impact of each pressure differs (Caniëls et al., 2016; Diabat et al., 2014). For example, in Saudi Arabia the pressure from stakeholders (a normative pressure) is one of the biggest drivers for companies to get the ISO 14001 certification (Mariotti et al., 2014), whilst for the Dutch food industry the biggest pressure for getting the same certification is to follow international trends (Grekova et al., 2014).

A pressure (or isomorphism) can be described as a process that forces one to resemble another that face the same set of conditions so they can strive for social conformity (Phan & Baird, 2015).

There are three major pressures proposed by institutional theory such as **coercive pressures** (exerted by other organizations and by society), **mimetic pressures** (usually arriving from competitors who tend to imitate the other's successes, which has been enhance by globalization), and **normative pressures** (that come from professionalisation or social obligation) – which have been consistently used by literature in the study of sustainability (Adomako & Nguyen, 2023; Alhawari et al., 2021; Choudhary & Sangwan, 2018; Dagiliene et al., 2020; Farooque et al., 2024; Ganapathy et al., 2014; B. Han et al., 2022; Hebaz et al.,

2024; Jain et al., 2020; Khor et al., 2016; Madrid-Guijarro & Duréndez, 2024; Mariotti et al., 2014; Marrucci et al., 2023; Ngo, 2023; Phan & Baird, 2015; Raza, 2020; Raza & Woxenius, 2023; Tian et al., 2023; Vanalle et al., 2017; Wang et al., 2018; Wen et al., 2023; Xu et al., 2024). These pressures can also be subdivided into two subgroups: external (like regulations, suppliers, customers, competitors, and media) and internal (like mission statements and policies; strategic purchasing; and supply management capabilities) (Diabat et al., 2013, 2014; Ghadge et al., 2017; Ghosh, 2019; Grekova et al., 2014; Henriques & Sadorsky, 2013; Lai & Wong, 2012; Madrid-Guijarro & Duréndez, 2024; Schrettle et al., 2014; Q. Zhu et al., 2012). Table A6 in Appendix A summarizes each institutional pressure.

When analysing the impact of each pressure, literature shows that coercive pressures tend to be more impactful than normative or mimetic pressures in the application of CE practices (Chen et al., 2023; Farooque et al., 2024; López Pérez et al., 2024; Marrucci et al., 2023; Tiwari et al., 2024; Vanalle et al., 2017), but exceptions exist and the utilisation of a different methodology in the study can show a different result – for example (Hebaz et al., 2024), who used the Best-Worst-Method to show that the normative pressures are the most impactful pressure, followed by coercive and mimetic pressures or the results of the Indian industry that shows normative pressures as the root pressures (Choudhary & Sangwan, 2019) for the application of CE practices; or even contradictory results from the Chinese chemical sector, where mimetic pressures have the strongest impact on the adoption of CE practices (Wen et al., 2023).

Table A7 in Appendix A provides a list of how each pressure has affected the application of different CE practices, which will be detailed in the next subsections.

Coercive pressures

Regulations from the government or other regulatory bodies that drive the companies into sustainability can take many forms and it is a powerful driver due to its law enforcement and reputational effects (Abdou et al., 2023; Chan et al., 2016; Choudhary & Sangwan, 2018; Dagiliene et al., 2020; Grekova et al., 2014; Hebaz et al., 2024; Jain et al., 2020; Ngo, 2023; Phan & Baird, 2015; Saeed et al., 2018; Schrettle et al., 2014; Tian et al., 2023; Vanalle et al., 2017; Zameer et al., 2021). Mandatory environmental regulations have been proved to be an effective tool in motivating organisation (Agrawal et al., 2023; Baah et al., 2021; Chiappetta Jabbour et al., 2020; Ghadge et al., 2017; López Pérez et al., 2024; Phan & Baird, 2015; Truong et al., 2024; Wen et al., 2023) – more specifically, coercive pressures are a strong antecedent for firms to adopt their internal green practices (Ahmed et al., 2020; Chan et al., 2016; Ha et

al., 2024; B. Han et al., 2022; Saeed et al., 2018) as supported by the institutional theory (Baah et al., 2021; Chen et al., 2023; Han et al., 2022) whilst the same significant relationship wasn't found with external practices (Saeed et al., 2018).

As we can see from Table A7 in Appendix A, coercive pressures tend to positively pressure firms into the application of the diverse CE practices. A good example of why is the Chinese manufacturers, who must comply with China's national circular economy legislation (like the Clean Production Law or the Environmental Impact Assessment Law) (Chan et al., 2016; Yang et al., 2021) and, in addition to that, they have to comply with international regulation, like European Union (EU) legislation, in order to be able to export to that region (Chan et al., 2016; Farooque et al., 2024; Lai & Wong, 2012). Internally, the Chinese government has also been imposing higher fees on waste disposal and other environmental legislation to push enterprises to adopt more sustainable practices (Lai & Wong, 2012; Yang et al., 2021). This increase in regulation both in China and in the exporting markets resulted in enhanced adoption of environmental practices throughout the whole country (Micheli et al., 2020; Vanalle et al., 2017).

However, some industries do not cite coercive pressures as a significant driver of their actions. For example, Caniëls et al. (2016), studying the shipbuilding industry, found no support for coercive pressures in the application of CE practices, discussing that the suppliers of the ship building industry are located outside of the country studied – the Netherlands. Other examples are the Indian textile and ceramic sectors (Choudhary & Sangwan, 2019; Diabat et al., 2014) and the Saudi Arabian manufacturing sector (Mariotti et al., 2014) do not consider legislation to be a major driver of their actions. Others, like the case for the construction industry in Malaysia (Yusof et al., 2017), recognise the pressure that regulation provides, but do not consider it to be their main driver. These studies conclude that government legislation does not exert significant pressure, primarily due to a lack of regulatory enforcement (Choudhary & Sangwan, 2019; Diabat et al., 2014; Mariotti et al., 2014).

It is important to note that the impact of legislation can differ between industries, even within the same country. For example, government regulation is a significant driver for the automotive industry in India, but not for the textile industry (Diabat et al., 2014), which may be related to the lack of enforcement.

Under intense pressure, firms must use their resources wisely and implement broader practices to respond to all stakeholders, which would give them a competitive advantage (Agrawal et al., 2023; Micheli et al., 2020; Vanalle et al., 2017). For this reason, most firms choose to implement eco-innovation, with coercive pressure being a strong driver of this

practice (Adomako & Nguyen, 2023; Ha et al., 2024; Raza, 2020). Companies can also be incentivized to be more proactive in green logistics applications, due to government regulations and mandatory reporting (Simpson, 2012a); however, many firms still fail to see the benefits in these measures and some government restrictions have been very ineffective (Simpson, 2012a).

Finally, it is important to mention that coercive pressures can also cause a crowding-out effect, whereby government legislation reduces business leaders' motivation to improve their firm's environmental performance (Graafland & Bovenberg, 2020) - this is a negative consequence of excessive coercive pressure.

Normative pressures

Normative pressures, or market drivers, can vary from the range of stakeholders that involve a company, for example, customers can respond favourably to a firm's sustainability initiatives which creates demand, that is a driver for companies to apply CE practices (Diabat et al., 2014; Grekova et al., 2014; Islam et al., 2023; Saeed et al., 2018; Schrettle et al., 2014; Wen et al., 2023). Firms also face normative pressure "with a savour of regulative" mainly from the communities and from the media, which are pressures that are not legally enforceable, but are reinforced through the social processes (Adomako & Nguyen, 2023; Baah et al., 2021; Dagiliene et al., 2020; Grekova et al., 2014). There are also situations where a normative pressure will evolve into a coercive one: companies in the global chemistry industry have developed more environmental strategies due to the industry facing higher, stricter and more rapid changes in legislation due to previous accidents resulting in environmental disasters, creating a normative pressure that leads to coercive pressure (Moori et al., 2018; Urban & Govender, 2012; Wen et al., 2023).

Some stakeholders have a bigger influence than others, such as media or labour unions, because they can mobilize the public opinion about the company in question, holding power and pressuring the firms to move into greener practices (Baah et al., 2021; Caniëls et al., 2016). Larger firms have greater social visibility, which increases stakeholder's pressures and turn them into more proactive organizations in applying CE practices – supporting size as a mediator between pressures and the firms practices application (Henriques & Sadorsky, 2013; Wang et al., 2018).

Normative pressures, in general, have a strong influence on the adoption of both internal and external practices (Bag et al., 2022; Hebaz et al., 2024; Wen et al., 2023). Studies show that stakeholders pressures significantly influence CE practices (Baah et al., 2021; Caniëls et

al., 2016; Ghosh, 2019; Hernández-Arzaba et al., 2022; Islam et al., 2023; Ngo, 2023; Vanalle et al., 2017), which are positively related to environmental performance (Khor et al., 2016; Ngo, 2023; Yu & Ramanathan, 2015),

Stakeholders can be divided into primary (customers, employees and government) and secondary (media and NGOs) stakeholders (Ali et al., 2023; Nguyen & Adomako, 2022) and both have a strong effect on the adoption of green practices (Ali et al., 2023).

Export oriented firms and MNCs are more likely than domestic firms to adopt an EMS since this practice provides a signal to foreign markets of the company's commitment to sustainability and larger companies are more responsive to environmental issues due to largest exposure to normative pressures (Henriques & Sadorsky, 2013; Jaikumar et al., 2013; Nguyen & Adomako, 2022; Urban & Govender, 2012), confirmed also by the case of Saudi firms, where overcoming international market barriers is not as a strong driver, since most companies don't operate on a global level, meaning international pressures are not as present (Mariotti et al., 2014).

The application of some CE practices, such as Eco labelling for example, can motivate companies to implement other CE practices, like Green Purchasing, as it enables them to audit/monitor their suppliers and other parties in their supply chain (Chiappetta Jabbour et al., 2020; Micheli et al., 2020; Vanalle et al., 2017).

Companies may also experience internal normative pressures, stemming from their corporate values and beliefs, which encourages them to go beyond legal compliance (Abdou et al., 2023; Phan & Baird, 2015). Consider the example of the Brazilian automotive industry, where the most significant influence was each company's mission statement (Vanalle et al., 2017). However, another study conducted in Brazil suggests that shareholders exert the greatest pressure (Chiappetta Jabbour et al., 2020), which contradicts studies indicating that coercive pressures, specifically from the government, have a greatest impact (Chiappetta Jabbour et al., 2020).

Senior management and shareholders are two influential stakeholder groups in the adoption of CE practices. Studies have shown that top management exerts considerable influence over CE practices during the adoption stage (Yusof et al., 2017; Zameer et al., 2021). This means that companies require project managers who can motivate their teams and provide them with the necessary resources. Senior management and shareholders are also moved by economic reasons pressuring the firm to invest in CE practices (Abdou et al., 2023; Wang et al., 2018), like green logistics practices, such as dematerialization (using fewer environmental resources to produce each unit of output) and decoupling (reducing dependency on natural resources for

continuous growth) (Lai & Wong, 2012), as well as waste reduction practices (Simpson, 2012b).

The application of CE practices appears to be influenced by customer pressures in different ways, with the literature showing contrasting results (Ghadge et al., 2017; Passaro et al., 2023; Raza & Woxenius, 2023; Simpson, 2012a). It has been proven that customers are significant motivator for companies to adopt environmental practices (Ahmed et al., 2020; Hebaz et al., 2024; Khan & Qianli, 2017; Phan & Baird, 2015; Wang et al., 2018; Yusof et al., 2017; Zameer et al., 2021), particularly internal practices (Ahmed et al., 2020; Ha et al., 2024; Rodríguez-Espíndola et al., 2022; Vanalle et al., 2017). Arguments that support customer pressure defend that a green image favourably positions exporters and can theoretically nurture customer preferences through spill-over effects (Lai & Wong, 2012).

From the beginning to the end of the product's life cycle, customers have demanded products that are more environmentally sustainable (Ghadge et al., 2017; Ha et al., 2024; Yu & Ramanathan, 2015), and they have pressured SMEs specifically to incorporate environmental considerations into the creation of sustainable supply chains (Madrid-Guijarro & Duréndez, 2024; Passaro et al., , 2023; Rodríguez-Espíndola et al., 2022). This is because the environmental impact of SMEs is overshadowed by that of large multinational firms (Ghadge et al., 2017), and because SMEs are in closer contact with end consumers (Passaro et al., 2023; Phan & Baird, 2015).

From the research done to the literature we can affirm that the majority defends normative pressure having a positive significant relationship with CE practices application. However, there are some exceptions found like the case of Caniëls et al. (2016), who studied the Dutch shipbuilding industry, and Grekova et al. (2014), who studied the Dutch food and beverage industry, found no significant relationship between normative pressures and the application of CE practices – theorising it could be due to the extensive alternative uses their products can have and the different markets of customer not analysed. Or, for example, the study of Kitsis & Chen (2021), who studied manufacturing industry in the USA, who found no significant direct relationship between normative pressures and CE practices but only found a significant relationship when mediated through top-management commitment.

Mimetic pressures

The imitation effect is also very important in the diffusion of sustainable practices (Ghadge et al., 2017; Grekova et al., 2014; Ngo, 2023; Wang et al., 2018; Wen et al., 2023; Q. Zhu et al., 2012). Also known as "social learning", mimetic pressures are considered a culturally

cognitive pressure (Caniëls et al., 2016; Dagiliene et al., 2020; Grekova et al., 2014) and companies use it to gain legitimacy and to minimise the risk of a drop in their competitive advantage and reduce uncertainty in the market they are integrated (Agrawal et al., 2023; Farooque et al., 2024; Ghadge et al., 2017; Jain et al., 2020; López Pérez et al., 2024; Mariotti et al., 2014; Marrucci et al., 2023; Phan & Baird, 2015; Trivedi et al., 2024; Q. Zhu et al., 2012), by replicating processes and practices from successful examples (Dagiliene et al., 2020; Grekova et al., 2014; Saeed et al., 2018; Q. Zhu et al., 2012).

Mimetic pressures can be seen as a contrasting result pressure, showing very different results based on a country's study. This can be explained due to the different mediators that can exist, like size and awareness, but also can be due to several contextual factors, being a pressure focused on imitation.

A study done to the Australian industries show that, surprisingly, mimetic pressures had a negative influence on the application of EMS (Phan & Baird, 2015), which supports the finding that mimetic pressures have no impact in the adoption of internal practices (Saeed et al., 2018). However, the same study shows that mimetic pressure is indeed able to pressure companies to adopt external practices (Saeed et al., 2018).

In contrast, a study done for ceramic industries in India show that mimetic pressures have higher impact on larger firms – which indicates size again as a mediator of pressure and practices (Choudhary & Sangwan, 2018). The Dutch food industry is motivated to implement sustainable practices like achieving the ISO 14001 certification due to the following of international trends (unique to the food sector), a mimetic pressure (Grekova et al., 2014; Massoud et al., 2010).

3.2.3. Performance

The range of practices that companies can apply affects differently the types of performances of the firms. However, the generalization reached from analysing the literature is that the adoption of environmental practices results in an improvement of the overall performance.

The environmental performance relates to the reduction in emissions, waste, and pollution (Govindan et al., 2015; Jain et al., 2020; Micheli et al., 2020; Vanalle et al., 2017); social performance is the humanitarian side of performance (Ghaithan et al., 2023; Islam et al., 2023), and economic (or firm) performance is reflected through cost reductions and increase in profit (Diabat et al., 2013; Ghaithan et al., 2023; Govindan et al., 2015; Jain et al., 2020; Micheli et al., 2020; Vanalle et al., 2017).

The Triple Bottom Line (TBL) comprises three performance dimensions: economic, environmental and social (Diabat et al., 2014; Hollos et al., 2012; Khan & Qianli, 2017; Reuter et al., 2010; Sumarsono et al., 2023), which can also be known as sustainable performance (Chiappetta Jabbour et al., 2020; Ghaithan et al., 2023; Hollos et al., 2012; Khan et al., 2023; Pinto, 2020; Rodríguez-Espíndola et al., 2022; Ullah Khan et al., 2023) The adoption of CE practices supports the increase of the firm's TBL (Bag et al., 2022; Khan et al., 2023; Rodríguez-Espíndola et al., 2022; Sumarsono et al., 2023; Tiwari et al., 2024; Truong et al., 2024; Ullah et al., 2023), providing environmental and social benefits without harming the firm's economic performance. Table A8 in Appendix A presents a summary of each performance dimension.

Some studies show that the environmental improvements have an impact on the social aspect of the firm and vice versa (Schrettle et al., 2014), meaning that one environmental practice can cause a chain reaction that affects another third of the TBL. Additionally, environmental performance positively influences economic performance by attracting environmental conscious stakeholders (Baah et al., 2021). Many companies operate with a profit-driven mindset. Economic gains are frequently prioritized over environmental impacts (Govindan et al., 2015)

In some studies, companies applying CE practices are more focused in improving their environmental performance, leaving the economic performance as a secondary focus (Diabat et al., 2013; Govindan et al., 2015; Vanalle et al., 2017). However, Hebaz et al. (2024) show that the application of CE practices prioritises is prioritising the improvement of economic performance, followed by environmental performance, and then social performance.

Companies can apply several different mixes and bundles of CE practices, and each bundle can have different effects in the sustainable performance of the firm applying them (Acquah et al., 2024). When both economic and environmental performance are the goal of the firm, external CE practices become core conditions to achieve it, but it is important to mention that when only one of the performances is the goal, the core practices and the bundles that a firm can do can change (Han et al., 2022; Silva et al., 2021).

Table A9 provides a summary of the literature, showing how each CE practice impacts a firm's TBL; however it is important to mention that even though the general conclusion is in favour of the application of the CE practices in order to improve performance, some contradictory results are found and those can be due to different mediators and variables impacting the studies but can also be due to the advanced of the study of the area of sustainability and the shift in the companies focuses.

Economic performance

After reviewing the literature, we can state that CE practices impact positively and significantly the firm's economic performance. But besides studying if the practices impact the economic performance, Diabat et al. (2013) studied which practices impacted more the economic performance, demonstrating that practices of ECO, CC, and RL are the three most prominent practices, each of which significantly improves the firm's performance.

Literature defends that CE practices can reduce a company's costs – hereby improving their economic performance, depending on the firm's capability for innovation and implementation, degree of formalization of EMS and even the location (geography) of the company (Abdou et al., 2023; Jain et al., 2020; López Pérez et al., 2024; Magon et al., 2018; Nureen et al., 2023; Wen et al., 2023).

Under higher competitive intensity, there is a stronger relationship between CE practices and positive economic performance (Micheli et al., 2020) because under a high dynamic business environment, firms are more likely to achieve cost efficiency than profitability by applying ECO, suggesting that managers should put more efforts on the cost-saving-oriented practices (Chan et al., 2016). Some companies also find a first-mover advantage when they introduce ECO in their strategies (Ha et al., 2024; Khan & Qianli, 2017; López Pérez et al., 2024; Maldonado-Guzmán et al., 2023; Raza, 2020) and the first-mover advantage usually comes with a range of competitive advantages over their competitors, improving firm's performance in the long run (Khan & Qianli, 2017; López Pérez et al., 2024; Saeidi et al., 2024).

Besides the first-mover advantage, literature suggests that companies with higher levels of CE practices gain competitive advantages over their competitors (Ali et al., 2023; Chan et al., 2016; Chiu & Hsieh, 2016; Govindan et al., 2015; Ha et al., 2024; Hollos et al., 2012; Kirchoff et al., 2016; Kitsis & Chen, 2023; Moori et al., 2018; Saeidi et al., 2024; Schrettle et al., 2014; Trivedi et al., 2024; Wang et al., 2018; Yusof et al., 2017) and are able to meet their goals of profit-seeking – improving their economic performance (Abdou et al., 2023; Farooque et al., 2024; Ha et al., 2024; Hernández-Arzaba et al., 2022; Hong et al., 2018; Khan et al., 2023; Kitsis & Chen, 2021; Tiwari et al., 2024; Wen et al., 2023; Yusof et al., 2017). However, it is debatable whether all practices influence economic performance. For example, a study of the Pakistani manufacturing industry shows that internal practices have no significant impact on economic performance since they do not incur any additional costs but don't show a significant reduction either (Ahmed et al., 2020).

Most companies believe that their green efforts will have the greatest impact on reputation and brand image, with the biggest impact on smaller firms, which will enable them to maintain current customer's loyalty and bring new customers, developing their competitive advantages (Ali et al., 2023; Caniëls et al., 2016; Chiu & Hsieh, 2016; Diabat et al., 2013; Ganapathy et al., 2014; Hong et al., 2018; Jain et al., 2020; Khan et al., 2023; López Pérez et al., 2024; Nureen et al., 2023; Reuter et al., 2010; Vanalle et al., 2017; Yu & Ramanathan, 2015), which as demonstrated above can improve the company's economic performance. For example, on Italian home furnishing companies, the application of sustainable practices allows them to increase their power within their own value chains and their customers by becoming less substitutable (De Marchi et al., 2013). Or a study done within Taiwanese restaurants that show most practices applied have an indirect effect on economic performance, apart from product recycling practice due to sanitary controls and the use of plastic wraps and one time use products in this industry (Chiu & Hsieh, 2016).

Effective waste reduction can lower costs for firms, improve their share price, and provide greater resource security (Simpson, 2012a). This practice is part of RL application, which if successful results in more sales and cost-efficiency for the company, improving their economic performance (Khor et al., 2016).

An EMS provides improvements in productivity, competitiveness and business profitability and improves long term economic performance (Y. Liu et al., 2023; Urban & Govender, 2012), and together with an EMS, achieving the ISO 14001 certification (an eco-labelling practice) may contribute toward the creation of valuable resources and capabilities, which leads to the creation of competitive advantages between the firms (Liu et al., 2023; Mariotti et al., 2014; Massoud et al., 2010) – again improving their economic performance. For the specific case of Lebanon, for example, the ISO 14001 certification will help the Lebanon industry overcome free trade barriers and maintain a relationship with the EU and even gain trade advantage over the region (Massoud et al., 2010).

On the other hand, several internal practices have been found to have a negative relationship with firm's economic performance (Baah et al., 2021; Magon et al., 2018; Saeed et al., 2018), since it can increase the overall cost of the business and this incremental of cost is not followed with government subsidies (Khan & Qianli, 2017) or because the initial investment is very high and doesn't get repaid fast enough affecting the business profitability (Baah et al., 2021). These negative relations show that there is a trade-off between some practices and economic performance (Choudhary & Sangwan, 2019; Magon et al., 2018), specially for firms in early stages of adopting these practices (Saeed et al., 2018). These contradictory results can be a

result of different factors – it can be a result of mediators in the relationship (which can vary from size of the firm, geography or even sector of activity); but it can also be a result of usage of different valuation methods, for example, Schrettle et al. (2014) found a positive relationship between CE practices and firm performance only when economic performance is measured by the firm's stock market value, while using intangible asset valuation, show the opposite relationship.

Environmental performance

Across the literature there are many ways of evaluating the environmental performance of a company (Kirchoff et al., 2016; Moori et al., 2018; Phan & Baird, 2015), and the conclusion is that environmental performance is the outcome of how well the firm manages its overall environmental impact throughout the life cycle of its product (Ranasinghe et al., 2022).

In short, most of the literature agrees that the adoption of environmental practices improves a company's environmental performance (Abdou et al., 2023; Ahmed et al., 2020; Baah et al., 2021; Diabat et al., 2013; Ghaithan et al., 2023; Hernández-Arzaba et al., 2022; Hong et al., 2018; Hosain & Mustafi, 2024; Kitsis & Chen, 2021, 2023; D. Liu et al., 2024; Ngo, 2023; Phan & Baird, 2015; Pinto, 2020; Raza & Woxenius, 2023; Vanalle et al., 2017; Yu & Ramanathan, 2015; Yusof et al., 2017; Zameer et al., 2021), but some studies also show that environmental practices serve more as a mediator of other CE practices to achieve environmental performance; for example, Canadian, Portuguese and British firms show that CE practices mediate the impact of lean management in environmental performance, (Diabat et al., 2013; Khan & Qianli, 2017; Moori et al., 2018; Schrettle et al., 2014; Silva & Gomes, 2023) and the practices also meditate the pressure from stakeholders and the company's environmental performance (Yu & Ramanathan, 2015) - this can be explained by the differences felt between developed and emerging countries, where there is less environmental regulation and companies have more space to improve their performance (López Pérez et al., 2024; Ngo, 2023; Tiwari et al., 2024).

Diabat et al. (2014), besides studying how each practice affects the firm's environmental performance, also studies which ones have a bigger or smaller impacts on performance. They show that GP has the less impact on the company's environmental performance since almost all industries already started to apply this practice at the time of the study, in the case of Indian textile industry. However, most recent studies have an opposite view defending that GP has been considered one of the most effective practices implemented, together with I-EM and CC (Hosain & Mustafi, 2024; Huang et al., 2024; Saeed et al., 2018; Vanalle et al., 2017).

Additionally, it has been studied that internal practices (such as I-EM and ECO) seem to have a strong enough relationship with environmental performance (Ha et al., 2024; Silva et al., 2021; Ullah Khan et al., 2023) whilst, external practices have a significant relationship with the economic performance (Saeed et al., 2018). However, this positive relationship eventually reaches an inflexion point, and diminishing returns set in (Henriques & Sadorsky, 2013; Schrettle et al., 2014).

The ISO 14001 certification confirms certain standards which will improve a company's environmental performance (Diabat et al., 2014; Y. Liu et al., 2023). Studying Indian enterprises, it is depicted that certified companies are performing better than non-certified companies in environmental protection and pollution reduction, which literature supports for other worldwide industries (Jaikumar et al., 2013). Jain et al. (2020) even shows that just the implementation of an EMS is enough to show a significant positive relationship with the firm's environmental performance.

GLM implementation also improves a firm's environmental reputation to attract environmentally conscious customers (Saeidi et al., 2024) and a study done by Lai et al. (2012) proves that GLM is positively associated with environmental performance (by reducing carbon emission, wastewater, solid waste, and consumption of hazardous materials) (Lai & Wong, 2012; Rahman et al., 2021; Simpson, 2012b).

ECO is a key determinant in reducing emissions of all types of pollutants (Chen et al., 2023; Choudhary & Sangwan, 2019; Costantini et al., 2017; Ha et al., 2024; Hosain & Mustafi, 2024; Khan & Qianli, 2017; D. Liu et al., 2024; L. Liu, 2024; Maldonado-Guzmán et al., 2023; Nureen et al., 2023; Rahman et al., 2021; Ranasinghe et al., 2022; Raza, 2020; Saeed et al., 2018; Silva et al., 2021; Silva & Gomes, 2023) – with an exception found in the Indian manufacturers sector, but we need to also weight the fact that India, at the time of the study done by Ganapathy et al. (2014), was also a strong advocate of keeping environmental standards out of world trade agreements. It is suggested that for the specific cases of reduction of Green House Gases (GHG) emissions, only ECO efforts can improve a company's environmental performance (Costantini et al., 2017). The same study also shows that ECO also has an indirect positive effect on performance when green technologies are embedded in intermediate goods (Costantini et al., 2017).

Literature suggests that RL and CP manage to achieve better environmental performance (Bhatia & Kumar Srivastava, 2019) at the expense of economic performance (Khor et al., 2016), but Khor et al. (2016) study also shows that the presence of coercive pressures makes RL a profitable practice for businesses and contribute to sales growth - at least applied to the

Malaysian environment. On the other hand, CP seems to have a less significant impact on environmental performance, because the impact on performance is dependent on the specific method or practices being employed to create a CLSC (Farooque et al., 2024).

Social performance

Very few studies have focused specifically on the impact of sustainable practices on social performance and, instead, focused individually on the environmental or financial performance or focused generally in the impact on the TBL.

The social performance represents the humanitarian context of the organisation – serving as a place for people (Ghaithan et al., 2023) and depends upon the firm's Corporate Social Responsibility (CSR) – a duty to society (Islam et al., 2023). Referring to Table A8, an increase in social performance can be measured as an increase in employee's safety and health and an increase in stakeholders' satisfaction.

A meta-analytic investigation on CE adoption shows that social performance has the strongest link with CE adoption (Tiwari et al., 2024), but the literature seems rather ambiguous regarding social performance since several authors fail to address the social issues on their studies.

From the review of the existing literature, contrary to environmental and economic performance, we did not find any controversial result when studying the impacts of CE practices in social performance. However, we can point out that we couldn't find a study focusing on the relationship between social performance and the practices of EL, CC, and E-EM. The remaining practices – CP, ECO, EMS, GHRM, GLM, CP, I-EM, IR, RL, SGSM, and SC - have presented a positive and significant relationship toward social performance.

Studies have shown that CE practices have a positive relationship with social performance of the firms in the hospitality sector by boosting the relationship with the local community and boosting the employment level – bringing stakeholders together (Abdou et al., 2023; Islam et al., 2023). Additionally, Hollos et al. (2012), finds that SC has a strong relationship with the social performance of a company (focusing specifically on Western European Manufacturers).

3.2.4. Other information outside the scope

Barriers preventing the practices

Literature also studies the different barriers behind the adoption of CE practices. It has been concluded that some drivers and pressures are closely related to certain barriers and incentives (Passaro et al., 2023). For example, customer pressure is a prevalent normative pressure today,

and companies obtain ISO 14001 certification to meet this pressure. However, this certification can also act as a barrier due to its high cost.

Barriers are situations or setbacks that are blocking the completion of an activity or action (Madrid-Guijarro & Duréndez, 2024). In the case of the application of CE practices, there seems to be 5 barriers – financials; structural (difficulty in communication); operational/organisational readiness (nor resources or capacity); attitudinal (due to the culture and society); and technological (Agrawal et al., 2023; Chiappetta Jabbour et al., 2020), with a study showing that the main barriers are internal obstacles firms need to overcome (Chiappetta Jabbour et al., 2020).

The financial barriers might be the most visible barriers to the adoption of CE practices, as for example the lack of incentives, the need for high initial investments and the seek for immediate profit (short slightness) (Agrawal et al., 2023). However, the company's size is an additional obstacle in financial barriers because smaller firms have less resources (Choudhary & Sangwan, 2018; Ghadge et al., 2017). SMEs around the world face constraints in implementing practices because, generally, they are slower to respond to challenges of improving their environmental performance due to lack of financial and technical resources (Ghadge et al., 2017; Khan et al., 2023; López Pérez et al., 2024; Madrid-Guijarro & Duréndez, 2024; Massoud et al., 2010; Passaro et al., 2023; Rodríguez-Espíndola et al., 2022).

Another barrier felt is the unwillingness to exchange information (a structural barrier), mainly attributed to the suppliers' fear of getting exposed and losing its competitive position (Agrawal et al., 2023; Ghadge et al., 2017; Simpson, 2012a), the organisational inertia, which is rooted in the companies (Tian et al., 2023), and the quality of the logistics infrastructure since poor structures inhibit environmental integration (Agrawal et al., 2023; Ghadge et al., 2017; Ngo, 2023).

Organisational inertia is an example of a structural barrier. This is the inability of companies to make internal changes in response to significant external changes, and it leads to the solidification of present operation mode, losing flexibility, and not being able to innovate (which strongly affects a company's competitive skills) (Tian et al., 2023). Past successes create reliance in old models and inhibit a firms' availability for strategic change; in contrast, poor past performance gives reason to re-evaluate patterns (Schrettle et al., 2014).

Lack of knowledge and lack of professional advice are general barriers to the practices, implying a need to educate and sensitise all stakeholders (Agrawal et al., 2023; López Pérez et al., 2024; Madrid-Guijarro & Duréndez, 2024). Some countries also show a weak customer

awareness of environmental issues (Mariotti et al., 2014; Massoud et al., 2010; Passaro et al., 2023).

Lack of government support seems to be a general barrier too, mainly in developing countries (Agrawal et al., 2023; López Pérez et al., 2024; Mariotti et al., 2014; Massoud et al., 2010; Rodríguez-Espíndola et al., 2022).

Incentives and benefits

Besides the pressures that exist to implement CE practices, they also have incentives pushing to their application and get benefits from the application of the practices.

Government subsidies and material costs savings provide economic incentives for CE practices (Ghadge et al., 2017; Ha et al., 2024; B. Han et al., 2022; Massoud et al., 2010), like in China where companies gain economic benefits and the managers gain political capital and social honour (Yang et al., 2021). In Greece, however, the government is not providing enough financial help to the SMEs to change their supply chains (Ghadge et al., 2017) and in Malaysia companies don't use the support provided by the government due to the requirements and the lack of knowledge on how to access this support (Yusof et al., 2017).

Having an ISO 14001 certification provides a supportive environment for the adoption of other practices (Caniëls et al., 2016; Grekova et al., 2014; Urban & Govender, 2012; Vanalle et al., 2017). The benefits of the certification are more appealing to larger firms compared to the smaller firms (Massoud et al., 2010) and, additionally, larger firms seem to have more resources to invest in EMS and in the certificate and have more to lose in the event of an environmental backlash (Jaikumar et al., 2013). Saudi firms see the ISO 14001 certification as a confirmation of legitimacy in their transformation to sustainability and a status holder and not an enabler of operating profits (Mariotti et al., 2014), but it helps increasing the satisfaction of key stakeholders like customers and investors, so some financial benefits are indirectly realised from the certification (Mariotti et al., 2014). The ISO 14001 is also becoming almost a mandatory practice in some industries, for example the Brazilian automotive industry, but the application for the certificate helps the company to adopt other environmental practices (Vanalle et al., 2017).

Entrepreneurial orientation (EO) it's a strategic orientation and it's a firm-specific resource. It usually comprises three components: innovativeness; proactiveness; and risk-taking (Silva et al., 2021). Proactiveness is required to achieve a high environmental performance together with the sustainable practices applied (regardless of the mix chosen), but there is evidence of synergetic effects from all EO components (Silva et al., 2021; Trivedi et al., 2024).

Additional incentives include meeting customer demand (Ahmed et al., 2020; Caniëls et al., 2016; Khan et al., 2023; Wang et al., 2018), and improving flow efficiency (Mariotti et al., 2014). By meeting customer demands, it includes both final customers (families and individuals) and other players in the supply chain, where the customer can demand to their suppliers to adopt some practices to achieve a green supply chain (Caniëls et al., 2016).

Mediators

The impact of institutional pressures on the application of CE practices and the impact of CE practices in SP of the firm are all affected by mediators. These mediators are not the focus of our study, but some articles included them in their studies, and they vary from the influence of top management in the company to their location/geography and size.

We can start with the impact of size. International pressures have more impact when adopting CE practices (Ganapathy et al., 2014; Nguyen & Adomako, 2022), but the size of the firm mediates how the different pressures affect a company (Chiappetta Jabbour et al., 2020; Micheli et al., 2020; Wang et al., 2018) – in particular, micro firms present the greatest impact of pressures on the implementation of CE practices while large firms show a mixed relationship (which can be explained by their greater autonomy and less influence of competitors) (Choudhary & Sangwan, 2018; Micheli et al., 2020; Passaro et al., 2023) and the impact of each pressure can also change with time and together with the changes in society (contextual factors) – leading to some contrasting results between the literature (Passaro et al., 2023).

Studies performed by Vanalle et al. (2017) and Hebaz et al. (2024) show how geography mediates the relationship between CE practices and performances.

Even existing strategies chosen by the board can save as mediators. Literature suggests that lean management can reduce the marginal costs of a firm's environmental practices, i.e. the capabilities developed for lean management can be transferable to environmental management practices (Abualfaraa et al., 2020; Diabat et al., 2013; Ghaithan et al., 2023; Inman & Green, 2018; Y. Liu et al., 2023), which is now being spread as "lean and green" practices. It is suggested that the main strategic challenge of combining lean and green practices is deciding how to implement both practices without diminishing the potential profitability of the lean practices (Abualfaraa et al., 2020), always taking into account that lean and green goals may not always be compatible, for example the lean practice of Just-in-time (JIT) does not improve environmental performance (Silva & Gomes, 2023). Literature does show support that lean and green practices should be adopted in bundles because CE practices may offset some negative effects of lean practices on environmental performance of a company (Silva & Gomes, 2023).

The impact of diverse stakeholders can also serve as mediators. For example, stakeholder pressures have a significant relationship with Top-Management Commitment (TMC), meaning that stakeholder pressures stimulate TMC to engage in CE practices (Kitsis & Chen, 2021; Madrid-Guijarro & Duréndez, 2024; Wen et al., 2023). However, the relationship between stakeholder pressure and some CE practices is not as significant, emphasizing the need for TMC as a mediator between pressures and CE practices (Kitsis & Chen, 2021). TMC can also be a mediator between the CE practices and the firm's performance, where companies with high TMC show a higher relationship between CE practices and economic performance (Madrid-Guijarro & Duréndez, 2024; Wen et al., 2023).

Managerial environmental knowledge has a substantial positive influence in the environmental knowledge sharing and ECO practices, which are critical mechanisms to achieve higher environmental performance (Liu et al., 2024; Nureen et al., 2023; Ullah Khan et al., 2023) and environmental proactivity by TMC has an instrumental role in the adoption of CE practices, because proactive firms can anticipate trends and new legislation (Kitsis & Chen, 2023).

There is also a U-shaped effect of female board representation on economic performance, meaning that gender diversity has a U-shaped effect on a firm's ROE (return on equity) – a measure of economic performance (Ranasinghe et al., 2022). It is also shown that a culture with low masculine is more likely to adopt CE practices and generate more economic and social benefits (Tiwari et al., 2024). Low masculine cultures are more committed to cooperation and quality of life whilst a masculine culture is more resistant to change (Tiwari et al., 2024).

In Asia, the education of the directors in the firm's board shows a positive effect on the company's performance but this relation is not found in Western countries, which means that a board with a higher level of education is a unique and valuable resource which cannot be perfectly substituted in Asian countries (Ranasinghe et al., 2022).

Lastly, the different institutional pressures that affect the application of CE practices can also affect the outcomes of the practices, meaning the impacts on performance, for example, when Chinese manufacturers are confronted with regulatory pressures, the positive effects on environmental and operational performance are enhanced (Lai & Wong, 2012). Or it can also happen where the actual CE practices are the mediators between the institutional pressures and the firm's sustainable performance, for example, coercive pressures lead to improved TBL performance (Hosain & Mustafi, 2024), using the practice of ECO as a mediator (Chan et al., 2016; Raza, 2020; Tian et al., 2023). The mediating effect of ECO is greater in companies with higher organisational inertia (Tian et al., 2023).

4. Conclusion

The need for companies to change their strategies into more sustainable practices and to shift into sustainable growth and development instead of just economic growth requires the adoption of Circular Economy practices which will minimise the firm's negative impact on the environment while still improving the community around them and satisfying all stakeholders.

This SLR was aimed to bridge a gap in the literature related to CE. Through a rigorous bibliometric and content analysis of 104 articles, published between 2010 and 2024, this SLR identifies the institutional pressures that influence the adoption of key CE practices, describing and summarising the most common practices adopted, and their individual impact in each dimension of the TBL.

Answering our first research question, the review shows a broad array of CE practices implemented globally across industries, ranging from internal practices (such as EMS, ECO and I-EM) to external practices (such as RL, GP, CC and SC). These practices are not applied uniformly; rather their adoption is shaped by different organisational capabilities, industry-specific dynamics, and geographical contexts. However, it is clarified that internal practices generally serve as enablers or prerequisites for the successful implementation of external practices, highlighting the interdependence of CE interventions.

Institutional pressures (coercive, normative and mimetic pressures) emerge as central pressures for the adoption of CE practices. Coercive pressures were found to be the most consistently influential pressure, specially in industries where enforcement of these environmental legislation is strict. Normative pressures were also shown to generally shown significantly drive CE adoption, specially among firms with high social visibility or international exposure. Mimetic pressures, while somewhat less prominent, play a meaningful role in environments characterized by competitive uncertainty, pushing firms to copy their peers and industry leaders.

The sample also points to a generally positive relationship between the several CE practices and the firm's sustainable performance. Environmental performance benefits seem to be the most immediate and widely spread in the literature, particularly when looking at resource efficiency, less consumption of materials and energy, and control of emissions of polluting gases. Economic performance gains tend to emerge over time, such as cost savings and enhance operational efficiency due to the application of CE practices. Social performance, although the dimension less addressed in the literature, still shows gains from the adoption of CE practices like higher satisfaction from all stakeholders.

It is important to mention that, however, the relationship between the pressures and firm's performance is not linear and is moderated by other variables outside the scope of the SLR, like size, sector of activity, global orientation and managerial commitment. This suggests that while institutional pressures may trigger the initial CE adoption, the depth and breadth of the adoption (and ultimately performance outcomes) depends on how firms interpret and respond to these pressures internally.

Despite the contributions of this SLR to the literature, the review is not without limitations. The heterogeneity of the empirical studies reviewed may affect the generalizability of certain insights. Additionally, the dynamic nature of CE research means that emerging topics warrant further exploration and can also bring new contradictory results afloat. Although this study adopted a comprehensive and inclusive approach, it is subject to the typical limitations of systematic reviews. Although we mitigated researcher bias through independent analyses, cross-checking and transparent documentation, it may still have influenced the qualitative synthesis. Focusing on peer-reviewed journals ensured quality, but meant that potentially relevant insights from other sources, such as conference papers or working papers, were excluded

In conclusion, this SLR provides a structured and integrative perspective on CE practices, their institutional pressures and their sustainability outcomes (Fig. 10). It contributes to the consolidation of CE literature and offers a practical roadmap for all stakeholders seeking to enhance sustainability through circular strategies. Future research should continue to explore the nuanced relationships among practices, pressures, and performances, especially in the context of rapidly environmental challenges and policy frameworks.

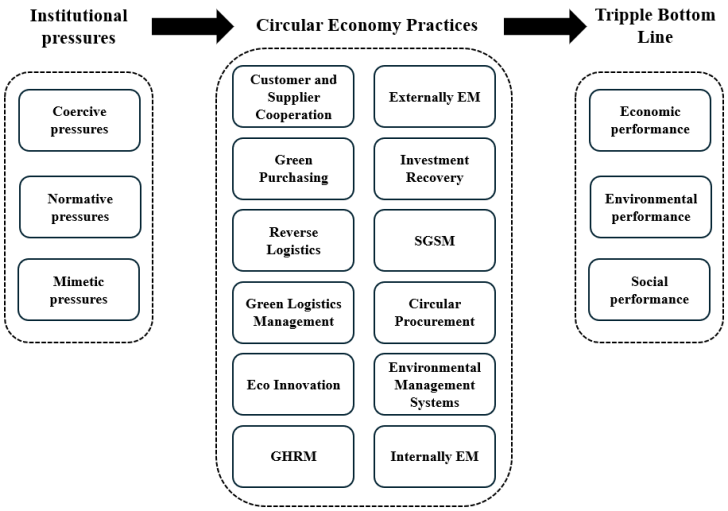

Figure 10 - Synthesis of this SLR

Bibliography

Abdou, A. H., Hassan, T. H., & Salem, A. E. (2023). Promoting Sustainable Food Practices in Food Service Industry: An Empirical Investigation on Saudi Arabian Restaurants. *Sustainability (Switzerland)*, *15*(16). https://doi.org/10.3390/su151612206

Abdulla, H., Ketzenberg, M., & Abbey, J. D. (2019). Taking stock of consumer returns: A review and classification of the literature. *Journal of Operations Management*, *65*(6), 560–605. https://doi.org/10.1002/joom.1047

Abualfaraa, W., Salonitis, K., Al-Ashaab, A., & Ala'raj, M. (2020). Lean-green manufacturing practices and their link with sustainability: A critical review. *Sustainability (Switzerland)*, *12*(3). https://doi.org/10.3390/su12030981

Acquah, I. S. K., Quaicoe, J., & Gatsi, J. G. (2024). Modelling circular economy capabilities and sustainable manufacturing practices for environmental performance: Assessing linear (PLS-SEM) and non-linear (fsQCA) effects. *Technological Forecasting and Social Change*, *205*. https://doi.org/10.1016/j.techfore.2024.123501

Adomako, S., & Nguyen, N. P. (2023). Eco-innovation in the extractive industry: Combinative effects of social legitimacy, green management, and institutional pressures. *Resources Policy*, *80*. https://doi.org/10.1016/j.resourpol.2022.103184

Agrawal, R., Yadav, V. S., Majumdar, A., Kumar, A., Luthra, S., & Arturo Garza-Reyes, J. (2023). Opportunities for disruptive digital technologies to ensure circularity in supply Chain: A critical review of drivers, barriers and challenges. *Computers and Industrial Engineering*, *178*. https://doi.org/10.1016/j.cie.2023.109140

Ahmed, W., Ashraf, M. S., Khan, S. A., Kusi-Sarpong, S., Arhin, F. K., Kusi-Sarpong, H., & Najmi, A. (2020). Analyzing the impact of environmental collaboration among supply chain stakeholders on a firm's sustainable performance. *Operations Management Research*, *13*(1–2), 4–21. https://doi.org/10.1007/s12063-020-00152-1

Aladaileh, M. J., Aladayleh, K. J., Lahuerta-Otero, E., & Cordero-Gutiérrez, R. (2024). Leveraging lean and green supply chain practices for sustainable supply chain performance: the moderating role of environmental orientation. *Engineering Management in Production and Services*, *16*(3), 75–97. https://doi.org/10.2478/emj-2024-0025

Alhawari, O., Awan, U., Bhutta, M. K. S., & Ali Ülkü, M. (2021). Insights from circular economy literature: A review of extant definitions and unravelling paths to future research. *Sustainability (Switzerland)*, *13*(2), 1–22. https://doi.org/10.3390/su13020859

Ali, A., Ma, L., Shahzad, M., Musonda, J., & Hussain, S. (2023). How various stakeholder pressure influences mega-project sustainable performance through corporate social responsibility and green competitive advantage. *Environmental Science and Pollution Research*. https://doi.org/10.1007/s11356-023-29717-w

Baah, C., Opoku-Agyeman, D., Acquah, I. S. K., Agyabeng-Mensah, Y., Afum, E., Faibil, D., & Abdoulaye, F. A. M. (2021). Examining the correlations between stakeholder pressures, green production practices, firm reputation, environmental and financial performance: Evidence from manufacturing SMEs. *Sustainable Production and Consumption*, *27*, 100–114. https://doi.org/10.1016/j.spc.2020.10.015

Bag, S., Dhamija, P., Bryde, D. J., & Singh, R. K. (2022). Effect of eco-innovation on green supply chain management, circular economy capability, and performance of small and medium enterprises. *Journal of Business Research*, *141*, 60–72. https://doi.org/10.1016/j.jbusres.2021.12.011

Bhatia, M. S., & Kumar Srivastava, R. (2019). Antecedents of implementation success in closed-loop supply chain: an empirical investigation. *International Journal of Production Research*, *57*(23), 7344–7360. https://doi.org/10.1080/00207543.2019.1583393

Caniëls, M. C. J., Cleophas, E., & Semeijn, J. (2016). Implementing green supply chain practices: an empirical investigation in the shipbuilding industry. *Maritime Policy and Management*, *43*(8), 1005–1020. https://doi.org/10.1080/03088839.2016.1182654

Chan, H. K., Yee, R. W. Y., Dai, J., & Lim, M. K. (2016). The moderating effect of environmental dynamism on green product innovation and performance. *International Journal of Production Economics*, *181*, 384–391. https://doi.org/10.1016/j.ijpe.2015.12.006

Chen, P., Dagestani, A. A., & Kim, S. K. (2023). Corporate social responsibility and green exploratory innovation - the moderating role of three environmental regulations. *Technology Analysis and Strategic Management*. https://doi.org/10.1080/09537325.2023.2196585

Chiappetta Jabbour, C. J., Seuring, S., Lopes de Sousa Jabbour, A. B., Jugend, D., De Camargo Fiorini, P., Latan, H., & Izeppi, W. C. (2020). Stakeholders, innovative business models for the circular economy and sustainable performance of firms in an emerging economy facing institutional voids. *Journal of Environmental Management*, *264*. https://doi.org/10.1016/j.jenvman.2020.110416

Chiu, J. Z., & Hsieh, C. C. (2016). The impact of restaurants' green supply chain practices on firm performance. *Sustainability (Switzerland)*, *8*(1). https://doi.org/10.3390/su8010042

Choudhary, K., & Sangwan, K. S. (2018). Benchmarking Indian ceramic enterprises based on green supply chain management pressures, practices and performance. *Benchmarking*, *25*(9), 3628–3653. https://doi.org/10.1108/BIJ-12-2017-0330

Choudhary, K., & Sangwan, K. S. (2019). Adoption of green practices throughout the supply chain: an empirical investigation. *Benchmarking*, *26*(6), 1650–1675. https://doi.org/10.1108/BIJ-09-2018-0293

Cifuentes-Faura, J. (2022). European Union policies and their role in combating climate change over the years. In *Air Quality, Atmosphere and Health* (Vol. 15, Issue 8, pp. 1333–1340). Springer Science and Business Media B.V. https://doi.org/10.1007/s11869-022-01156-5

Costantini, V., Crespi, F., Marin, G., & Paglialunga, E. (2017). Eco-innovation, sustainable supply chains and environmental performance in European industries. *Journal of Cleaner Production*, *155*, 141–154. https://doi.org/10.1016/j.jclepro.2016.09.038

Dagiliene, L., Frendzel, M., Sutiene, K., & Wnuk-Pel, T. (2020). Wise managers think about circular economy, wiser report and analyze it. Research of environmental reporting practices in EU manufacturing companies. *Journal of Cleaner Production*, *274*. https://doi.org/10.1016/j.jclepro.2020.121968

De Bellis, Nicola. (2009). *Bibliometrics and citation analysis : from the Science citation index to cybermetrics*. Scarecrow Press.

De Marchi, V., Di Maria, E., & Micelli, S. (2013). Environmental Strategies, Upgrading and Competitive Advantage in Global Value Chains. *Business Strategy and the Environment*, *22*(1), 62–72. https://doi.org/10.1002/bse.1738

Diabat, A., Kannan, D., & Mathiyazhagan, K. (2014). Analysis of enablers for implementation of sustainable supply chain management - A textile case. *Journal of Cleaner Production*, *83*, 391–403. https://doi.org/10.1016/j.jclepro.2014.06.081

Diabat, A., Khodaverdi, R., & Olfat, L. (2013). An exploration of green supply chain practices and performances in an automotive industry. *International Journal of Advanced Manufacturing Technology*, *68*(1–4), 949–961. https://doi.org/10.1007/s00170-013-4955-4

Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. In *International Journal of Production Economics* (Vol. 162, pp. 101–114). Elsevier B.V. https://doi.org/10.1016/j.ijpe.2015.01.003

Fang, C., & Zhang, J. (2018). Performance of green supply chain management: A systematic review and meta analysis. *Journal of Cleaner Production*, *183*, 1064–1081. https://doi.org/10.1016/j.jclepro.2018.02.171

Farooque, M., Zhang, A., Choi, T. M., Hartley, J. L., & Liu, Y. (2024). Antecedents and performance outcomes of circular procurement: An empirical study in China. *Journal of Purchasing and Supply Management*, *30*(4). https://doi.org/10.1016/j.pursup.2023.100882

Ganapathy, S. P., Natarajan, J., Gunasekaran, A., & Subramanian, N. (2014). Influence of eco-innovation on Indian manufacturing sector sustainable performance. *International Journal of Sustainable Development and World Ecology*, *21*(3), 198–209. https://doi.org/10.1080/13504509.2014.907832

Ghadge, A., Kaklamanou, M., Choudhary, S., & Bourlakis, M. (2017). Implementing environmental practices within the Greek dairy supply chain Drivers and barriers for SMEs. *Industrial Management and Data Systems*, *117*(9), 1995–2014. https://doi.org/10.1108/IMDS-07-2016-0270

Ghaithan, A. M., Alshammakhi, Y., Mohammed, A., & Mazher, K. M. (2023). Integrated Impact of Circular Economy, Industry 4.0, and Lean Manufacturing on Sustainability Performance of Manufacturing Firms. *International Journal of Environmental Research and Public Health*, *20*(6). https://doi.org/10.3390/ijerph20065119

Ghosh, M. (2019). Determinants of green procurement implementation and its impact on firm performance. *Journal of Manufacturing Technology Management*, *30*(2), 462–482. https://doi.org/10.1108/JMTM-06-2018-0168

Govindan, K., & Hasanagic, M. (2018). A systematic review on drivers, barriers, and practices towards circular economy: a supply chain perspective. *International Journal of Production Research*, *56*(1–2), 278–311. https://doi.org/10.1080/00207543.2017.1402141

Govindan, K., Khodaverdi, R., & Vafadarnikjoo, A. (2015). Intuitionistic fuzzy based DEMATEL method for developing green practices and performances in a green supply chain. *Expert Systems with Applications*, *42*(20), 7207–7220. https://doi.org/10.1016/j.eswa.2015.04.030

Graafland, J., & Bovenberg, L. (2020). Government regulation, business leaders' motivations and environmental performance of SMEs. *Journal of Environmental Planning and Management*, *63*(8), 1335–1355. https://doi.org/10.1080/09640568.2019.1663159

Grekova, K., Bremmers, H. J., Trienekens, J. H., Kemp, R. G. M., & Omta, S. W. F. (2014). Extending environmental management beyond the firm boundaries: An empirical study of Dutch food and beverage firms. *International Journal of Production Economics*, *152*, 174–187. https://doi.org/10.1016/j.ijpe.2013.12.019

Ha, N. M., Nguyen, P. A., Luan, N. V., & Tam, N. M. (2024). Impact of green innovation on environmental performance and financial performance. *Environment, Development and Sustainability*, *26*(7), 17083–17104. https://doi.org/10.1007/s10668-023-03328-4

Hajmohammad, S., Vachon, S., Klassen, R. D., & Gavronski, I. (2013). Lean management and supply management: Their role in green practices and performance. *Journal of Cleaner Production*, *39*, 312–320. https://doi.org/10.1016/j.jclepro.2012.07.028

Han, B., Zheng, M., Fan, L., & Shi, W. (2022). Mechanism of governance pressures, green production and collaboration on the performance of maritime supply chain: Evidence from the moderating effect of government subsidies. *Research in Transportation Business and Management*, *43*. https://doi.org/10.1016/j.rtbm.2022.100820

Han, Y., Chong, W. K., & Li, D. (2020). A systematic literature review of the capabilities and performance metrics of supply chain resilience. *International Journal of Production Research*, 4541–4566. https://doi.org/10.1080/00207543.2020.1785034

Hebaz, A., Oulfarsi, S., & Sahib Eddine, A. (2024). Prioritizing institutional pressures, green supply chain management practices for corporate sustainable performance using best worst method. *Cleaner Logistics and Supply Chain*, *10*. https://doi.org/10.1016/j.clscn.2024.100146

Henriques, I., & Sadorsky, P. (2013). Environmental management practices and performance in Canada. *Canadian Public Policy*, *39*(SUPPL.2). https://doi.org/10.3138/CPP.39.Supplement2.S157

Hernández-Arzaba, J. C., Nazir, S., Leyva-Hernández, S. N., & Muhyaddin, S. (2022). Stakeholder Pressure Engaged with Circular Economy Principles and Economic and Environmental Performance. *Sustainability (Switzerland)*, *14*(23). https://doi.org/10.3390/su142316302

Hiebl, M. R. W. (2023). Sample Selection in Systematic Literature Reviews of Management Research. In *Organizational Research Methods* (Vol. 26, Issue 2, pp. 229–261). SAGE Publications Inc. https://doi.org/10.1177/1094428120986851

Hollos, D., Blome, C., & Foerstl, K. (2012). Does sustainable supplier co-operation affect performance? Examining implications for the triple bottom line. *International Journal of Production Research*, *50*(11), 2968–2986. https://doi.org/10.1080/00207543.2011.582184

Hong, J., Zhang, Y., & Ding, M. (2018). Sustainable supply chain management practices, supply chain dynamic capabilities, and enterprise performance. *Journal of Cleaner Production*, *172*, 3508–3519. https://doi.org/10.1016/j.jclepro.2017.06.093

Hosain, M. S., & Mustafi, M. A. A. (2024). Linking green supply chain management practices with perceived environmental performance: A mediated moderation model. *Corporate Social Responsibility and Environmental Management*. https://doi.org/10.1002/csr.3053

Huang, S. Z., Tian, H. H., & Cheablam, O. (2024). Promoting sustainable development: Multiple mediation effects of green value co-creation and green dynamic capability between green market pressure and firm performance. *Corporate Social Responsibility and Environmental Management*, *31*(2), 1063–1078. https://doi.org/10.1002/csr.2613

Hussain, M., & Malik, M. (2020). Organizational enablers for circular economy in the context of sustainable supply chain management. *Journal of Cleaner Production*, *256*. https://doi.org/10.1016/j.jclepro.2020.120375

Inman, R. A., & Green, K. W. (2018). Lean and green combine to impact environmental and operational performance. *International Journal of Production Research*, *56*(14), 4802–4818. https://doi.org/10.1080/00207543.2018.1447705

Islam, M. S., Rubel, M. R. B., & Hasan, M. M. (2023). Environmental and Social Performance of the Banking Industry in Bangladesh: Effect of Stakeholders' Pressure and Green Practice Adoption. *Sustainability (Switzerland)*, *15*(11). https://doi.org/10.3390/su15118665

Jaikumar, G., Karpagam, M., & Thiyagarajan, S. (2013). Factors influencing corporate environmental performance in India. *Indian Journal of Corporate Governance*, *6*.

Jain, N. K., Panda, A., & Choudhary, P. (2020). Institutional pressures and circular economy performance: The role of environmental management system and organizational flexibility in oil and gas sector. *Business Strategy and the Environment*, *29*(8), 3509–3525. https://doi.org/10.1002/bse.2593

Khan, S. A. R., Ahmad, Z., Sheikh, A. A., & Yu, Z. (2023). Green technology adoption paving the way toward sustainable performance in circular economy: a case of Pakistani small and medium enterprises. *International Journal of Innovation Science*. https://doi.org/10.1108/IJIS-10-2022-0199

Khan, S. A. R., & Qianli, D. (2017). Impact of green supply chain management practices on firms' performance: an empirical study from the perspective of Pakistan. *Environmental Science and Pollution Research*, *24*(20), 16829–16844. https://doi.org/10.1007/s11356-017-9172-5

Khor, K. S., Udin, Z. M., Ramayah, T., & Hazen, B. T. (2016). Reverse logistics in Malaysia: The Contingent role of institutional pressure. *International Journal of Production Economics*, *175*, 96–108. https://doi.org/10.1016/j.ijpe.2016.01.020

Kim, J., & McMillan, S. J. (2008). Evaluation of internet advertising research: A bibliometric analysis of citations from key sources. *Journal of Advertising*, *37*(1), 99–112. https://doi.org/10.2753/JOA0091-3367370108

Kirchoff, J. F., Tate, W. L., & Mollenkopf, D. A. (2016). The impact of strategic organizational orientations on green supply chain management and firm performance. *International Journal of Physical Distribution and Logistics Management*, *46*(3), 269–292. https://doi.org/10.1108/IJPDLM-03-2015-0055

Kitsis, A. M., & Chen, I. J. (2021). Do stakeholder pressures influence green supply chain Practices?Exploring the mediating role of top management commitment. *Journal of Cleaner Production*, *316*. https://doi.org/10.1016/j.jclepro.2021.128258

Kitsis, A. M., & Chen, I. J. (2023). Does environmental proactivity make a difference? The critical roles of green operations and collaboration in GSCM. *Supply Chain Management*, *28*(2), 209–224. https://doi.org/10.1108/SCM-09-2020-0499

Lai, K. hung, & Wong, C. W. Y. (2012). Green logistics management and performance: Some empirical evidence from Chinese manufacturing exporters. *Omega*, *40*(3), 267–282. https://doi.org/10.1016/j.omega.2011.07.002

Li, H., Li, Y., Sarfarz, M., & Ozturk, I. (2023). Enhancing firms' green innovation and sustainable performance through the mediating role of green product innovation and moderating role of employees' green behavior. *Economic Research-Ekonomska Istrazivanja* , *36*(2). https://doi.org/10.1080/1331677X.2022.2142263

Liu, D., Yousaf, Z., & Rosak-Szyrocka, J. (2024). Environmental Performance Through Green Supply Chain Management Practices, Green Innovation, and Zero Waste Management. *Sustainability (Switzerland)*, *16*(24). https://doi.org/10.3390/su162411173

Liu, L. (2024). Green innovation, firm performance, and risk mitigation: evidence from the USA. *Environment, Development and Sustainability*, *26*(9), 24009–24030. https://doi.org/10.1007/s10668-023-03632-z

Liu, Y., Farooque, M., Lee, C. H., Gong, Y., & Zhang, A. (2023). Antecedents of circular manufacturing and its effect on environmental and financial performance: A practice-based view. *International Journal of Production Economics*, *260*. https://doi.org/10.1016/j.ijpe.2023.108866

López Pérez, G., García Sánchez, I. M., & Zafra Gómez, J. L. (2024). A systematic literature review and bibliometric analysis of eco-innovation on financial performance: Identifying barriers and drivers. *Business Strategy and the Environment*, *33*(2), 1321–1340. https://doi.org/10.1002/bse.3550

Madrid-Guijarro, A., & Duréndez, A. (2024). Sustainable development barriers and pressures in SMEs: The mediating effect of management commitment to environmental practices. *Business Strategy and the Environment*, *33*(2), 949–967. https://doi.org/10.1002/bse.3537

Magnano, D. G., Grimstad, S. M. F., Glavee-Geo, R., & Anwar, F. (2024). Disentangling circular economy practices and firm's sustainability performance: A systematic literature review of past achievements and future promises. *Journal of Environmental Management* (Vol. 353). Academic Press. https://doi.org/10.1016/j.jenvman.2024.120138

Magon, R. B., Thomé, A. M. T., Ferrer, A. L. C., & Scavarda, L. F. (2018). Sustainability and performance in operations management research. *Journal of Cleaner Production*, *190*, 104–117. https://doi.org/10.1016/j.jclepro.2018.04.140

Maldonado-Guzmán, G., Garza-Reyes, J. A., & Pinzón-Castro, S. Y. (2023). Green innovation and firm performance: the mediating role of sustainability in the automotive industry. *Management of Environmental Quality: An International Journal*, *34*(6), 1690–1711. https://doi.org/10.1108/MEQ-02-2023-0058

Mariotti, F., Kadasah, N., & Abdulghaffar, N. (2014). Motivations and barriers affecting the implementation of ISO 14001 in Saudi Arabia: an empirical investigation. *Total Quality Management and Business Excellence*, *25*(11–12), 1352–1364. https://doi.org/10.1080/14783363.2014.912038

Marrucci, L., Daddi, T., & Iraldo, F. (2023). Institutional and stakeholder pressures on organisational performance and green human resources management. *Corporate Social Responsibility and Environmental Management*, *30*(1), 324–341. https://doi.org/10.1002/csr.2357

Massoud, M. A., Fayad, R., El-Fadel, M., & Kamleh, R. (2010). Drivers, barriers and incentives to implementing environmental management systems in the food industry: A case of Lebanon. *Journal of Cleaner Production*, *18*(3), 200–209. https://doi.org/10.1016/j.jclepro.2009.09.022

Micheli, G. J. L., Cagno, E., Mustillo, G., & Trianni, A. (2020). Green supply chain management drivers, practices and performance: A comprehensive study on the moderators. *Journal of Cleaner Production*, *259*. https://doi.org/10.1016/j.jclepro.2020.121024

Moori, R. G., Shibao, F. Y., & Dos Santos, M. R. (2018). Role of technology in the environmental performance of the Brazilian chemical industry. *Revista de Administracao Mackenzie*, *19*(1). https://doi.org/10.1590/1678-6971/eRAMR180094

Negri, M., Cagno, E., Colicchia, C., & Sarkis, J. (2021). Integrating sustainability and resilience in the supply chain: A systematic literature review and a research agenda. *Business Strategy and the Environment*, *30*(7), 2858–2886. https://doi.org/10.1002/bse.2776

Ngo, Q. H. (2023). Do environmental management practices mediate institutional pressures-environmental performance relationship? Evidence from Vietnamese SMEs. *Heliyon*, *9*(7). https://doi.org/10.1016/j.heliyon.2023.e17635

Nguyen, N. P., & Adomako, S. (2022). International orientation and environmental performance in Vietnamese exporting small- and medium-sized enterprises. *Business Strategy and the Environment*, *31*(5), 2424–2436. https://doi.org/10.1002/bse.3035

Nureen, N., Liu, D., Irfan, M., Malik, M., & Awan, U. (2023). Nexuses among Green Supply Chain Management, Green Human Capital, Managerial Environmental Knowledge, and Firm Performance: Evidence from a Developing Country. *Sustainability (Switzerland)* , *15*(6). https://doi.org/10.3390/su15065597

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. In *The BMJ* (Vol. 372). BMJ Publishing Group. https://doi.org/10.1136/bmj.n71

Passaro, R., Quinto, I., Scandurra, G., & Thomas, A. (2023). The drivers of eco-innovations in small and medium-sized enterprises: A systematic literature review and research directions. *Business Strategy and the Environment*, *32*(4), 1432–1450. https://doi.org/10.1002/bse.3197

Phan, T. N., & Baird, K. (2015). The comprehensiveness of environmental management systems: The influence of institutional pressures and the impact on environmental performance. *Journal of Environmental Management*, *160*, 45–56. https://doi.org/10.1016/j.jenvman.2015.06.006

Pinto, L. (2020). Green supply chain practices and company performance in Portuguese manufacturing sector. *Business Strategy and the Environment*, *29*(5), 1832–1849. https://doi.org/10.1002/bse.2471

Rahman, M., Rodríguez-Serrano, M. Á., & Faroque, A. R. (2021). Corporate environmentalism and brand value: A natural resource-based perspective. *Journal of Marketing Theory and Practice*, *29*(4), 463–479. https://doi.org/10.1080/10696679.2021.1872387

Ranasinghe, G. M., Badir, Y. F., & Frank, B. (2022). Organisational resources as facilitators and inhibitors of green performance: non-linearities, interactions and international differences. In *European J. International Management* (Vol. 18, Issue 1).

Raza, Z. (2020). Effects of regulation-driven green innovations on short sea shippinǵs environmental and economic performance. *Transportation Research Part D: Transport and Environment*, *84*. https://doi.org/10.1016/j.trd.2020.102340

Raza, Z., & Woxenius, J. (2023). Customer-driven sustainable business practices and their relationships with environmental and business performance—Insights from the European shipping industry. *Business Strategy and the Environment*, *32*(8), 6138–6153. https://doi.org/10.1002/bse.3477

Reuter, C., Foerstl, K., Hartmann, E., & Blome, C. (2010). Sustainable global supplier management: The role of dynamic capabilities in achieving competitive advantage. *Journal of Supply Chain Management*, *46*(2), 45–63. https://doi.org/10.1111/j.1745-493X.2010.03189.x

Rodríguez-Espíndola, O., Cuevas-Romo, A., Chowdhury, S., Díaz-Acevedo, N., Albores, P., Despoudi, S., Malesios, C., & Dey, P. (2022). The role of circular economy principles and sustainable-oriented innovation to enhance social, economic and environmental performance: Evidence from Mexican SMEs. *International Journal of Production Economics*, *248*. https://doi.org/10.1016/j.ijpe.2022.108495

Saeed, A., Jun, Y., Nubuor, S. A., RasikaPriyankara, H. P., & Jayasuriya, M. P. F. (2018). Institutional pressures, green supply chain management practices on environmental and economic performance: A two theory view. *Sustainability (Switzerland)*, *10*(5). https://doi.org/10.3390/su10051517

Saeidi, S. P., Saeidi, P., & Saeidi, S. P. (2024). The Mediating Role of Total Quality Management between Corporate Social Responsibility and Corporate Environmental Performance. *Sustainability*, *16*(17), 7401. https://doi.org/10.3390/su16177401

Schrettle, S., Hinz, A., Scherrer-Rathje, M., & Friedli, T. (2014). Turning sustainability into action: Explaining firms' sustainability efforts and their impact on firm performance. *International Journal of Production Economics*, *147*(PART A), 73–84. https://doi.org/10.1016/j.ijpe.2013.02.030

Silva, G. M., & Gomes, P. J. (2023). Lean production, green supply chain management and environmental performance: a configurational perspective based on the Portuguese context. *International Journal of Lean Six Sigma*. https://doi.org/10.1108/IJLSS-02-2023-0036

Silva, G. M., Gomes, P. J., Carvalho, H., & Geraldes, V. (2021). Sustainable development in small and medium enterprises: The role of entrepreneurial orientation in supply chain management. *Business Strategy and the Environment*, *30*(8), 3804–3820. https://doi.org/10.1002/bse.2841

Simpson, D. (2012a). Institutional pressure and waste reduction: The role of investments in waste reduction resources. *International Journal of Production Economics*, *139*(1), 330–339. https://doi.org/10.1016/j.ijpe.2012.05.020

Simpson, D. (2012b). Knowledge resources as a mediator of the relationship between recycling pressures and environmental performance. *Journal of Cleaner Production*, *22*(1), 32–41. https://doi.org/10.1016/j.jclepro.2011.09.025

Stewart, R., & Niero, M. (2018). Circular economy in corporate sustainability strategies: A review of corporate sustainability reports in the fast-moving consumer goods sector. *Business Strategy and the Environment*, *27*(7), 1005–1022. https://doi.org/10.1002/bse.2048

Sumarsono, N., Kasali, R., & Ezni Balqiah, T. (2023). Circular business model, technology innovation and performance: A strategic-based theoretical framework in the Indonesian energy transition. *Renewable Energy Focus* , *45*, 259–270. https://doi.org/10.1016/j.ref.2023.05.001

Tetteh, F. K., Owusu Kwateng, K., & Mensah, J. (2024). Green logistics practices: A bibliometric and systematic methodological review and future research opportunities. In *Journal of Cleaner Production* (Vol. 476). Elsevier Ltd. https://doi.org/10.1016/j.jclepro.2024.143735

Thomé, A. M. T., Scavarda, L. F., & Scavarda, A. J. (2016). Conducting systematic literature review in operations management. In *Production Planning and Control* (Vol. 27, Issue 5, pp. 408–420). Taylor and Francis Ltd. https://doi.org/10.1080/09537287.2015.1129464

Tian, H. H., Huang, S. Z., & Cheablam, O. (2023). How green value co-creation mediates the relationship between institutional pressure and firm performance: A moderated mediation model. *Business Strategy and the Environment*, *32*(6), 3309–3325. https://doi.org/10.1002/bse.3301

Tiwari, G., Kumar, R. R., Raj, A., & Foropon, C. R. H. (2024). Antecedents and consequents of circular economy adoption: A meta-Analytic Investigation. *Journal of Environmental Management*, *367*. https://doi.org/10.1016/j.jenvman.2024.121912

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review*. In *British Journal of Management* (Vol. 14).

Trivedi, R. H., Patel, J., & Fukukawa, K. (2024). Stakeholder Green Pressure and Enviropreneurial Marketing: Insights From Japanese SMEs. *Business Strategy and the Environment*. https://doi.org/10.1002/bse.4110

Truong, Q. X., Nguyen, P. Van, & Nguyen, S. T. N. (2024). Enhancing Sustainable Business Performance Through Environmental Regulations, Corporate Social Responsibility and Green Human Resources Management and Green Employee Behaviour in Vietnam's Hospitality Industry. *Science, Technology and Society*. https://doi.org/10.1177/09717218241304188

Ullah Khan, R., Saqib, A., Abbasi, M. A., Mikhaylov, A., & Pinter, G. (2023). Green Leadership, environmental knowledge Sharing, and sustainable performance in manufacturing Industry: Application from upper echelon theory. *Sustainable Energy Technologies and Assessments*, *60*. https://doi.org/10.1016/j.seta.2023.103540

United Nations. (2015). *THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT*.

United Nations Framework Convention on Climate Change. (2025, June 8). *The Paris Agreement*. Https://Unfccc.Int/Process-and-Meetings/the-Paris-Agreement.

Urban, B., & Govender, D. P. (2012). Empirical evidence on environmental management practices. *Engineering Economics*, *23*(2), 209–215. https://doi.org/10.5755/j01.ee.23.2.1549

Vanalle, R. M., Ganga, G. M. D., Godinho Filho, M., & Lucato, W. C. (2017). Green supply chain management - An investigation of pressures, practices, and performance within the Brazilian automotive supply chain. *Journal of Cleaner Production*, *151*, 250–259. https://doi.org/10.1016/j.jclepro.2017.03.066

Wang, Z., Wang, Q., Zhang, S., & Zhao, X. (2018). Effects of customer and cost drivers on green supply chain management practices and environmental performance. *Journal of Cleaner Production*, *189*, 673–682. https://doi.org/10.1016/j.jclepro.2018.04.071

Wen, X., Cheah, J. H., Lim, X. J., & Ramachandran, S. (2023). Why does "green" matter in supply chain management? Exploring institutional pressures, green practices, green innovation, and economic performance in the Chinese chemical sector. *Journal of Cleaner Production*, *427*. https://doi.org/10.1016/j.jclepro.2023.139182

Wu, R., Huo, B., Yu, Y., & Zhang, Z. (2022). Quality and green management for operational and environmental performance: relational capital in supply chain management. *International Journal of Logistics Research and Applications*, *25*(4–5), 471–492. https://doi.org/10.1080/13675567.2020.1836138

Xu, N., Huo, B., & Ye, Y. (2024). The impact of supply chain pressure on cross-functional green integration and environmental performance: an empirical study from Chinese firms. *Operations Management Research*, *17*(2), 612–634. https://doi.org/10.1007/s12063-024-00439-7

Yang, L., Zhang, J., & Zhang, Y. (2021). Environmental regulations and corporate green innovation in china: The role of city leaders' promotion pressure. *International Journal of Environmental Research and Public Health*, *18*(15). https://doi.org/10.3390/ijerph18157774

Yu, W., & Ramanathan, R. (2015). An empirical examination of stakeholder pressures, green operations practices and environmental performance. *International Journal of Production Research*, *53*(21), 6390–6407. https://doi.org/10.1080/00207543.2014.931608

Yusof, N., Awang, H., & Iranmanesh, M. (2017). Determinants and outcomes of environmental practices in Malaysian construction projects. *Journal of Cleaner Production*, *156*, 345–354. https://doi.org/10.1016/j.jclepro.2017.04.064

Zameer, H., Wang, Y., & Saeed, M. R. (2021). Net-zero emission targets and the role of managerial environmental awareness, customer pressure, and regulatory control toward environmental performance. *Business Strategy and the Environment*, *30*(8), 4223–4236. https://doi.org/10.1002/bse.2866

Zhu, Q., Tian, Y., & Sarkis, J. (2012). Diffusion of selected green supply chain management practices: An assessment of Chinese enterprises. *Production Planning and Control*, *23*(10–11), 837–850. https://doi.org/10.1080/09537287.2011.642188

Zhu, X., & Yang, Y. (2021). Big data analytics for improving financial performance and sustainability. *Journal of Systems Science and Information*, *9*(2), 175–191. https://doi.org/10.21078/JSSI-2021-175-17

Appendix A

Table A1 - Overview of previous SLRs on CE

Authors	# articles	Timeline	Research focus
(Magon et al., 2018)	231 articles	January 1997 – October 2017	The impact of sustainability management practices on performance, encompassing social and environmental dimensions
(Abualfaraa et al., 2020)	45 articles	2000 - 2018	Link lean and green practices, current trends and potential improvements
(Alhawari et al., 2021)	91 articles	2004 - 2020	Reach an extent definition of Circular economy
(Agrawal et al., 2023)	187 articles	2012 - 2022	Fill the gap for drivers, enablers, barriers and challenges in adopting CE practices
(Passaro et al., 2023)	53 articles	1999 - 2021	Explores the drivers of eco-innovation in SMEs
(Sumarsono et al., 2023)	56 articles	1996 - 2021	Relationship between Circular business model and firm's performance
(López Pérez et al., 2024)	81 articles	2010 - 2021	Show impact of Eco-innovation strategies on corporate performance
(Tiwari et al., 2024)	106 articles	2017 - 2023	Study consequents and antecedents of Circular Economy adoption
(Magnano et al., 2024)	104 articles	2010 - 2023	Link diverse Circular Economy practices and sustainable performance

Table A2 - List of keywords selected for the SLR

Field	Keywords searched	Articles based on
Circular Economy practices	Circular economy practices "circular economy" OR "green economy" OR "sustainable economy" OR "cyclic economy" OR "circular business" OR "green business" OR "sustainable business" OR "cyclic business" OR "green production" OR "green consumption" OR "green operations" OR "green management" OR "circular production" OR "sustainable production" OR "cyclic production" OR "environmental management practices" OR "green practices" OR "environmental management practices" OR "resource conservation" OR "recycle" OR "reuse" OR "reduce"	Fang & Zhang (2018); Magnano et al. (2024)
Sustainable performance	"Sustainable performance" OR "firm performance" OR "social performance" OR "environmental performance" OR "ecological performance" OR "economic performance" OR "corporate sustainable efficiency"	(Magnano et al., 2024)
Pressures	"Driver" OR "Enabler" OR "Pressure" OR "Antecedent"	(Govindan & Hasanagic, 2018)

Table A3 - Dimensions approached by each article reviewed

Authors and year	CE practices	Economic	Social	Environmental	Pressures
(Massoud et al., 2010)	X				X
(Reuter et al., 2010)	X	X			
(Hollos et al., 2012)	X	X	X	X	
(Urban & Govender, 2012)	X			X	
(Q. Zhu et al., 2012)	X				X
(Lai & Wong, 2012)	X			X	X

(Simpson, 2012a)	X	X		X	X
(Simpson, 2012b)	X			X	X
(Diabat et al., 2013)	X	X		X	
(Hajmohammad et al., 2013)	X			X	
(Henriques & Sadorsky, 2013)	X			X	
(Jaikumar et al., 2013)	X			X	
(De Marchi et al., 2013)	X	X			
(Ganapathy et al., 2014)	X	X		X	
(Schrettle et al., 2014)	X	X	X	X	X
(Diabat et al., 2014)	X			X	X
(Grekova et al., 2014)	X	X		X	X
(Mariotti et al., 2014)	X				X
(Govindan et al., 2015)	X	X	X	X	
(Phan & Baird, 2015)	X			X	X
(Yu & Ramanathan, 2015)	X			X	X
(Caniëls et al., 2016)	X				X
(Chan et al., 2016)	X	X			X
(Chiu & Hsieh, 2016)	X	X		X	
(Khor et al., 2016)	X	X		X	X
(Kirchoff et al., 2016)	X	X		X	X
(Ghadge et al., 2017)	X				X
(Vanalle et al., 2017)	X	X		X	X
(Costantini et al., 2017)	X			X	
(Khan & Qianli, 2017)	X	X		X	
(Yusof et al., 2017)	X	X		X	X
(Choudhary & Sangwan, 2018)	X			X	X
(Hong et al., 2018)	X	X	X	X	
(Moori et al., 2018)	X			X	
(Saeed et al., 2018)	X	X		X	X
(Wang et al., 2018)	X			X	X
(Inman & Green, 2018)	X			X	
(Bhatia & Kumar Srivastava, 2019)	X	X		X	
(Choudhary & Sangwan, 2019)	X	X	X	X	X
(Ghosh, 2019)	X	X	X	X	X
(Ahmed et al., 2020)	X	X		X	X
(Dagiliene et al., 2020)	X				X
(Graafland & Bovenberg, 2020)	X			X	X
(Hussain & Malik, 2020)	X			X	X
(Jain et al., 2020)	X	X		X	X
(Micheli et al., 2020)	X	X		X	X
(Chiappetta Jabbour et al., 2020)	X	X	X	X	X
(Pinto, 2020)	X	X		X	
(Raza, 2020)	X	X		X	X

(Kitsis & Chen, 2021)	X	X		X	X
(Rahman et al., 2021)	X	X			
(Silva et al., 2021)	X	X		X	
(Yang et al., 2021)	X				X
(Zhu & Yang, 2021)	X	X	X	X	
(Baah et al., 2021)	X	X		X	X
(Zameer et al., 2021)	X			X	X
(Bag et al., 2022)	X	X			X
(B. Han et al., 2022)	X	X		X	X
(Hernández-Arzaba et al., 2022)	X	X		X	X
(Rodríguez-Espíndola et al., 2022)	X	X	X	X	X
(Wu et al., 2022)	X			X	
(Abdou et al., 2023)	X	X	X	X	X
(Chen et al., 2023)	X				X
(Ghaithan et al., 2023)	X	X	X	X	
(Islam et al., 2023)	X		X	X	X
(Li et al., 2023)	X	X	X	X	
(Y. Liu et al., 2023)	X	X		X	
(Maldonado-Guzmán et al., 2023)	X	X	X	X	
(Nureen et al., 2023)	X	X			
(Tian et al., 2023)	X	X			X
(Wen et al., 2023)	X	X			X
(Ali et al., 2023)	X	X	X	X	X
(Adomako & Nguyen, 2023)	X				X
(Kitsis & Chen, 2023)	X	X		X	
(Khan et al., 2023)	X	X	X	X	
(Marrucci et al., 2023)	X	X		X	X
(Ngo, 2023)	X			X	X
(Raza & Woxenius, 2023)	X	X		X	X
(Silva & Gomes, 2023)	X			X	
(Aladaileh et al., 2024)	X	X	X	X	
(Farooque et al., 2024)	X	X		X	X
(Ha et al., 2024)	X	X		X	X
(L. Liu, 2024)	X	X		X	
(Madrid-Guijarro & Duréndez, 2024)				X	X
(Trivedi et al., 2024)	X	X			X
(Acquah et al., 2024)	X			X	
(Hebaz et al., 2024)	X	X	X	X	X
(Huang et al., 2024)	X	X			X
(Hosain & Mustafi, 2024)	X			X	
(D. Liu et al., 2024)	X			X	
(Saeidi et al., 2024)	X			X	
(Truong et al., 2024)	X	X	X	X	X

(Xu et al., 2024)	X			X	X

Table A4 - List of publication per journal

JOURNAL	COUNT
JOURNAL OF CLEANER PRODUCTION	15
BUSINESS STRATEGY AND ENVIRONMENT	12
SUSTAINABILITY	10
INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS	6
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH	4
CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL MANAGEMENT	3
JOURNAL OF ENVIRONMENTAL MANAGEMENT	3
ENVIRONMENT, DEVELOPMENT AND SUSTAINABILITY	2
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH	2
INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH	2
OPERATIONS MANAGEMENT RESEARCH	2
BENCHMARKING: AN INTERNATIONAL JOURNAL	1
CANADIAN PUBLIC POLICY	1
CLEANER LOGISTICS AND SUPPLY CHAIN	1
COMPUTERS & INDUSTRIAL ENGINEERING	1
CORPORATE ENVIRONMENTAL PERFORMANCE	1
ECONOMIC RESEARCH	1
ENGIEERING MANAGEMENT IN PRODUCTION AND SERVICES	1
ENGINEERING ECONOMICS	1
EUROPEAN JOURNAL INTERNATIONAL MANAGEMENT	1
EXPERT SYSTEMS WITH APPLICATIONS	1
HELIYON	1
INDUSTRIAL MANAGEMENT AND DATA SYSTEMS	1
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY	1
INTERNATIONAL JOURNAL OF INNOVATION SCIENCE	1
INTERNATIONAL JOURNAL OF LEAN SIX SIGMA	1
INTERNATIONAL JOURNAL OF LOGISTICS: RESEARCH AND APPLICATIONS	1
INTERNATIONAL JOURNAL OF PHYSICAL DISTRIBUTION AND LOGISTICS MANAGEMENT	1
INTERNATIONAL JOURNAL OF SUSTAINABLE DEVELOPMENT AND WORLD ECOLOGY	1
INTERNATIONAL JOURNAL PRODUCTION ECONOMICS	1
JOURNAL OF BUSINESS RESEARCH	1
JOURNAL OF ENVIRONMENTAL PLANNING AND MANAGEMENT	1
JOURNAL OF MANUFACTURING TECHNOLOGY MANAGEMENT	1
JOURNAL OF MARKETING THEORY AND PRACTICE	1
JOURNAL OF PURCHASING AND SUPPLY MANAGEMENT	1
JOURNAL OF SUPPLY CHAIN MANAGEMENT	1
MANAGEMENT DECISION	1
MANAGEMENT OF ENVIRONMENTAL QUALITY: NA INTERNATIONAL JOURNAL	1
MARITIME POLICY AND MANAGEMENT	1
OMEGA	1
PRODUCTION, PLANNING AND CONTROL	1
RENEWABLE ENERGY FOCUS	1

RESEARCH IN TRANSPORTATION BUSINESS AND MANAGEMENT	1
RESOURCES POLICY	1
REVISTA DE ADMINISTRAÇÃO MACKENZIE	1
SCIENCE, TECHNOLOGY AND SOCIETY	1
SUPPLY CHAIN MANAGEMENT	1
SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS	1
SUSTAINABLE PRODUCTION AND CONSUMPTION	1
TECHNOLOGICAL FORECASTING & SOCIAL CHANGE	1
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	1
TOTAL QUALITY AND MANAGEMENT	1
TRANSPORTATION RESEARCH PART D	1

Table A5- Circular Economy Practices

	Practice	Definition	Source
External practices	Customer Cooperation (CC)	Collaboration with customer for environmental goals	Ahmed et al., 2020; Diabat et al. (2013); Magnano et al. (2024); Saeed et al., 2018; Vanalle et al., 2017; Wu et al., 2022
	Externally oriented environment management (E-EM)	Extension of environmental management beyond the company and into their supply chain	Grekova et al. (2014); Magnano et al. (2024);
	Green Purchasing (GP)	Having environmental considerations when procuring suppliers (product and logistics)	Chiu & Hsieh, 2016; Diabat et al (2013); Govindan et al., 2015; Khan & Qianli, 2017; Magnano et al. (2024)
	Investment Recovery (IR)	Related with RL, IR try to obtain economic advantages from what was previously waste (end-of-life products)	Diabat et al. (2013); Magnano et al. (2024), Saeed et al. (2018); Vanalle et al. (2017)
	Reverse Logistics (RL)	Manufacturer becomes responsible for the collection of the end-of-life product and focus now on recycle, refurbish or remanufacture it	Diabat et al. (2013); Ghosh (2019); Khor et al (2016); Magnano et al. (2024)
	Sustainable global supplier management (SGSM)	Careful management of suppliers to meet environmental goals (selection and development)	Hollos et al. (2012); Reuter et al. (2010)
	Supplier Cooperation (SC)	Collaboration with suppliers for environmental goals	Ahmed et al., 2020; Diabat et al. (2013); Govindan et al., 2015; Hollos et al., 2012; Magnano et al. (2024)
Internal Practices	Circular Procurement (CP)	Practices to transform supply chains into Closed Loop Supply Chain to minimize negative impact on the environment	Farooque et al. (2024); Ghosh (2019); Hernández-Arzaba et al. (2022)
	Eco Innovation (ECO) Circular Product Design (CPD)	Result in a reduction of environmental burdens and will facilitate the re-use, recycle and recuperation of the product throughout its life	Bag et al. (2022); Chan et al. (2016); Chiu & Hsieh (2016); Diabat et al. (2013); Maldonado-Guzmán et al. (2023); Nureen et al. (2023); Rahman et al. (2021); Rodríguez-Espíndola et al. (2022); Ullah Khan et al. (2023)
	Environmental Management Systems (EMS)	tool to organise a company's environmental work	Govindan et al., 2015; Massoud et al., 2010; Phan & Baird, 2015; Urban & Govender, 2012

	Green Human Resource Management (GHRM)	Sete of Human Resource practices to achieve sustainable organisational goals.	Huang et al. (2024); Islam et al. (2023); Marrucci et al. (2023); Magnano et al. (2024); Ngo (2023); Truong et al. (2024)
	Green Logistics Management (GLM)	Converting logistics of the production into a sustainable practice within the business	Lai & Wong; Magnano et al. (2024)
	Internally oriented environment management (I-EM)	Focus only on internal factors and excludes any external participation	Diabat et al. (2013); Magnano et al. (2024); Saeed et al. (2018)

Note: As explained in the text, even though all the practices presented above are considered CE practices, several correctly belong in the GSCM category

Table A6 - Definition of each institutional pressure

Pressure	**Definition**	**Source**
Coercive Pressures	Pressures exerted by organisations to which the applicant is dependent upon and has to function is, generally government and regulatory bodies.	Adomako & Nguyen (2023); Bag et al. (2022); Choudhary & Sangwan (2019); Dagilliene et al. (2020); Farooque et al. (2024); Ganapathy et al. (2014); Hebaz et al. (2024); Jain et al. (2020); Khor et al. (2016); Madrid-Guijarro & Duréndez (2024); Mariotti et al. (2014); Marrucci et al. (2023); Micheli et al. (2020); Ngo (2023); Phan & Baird (2015); Saeed et al. (2018); Tian et al. (2023); Wen et al. (2023); Xu et al (2024)
Normative Pressures	Pressures derived by the "social obligation" and professional standards, which can vary its origin from different stakeholders.	Adomako & Nguyen (2023); Bag et al. (2022); Dagilliene et al. (2020); Farooque et al. (2024); Ganapathy et al. (2014); Hebaz et al. (2024); Jain et al. (2020); Khor et al. (2016); Madrid-Guijarro & Duréndez (2024); Mariotti et al. (2014); Marrucci et al. (2023); Micheli et al. (2020); Ngo (2023); Phan & Baird (2015); Saeed et al. (2018); Tian et al. (2023); Wen et al. (2023); Xu et al (2024)
Mimetic Pressures	Tendency to model a firm after structures and practices that have been viewed as successful, minimising the risk of uncertainty.	Adomako & Nguyen (2023); Bag et al. (2022); Choudhary & Sangwan (2019); Dagilliene et al. (2020); Farooque et al. (2024); Ganapathy et al. (2014); Hebaz et al. (2024); Jain et al. (2020); Khor et al. (2016); Madrid-Guijarro & Duréndez (2024); Mariotti et al. (2014); Marrucci et al. (2023); Micheli et al. (2020); Ngo (2023); Phan & Baird (2015); Saeed et al. (2018); Tian et al. (2023); Wen et al. (2023); Xu et al (2024)

Table A7 - c

Pressures	**Effect on CE practices**	**Source**
Coercive pressures	+ CE practices	Abdou et al. (2023); Choudhary & Sangwan (2018); Diabat et al. (2014); Graafland & Bovenberg (2020); Yusof et al. (2017); Zameer et al. (2021)
	= CE practices	Caniëls et al. (2016)
	+ Customer Cooperation	Ahmed et al. (2020); Ngo (2023); Tian et al. (2023); Wen et al. (2023)
	= Customer Cooperation	Saeed et al. (2018)
	+ Circular Procurement	Farooque et al. (2024)
	+ Eco innovation	Adomako & Nguyen (2023); Ahmed et al. (2020); Baah et al. (2021); Bag et al. (2022); Chan et al. (2016); Chen et al. (2023); Ha et al. (2024); Raza (2020); Saeed et al. (2018); Tian et al. (2023); Yang et al. (2021)
	= Eco innovation	Trivedi et al. (2024)

	+ E-EM	Grekova et al. (2014)
	+ EMS	Jain et al. (2020); Ngo (2023); Phan & Baird (2015)
	+ GHRM	Ngo (2023); Truong et al. (2024)
	+ Green Logistics	Ngo (2023); Simpson (2012a)
	+ Green purchasing	Ahmed et al. (2020); Baah et al. (2021); Vanalle et al. (2017); Wen et al. (2023)
	= Green purchasing	Saeed et al. (2018)
	+ I-EM	Ahmed et al. (2020); Saeed et al. (2018); Vanalle et al. (2017); Wen et al. (2023)
	+ Investment Recovery	Ahmed et al. (2020);
	= Investment Recovery	Saeed et al. (2018)
	+ Reverse Logistics	Wen et al. (2023)
	+ Supplier Cooperation	Tian et al. (2023)
Normative pressures	+ CE practices	Abdou et al. (2023); Ali et al. (2023); Caniëls et al. (2016); Ghadge et al. (2017); Kirchoff et al. (2016); Rodríguez-Espíndola et al. (2022); Xu et al. (2024); Yusof et al. (2017); Zameer et al. (2021)
	= CE practices	Caniëls et al. (2016)
	+ Customer Cooperation	Huang et al. (2024); Hussain & Malik (2020); Ngo (2023); Saeed et al. (2018); Tian et al. (2023); Wen et al. (2023)
	+ Circular Procurement	Hernández-Arzaba et al. (2022)
	= Circular Procurement	Farooque et al. (2024); Ghosh (2019)
	+ Eco innovation	Adomako & Nguyen (2023); Baah et al. (2021); Bag et al. (2022); Chiappetta Jabbour et al. (2020); Islam et al. (2023); Ha et al. (2024); Hernández-Arzaba et al. (2022); Huang et al. (2024); Tian et al. (2023)
	= Eco innovation	Kitsis & Chen (2021)
	- Eco innovation	Trivedi et al. (2024)
	+ Eco labelling	Massoud et al. (2010); Mariotti et al. (2014); Saeed et al. (2018);
	+ EMS	Islam et al. (2023); Ngo (2023); Raza & Woxenius (2023)
	= EMS	Jain et al. (2020)
	+ GHRM	Huang et al. (2024); Islam et al. (2023); Ngo (2023); Truong et al. (2024)
	+ Green Purchasing	Saeed et al. (2018); Vanalle et al. (2017); Wen et al. (2023)
	+ Green Logistics	Baah et al. (2021); Chiappetta Jabbour et al. (2020); Islam et al. (2023); Lai & Wong (2012); Ngo (2023); Simpson (2012a); Raza & Woxenius (2023); Wang et al. (2018)
	= Green Logistics	Kitsis & Chen (2021)
	+ I-EM	Saeed et al. (2018); Vanalle et al. (2017); Wen et al. (2023); Yu & Ramanathan (2015)
	= I-EM	Grekova et al. (2014)
	- I-EM	Choudhary & Sangwan (2019)
	+ Investment Recovery	Saeed et al. (2018);
	+ Reverse Logistics	Wen et al. (2023)
	= Reverse Logistics	Khor et al. (2016)
	+ Supplier Cooperation	Hussain & Malik (2020); Tian et al. (2023); Wang et al. (2018)
	+ SGSM	Islam et al. (2023); Wang et al. (2018)
Mimetic pressure	+ CE practices	Choudhary & Sangwan (2018)
	+ Circular Procurement	Ghosh (2019)
	= Circular Procurement	Farooque et al. (2024)

	+ Customer Cooperation	Choudhary & Sangwan (2019); Ngo (2023); Tian et al. (2023); Wen et al. (2023)
	+ Eco innovation	Adomako & Nguyen (2023); Bag et al. (2022); Choudhary & Sangwan (2019); Tian et al. (2023)
	= Eco Innovation	Saeed et al. (2018);
	- Eco innovation	Trivedi et al. (2024)
	+ Eco labelling	Choudhary & Sangwan (2019); Massoud et al. (2010); Zhu et al. (2012)
	+ EMS	Jain et al. (2020); Ngo (2023)
	- EMS	Phan & Baird (2015)
	+ GHRM	Ngo (2023)
	+ Green Logistics	Ngo (2023)
	+ Green Purchasing	Saeed et al. (2018); Wen et al. (2023)
	+ I-EM	Choudhary & Sangwan (2019); Wen et al. (2023)
	= I-EM	Saeed et al. (2018);
	+ Investment Recovery	Saeed et al. (2018);
	+ Reverse Logistics	Wen et al. (2023)
	+ Supplier Cooperation	Choudhary & Sangwan (2019); Saeed et al. (2018); Tian et al. (2023)

Note: + Positive and significant relationship; - Negative and significant relationship; = not significant relationship

Table A8 - Sustainable Performance dimensions and measurements

Performance	**Definition**	**Measurements**
Economic Performance	Improvement of financial returns and increase of market benefits	• **Decrease in overall production costs** – Abdou et al. (2023); Chiappetta et al. (2020); Choudhary & Sangwan (2018); Farooque et al. (2024); Ghaithan et al. (2023); Ha et al. (2024); Han et al. (2022); Hernández-Arzaba (2022); Jain et al. (2020); Raza (2020); Rodriguez-Espindola (2022); Silva et al. (2021); Tian et al. (2023); Truong et al. (2024); Vanalle (2017); Wen et al. (2023); Yusof et al. (2017) • **Improved return on investments** – Ahmed et al. (2020); Baah et al. (2021); Chan et al. (2016); Chiappetta et al. (2020); Diabat et al. (2013); Farooque et al. (2024); Ha et al. (2024); Huang et al. (2024); Kitsis & Chen (2021); Liu et al. (2023); Maldonado-Guzmán et al. (2023); Ullah et al. (2023); Yusof et al. (2017) • **Increase of sales and profits** - Abdou et al. (2020); Ahmed et al. (2020); Baah et al. (2021); Bag et al. (2020); Chan et al. (2016); Chiappetta et al. (2020); Choudhary & Sangwan (2018); Farooque et al. (2024); Ghaithan et al. (2023); Ha et al. (2024); Huang et al. (2024); Kitsis & Chen (2021); Liu et al. (2023); Maldonado-Guzmán et al. (2023); Raza (2020); Rodriguez-Espindola (2022); Tian et al. (2023); Ullah et al. (2023); Yusof et al. (2017)
Environmental Performance	Improvement of environmental quality and sustainability	• **Reduction of pollutant emissions** - Abdou et al. (2020); Acquah et al. (2024); Ahmed et al. (2020); Bag et al. (2022); Chiappetta et al. (2020); Choudhary & Sangwan (2018); Diabat et al. (2013); Farooque et al. (2024); Ghaithan et al. (2023); Ha et al. (2024); Hajmohammad et al. (2013); Han et al. (2022); Jain et al. (2020); Kitsis & Chen (2021); Lai & Wong (2012); Liu et al. (2023); Madrid-Guijarro & Duréndez (2024); Pinto (2020); Raza (2020); Raza & Woxenius (2023); Silva et al. (2021); Silva & Gomes (2023); Wu et al. (2022); Yusof et al. (2017)

		• **Reduction in waste generation, water and energy consumption** - Abdou et al. (2020); Acquah et al. (2024); Ahmed et al. (2020); Bag et al. (2020); Chiappetta et al. (2020); Choudhary & Sangwan (2018); Diabat et al. (2013); Farooque et al. (2024); Ghaithan et al. (2023); Ha et al. (2024); Hajmohammad et al. (2013); Han et al. (2022); Hernández-Arzaba (2022); Hussain & Malik (2020); Islam et al. (2023); Jain et al. (2020); Kitsis & Chen (2021); Lai & Wong (2012); Liu et al. (2023); Madrid-Guijarro & Duréndez (2024); Phan & Baird (2015); Pinto (2020); Raza (2020); Raza & Woxenius (2023); Rodriguez-Espindola (2022); Silva et al. (2021); Silva & Gomes (2023); Truong et al. (2024); Ullah et al. (2023); Vanalle (2017); Wang et al. (2018); Wu et al. (2022); Xu et al. (2024); Yu & Ramanathan (2015); Yusof et al. (2017) • **Reduction in usage of hazardous materials** - Acquah et al. (2024); Bag et al. (2020); Chiappetta et al. (2020); Diabat et al. (2013); Farooque et al. (2024); Ghaithan et al. (2023); Ha et al. (2024); Hajmohammad et al. (2013); Han et al. (2022); Hernández-Arzaba (2022); Hussain & Malik (2020); Jain et al. (2020); Lai & Wong (2012); Liu et al. (2023); Raza & Woxenius (2023); Silva et al. (2021); Silva & Gomes (2023); Wu et al. (2022); Xu et al. (2024); Yusof et al. (2017) • **Compliance with environmental standards and allow audits** – Acquah et al. (2024), Baah et al. (2021); Ha et al. (2024); Hussain & Malik (2020); Islam et al. (2023); Nguyen & Adomako (2022); Phan & Baird (2015); Raza (2020); Rodriguez-Espindola (2022); Truong et al. (2024); Yu & Ramanathan (2015); Yusof et al. (2017) • **Decrease of frequency of environmental accidents** - Han et al. (2022); Lai & Wong (2012); Nguyen & Adomako (2022); Silva et al. (2021); Silva & Gomes (2023); Wu et al. (2022); Xu et al. (2024)
Social Performance	Improvement of stakeholders' welfare	• **Increase in stakeholder satisfaction** - Chiappetta et al. (2020); Ghaithan et al. (2023); Hong et al. (2018); Islam et al. (2023); Rodriguez-Espindola (2022); Truong et al. (2024) • **Improved employee's health and safety** - Chiappetta et al. (2020); Ghaithan et al. (2023); Islam et al. (2023); Rodriguez-Espindola (2022) • **Increase awareness, knowledge and relationship with the community** - Abdou et al. (2020); Chiappetta et al. (2020); Islam et al. (2023); Rodriguez-Espindola (2022); Truong et al. (2024); Ullah et al. (2023)

Table A9 - Effects of CE Practices on TBL performances

CE Practices	**Effect on Performance**	**Source**
CE practices	+ Environmental performance	Graafland & Bovenberg (2020); Khan et al. (2023)
	+ Environmental performance	Khan et al. (2023)
	+ Social performance	Khan et al. (2023)
Circular Procurement	+ Economic Performance	Farooque et al. (2024); Ghosh (2019)
	+ Environmental Performance	Farooque et al. (2024); Ghosh (2019)
	+ Social Performance	Ghosh (2019)
Customer Cooperation	+ Economic Performance	Ahmed et al. (2020); Bag et al. (2022); Choudhary & Sangwan (2018); Choudhary & Sangwan (2019); Diabat et al. (2013); Huang et al. (2024); Khan & Qianli (2017); Kirchoff et al. (2016); Saeed et al. (2018); Tian et al. (2023); Vanalle et al. (2017); Wen et al. (2023)

	= Economic Performance	Han et al. (2022); Nureen et al. (2023); Pinto (2020)
	+ Environmental Performance	Ahmed et al. (2020); Choudhary & Sangwan (2018); Diabat et al. (2013); Han et al. (2022); Hussain & Malik (2020); Inman & Green (2018); Kirchoff et al. (2016); Ngo, Q. (2023); Pinto (2020); Vanalle et al. (2017); Wu et al. (2022); Zhu & Yang (2021)
	= Environmental Performance	Saeed et al. (2018)
	- Environmental performance	Choudhary & Sangwan (2019)
Eco Innovation	+ Economic Performance	Aladaileh et al. (2024); Bag et al. (2022); Chan et al. (2016); Chiappetta Jabbour et al. (2020); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Diabat et al. (2013); Ganapathy et al. (2014); Ghaithan et al. (2023); Ha et al. (2024); Hernández-Arzaba et al. (2022); Hollos et al (2012); Huang et al. (2024); Khan & Qianli (2017); Kirchoff et al. (2016); Kitsis & Chen (2021); Kitsis & Chen (2023); Li et al. (2023); Liu et al. (2023); Liu (2024); Maldonado-Guzmán et al. (2023); Nureen et al. (2023); Rahman et al. (2021); Raza (2020); Rodríguez-Espíndola et al. (2022); Schrettle et al. (2014); Wen et al. (2023)
	= Economic Performance	Bhatia & Kumar Srivastava (2019); Pinto (2020); Raza (2020); Saeed et al. (2018)
	- Economic Performance	Baah et al. (2021); Choudhary & Sangwan (2019)
	+ Environmental Performance	Acquah et al. (2024); Aladaileh et al. (2024); Baah et al. (2021); Bhatia & Kumar Srivastava (2019); Chiappetta Jabbour et al. (2020); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Choudhary & Sangwan (2019); Costantini et al. (2017); Diabat et al. (2013); Ganapathy et al. (2014); Ghaithan et al. (2023); Ha et al. (2024); Hernández-Arzaba et al. (2022); Inman & Green (2018); Islam et al. (2023); Kirchoff et al. (2016); Kitsis & Chen (2021); Kitsis & Chen (2023); Li et al. (2023); Liu et al. (2023); Liu (2024); Liu et al. (2024); Maldonado-Guzmán et al. (2023); Pinto (2020); Raza (2020); Rodríguez-Espíndola et al. (2022); Saeed et al. (2018); Schrettle et al. (2014); Wang et al. (2018); Wu et al. (2022); Yu & Ramanathan (2015); Zameer et al. (2021); Zhu & Yang (2021)
	+ Social Performance	Aladaileh et al. (2024); Chiappetta Jabbour et al. (2020); Ganapathy et al. (2014); Ghaithan et al. (2023); Islam et al. (2023); Li et al. (2023); Maldonado-Guzmán et al. (2023); Rodríguez-Espíndola et al. (2022)
Eco Labelling	+ Economic Performance	Choudhary & Sangwan (2018)
	= Economic Performance	Choudhary & Sangwan (2019); Han et al. (2022)
	+ Environmental Performance	Choudhary & Sangwan (2018); Hajmohammad et al. (2013); Han et al. (2022); Jaikumar et al. (2013); Wu et al. (2022); Zameer et al. (2021)
	= Environmental Performance	Choudhary & Sangwan (2019)
E-EM	+ Economic Performance	Choudhary & Sangwan (2018)
	+ Environmental Performance	Choudhary & Sangwan (2018); Liu et al. (2024)
EMS	+ Economic Performance	Bhatia & Kumar Srivastava (2019); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Huang et al. (2024); Jain et al. (2020); Khan & Qianli

		(2017); Kitsis & Chen (2023); Liu et al. (2023); Raza & Woxenius (2023); Yusof et al. (2017)
	= Economic Performance	Ahmed et al. (2020); Han et al. (2022)
	+ Environmental Performance	Ahmed et al. (2020); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Han et al. (2022); Henriques & Sadorsky (2013); Islam et al. (2023); Jain et al. (2020); Kitsis & Chen (2023); Liu et al. (2023); Liu et al. (2024); Phan & Baird (2015); Raza & Woxenius (2023); Urban & Govender (2012); Wu et al. (2022); Yusof et al. (2017)
	= Environmental Performance	Bhatia & Kumar Srivastava (2019)
	+ Social Performance	Islam et al. (2023)
GHRM	+ Economic Performance	Abdou et al. (2023); Chiappetta Jabbour et al. (2020); Hernández-Arzaba et al. (2022); Hong et al. (2018); Huang et al. (2024); Liu et al. (2023); Truong et al. (2024)
	= Economic Performance	Ahmed et al. (2020); Bhatia & Kumar Srivastava (2019)
	+ Environmental Performance	Abdou et al. (2023); Ahmed et al. (2020); Bhatia & Kumar Srivastava (2019); Chiappetta Jabbour et al. (2020); Hernández-Arzaba et al. (2022); Hong et al. (2018); Islam et al. (2023); Liu et al. (2023); Moori et al. (2018); Ngo, Q. (2023); Truong et al. (2024); Wu et al. (2022); Zhu & Yang (2021)
	+ Social Performance	Abdou et al. (2023); Chiappetta Jabbour et al. (2020); Hong et al. (2018); Islam et al. (2023); Truong et al. (2024)
Green Logistics	+ Economic Performance	Abdou et al. (2023); Aladaileh et al. (2024); Bhatia & Kumar Srivastava (2019); Chiappetta Jabbour et al. (2020); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Ghaithan et al. (2023); Hollos et al (2012); Khan & Qianli (2017); Kitsis & Chen (2023); Liu et al. (2023); Raza & Woxenius (2023); Schrettle et al. (2014); Simpson (2012a); Yusof et al. (2017)
	= Economic Performance	Ahmed et al. (2020); Han et al. (2022); Nureen et al. (2023); Pinto (2020)
	- Economic Performance	Baah et al. (2021)
	+ Environmental Performance	Abdou et al. (2023); Acquah et al. (2024); Ahmed et al. (2020); Aladaileh et al. (2024); Baah et al. (2021); Chiappetta Jabbour et al. (2020); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Ghaithan et al. (2023); Hajmohammad et al. (2013); Han et al. (2022); Hosain & Mustafi (2024); Islam et al. (2023); Kitsis & Chen (2023); Lai & Wong (2012); Liu et al. (2023); Liu et al. (2024); Ngo, Q. (2023); Pinto (2020); Raza & Woxenius (2023); Schrettle et al. (2014); Simpson (2012a); Wang et al. (2018); Yusof et al. (2017)
	+ Social Performance	Abdou et al. (2023); Aladaileh et al. (2024); Chiappetta Jabbour et al. (2020); Ghaithan et al. (2023); Islam et al. (2023)
Green Purchasing	+ Economic Performance	Bag et al. (2022); Diabat et al. (2013); Govindan et al. (2015); Vanalle et al. (2017); Wen et al. (2023)
	= Economic Performance	Khan & Qianli (2017); Pinto (2020)
	+ Environmental Performance	Diabat et al. (2013); Govindan et al. (2015); Hosain & Mustafi (2024); Inman & Green (2018); Pinto (2020); Vanalle et al. (2017)
	+ Social Performance	Govindan et al. (2015)

I-EM	+ Economic Performance	Bag et al. (2022); Choudhary & Sangwan (2018); Diabat et al. (2013); Govindan et al. (2015); Kirchoff et al. (2016); Saeed et al. (2018); Vanalle et al. (2017); Wen et al. (2023)
	= Economic Performance	Choudhary & Sangwan (2019); Pinto (2020); Saeed et al. (2018)
	+ Environmental Performance	Choudhary & Sangwan (2018); Choudhary & Sangwan (2019); Diabat et al. (2013); Govindan et al. (2015); Inman & Green (2018); Kirchoff et al. (2016); Moori et al. (2018); Pinto (2020); Saeed et al. (2018); Vanalle et al. (2017); Yu & Ramanathan (2015)
	= Environmental Performance	Saeed et al. (2018)
	+ Social Performance	Govindan et al. (2015)
Investment Recovery	+ Economic Performance	Bag et al. (2022); Choudhary & Sangwan (2018); Diabat et al. (2013); Ghaithan et al. (2023); Saeed et al. (2018)
	= Economic Performance	Bhatia & Kumar Srivastava (2019)
	+ Environmental Performance	Bhatia & Kumar Srivastava (2019); Choudhary & Sangwan (2018); Diabat et al. (2013); Ghaithan et al. (2023); Inman & Green (2018)
	= Environmental Performance	Saeed et al. (2018)
	+ Social Performance	Ghaithan et al. (2023)
Reverse Logistics	+ Economic Performance	Abdou et al. (2023); Aladaileh et al. (2024); Chiappetta Jabbour et al. (2020); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Diabat et al. (2013); Ghaithan et al. (2023); Kitsis & Chen (2023); Khor et al. (2016); Wen et al. (2023)
	= Economic Performance	Han et al. (2022); Nureen et al. (2023); Pinto (2020)
	- Economic Performance	Baah et al. (2021)
	+ Environmental Performance	Abdou et al. (2023); Acquah et al. (2024); Aladaileh et al. (2024); Baah et al. (2021); Chiappetta Jabbour et al. (2020); Chiu & Hsieh (2016); Choudhary & Sangwan (2018); Diabat et al. (2013); Ghaithan et al. (2023); Hajmohammad et al. (2013); Han et al. (2022); Hussain & Malik (2020); Kitsis & Chen (2023); Pinto (2020); Wang et al. (2018)
	+ Social Performance	Abdou et al. (2023); Aladaileh et al. (2024); Chiappetta Jabbour et al. (2020); Ghaithan et al. (2023)
SGSM	+ Economic Performance	Abdou et al. (2023); Choudhary & Sangwan (2018); Choudhary & Sangwan (2019); Reuter et al. (2010); Tian et al. (2023)
	+ Environmental Performance	Abdou et al. (2023); Acquah et al. (2024); Choudhary & Sangwan (2018); Hussain & Malik (2020); Islam et al. (2023); Wang et al. (2018)
	- Environmental performance	Abdou et al. (2023); Choudhary & Sangwan (2019)
	+ Social performance	Islam et al. (2023)
Supplier Cooperation	+ Economic Performance	Aladaileh et al. (2024); Choudhary & Sangwan (2018); Choudhary & Sangwan (2019); Diabat et al. (2013); Kirchoff et al. (2016); Tian et al. (2023)
	= Economic Performance	Han et al. (2022); Hollos et al (2012); Nureen et al. (2023); Pinto (2020)
	+ Environmental Performance	Aladaileh et al. (2024); Choudhary & Sangwan (2018); Diabat et al. (2013); Han et al. (2022); Hollos et al (2012); Hussain & Malik (2020); Kirchoff et

		al. (2016); Ngo, Q. (2023); Pinto (2020); Wang et al. (2018); Wu et al. (2022); Zhu & Yang (2021)
	- Environmental performance	Choudhary & Sangwan (2019)
	+ Social Performance	Aladaileh et al. (2024); Hollos et al (2012)

Note: + Positive and significant relationship; - Negative and significant relationship; = not significant relationship