
Corporate Social Responsibility and Innovation strategies and their impact on
companies' financial performance

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Abstract

Purpose: The aim of this study is to understand if the relationship between Corporate Social Responsibility (CSR) and Innovation leverages company's financial performance, thus helping company managers making better strategic decisions.

Methodology: To analyze the central hypothesis of this study, data was collected from *Thomson Reuters Eikon Datastream* on the 1000 largest companies listed on the stock exchange. Once the data was organized, hierarchical linear regressions were performed to study the effects.

Results: Strategies simply focused on CSR show inconclusive results in their relationship with financial performance, while strategies involving CSR and Innovation appear to be the most beneficial to companies.

Findings: The involvement in CSR activities is accompanied by costs that can diminish the financial performance of companies when not well supported by policies. The combination of CSR and Innovation appears to be the best strategy for companies to seek improvements in their financial performance.

Limitations: This study is essentially focused on large companies. It remains to be understood whether the impact of these activities on smaller companies will be felt the same way. Regarding the data collected, variables used to measure innovation performance have some limitations on the amount of information available compared to the other variables.

Policy recommendations: The positive values of the relationship between CSR and Innovation represent a good foundation for policy makers to continue to promote and improve CSR in companies. It is important that there is support from the government so that the impact of these activities does not take so long to be felt by companies. It is important that there is a greater effort by policy makers to create responsible policies that promote equal levels of CSR around all regions.

JEL Codes: O30, M14.

Keywords: Corporate Social Responsibility, Innovation, Financial performance, Hierarchical regression, Datastream.

Resumo

Objetivo: O objetivo deste estudo é entender se a relação existente entre Responsabilidade Social Corporativa (RSC) e Inovação alavanca a performance financeira das empresas, permitindo assim ajudar os gestores das empresas numa melhor tomada de decisões estratégicas.

Metodologia: Para analisar a hipótese central deste estudo, foram recolhidos dados da *Thomson Reuters Eikon Datastream* relativamente às 1000 maiores empresas cotadas em bolsa. Uma vez organizados os dados, regressões lineares hierárquicas foram realizadas para estudar os efeitos.

Resultados: Estratégias simplesmente focadas em RSC apresentam resultados inconclusivos na sua relação com a performance financeira, enquanto as estratégias que combinam CSR e Inovação aparentam ser as mais benéficas para as empresas.

Descobertas: O envolvimento em atividades de RSC é acompanhado de custos que podem diminuir o desempenho financeiro das empresas quando não são bem apoiadas por políticas. A combinação de RSC e Inovação aparenta ser a melhor estratégia para as empresas conseguirem melhorias no seu desempenho financeiro.

Limitações: O estudo é essencialmente focado em empresas de grandes dimensões, ficando por compreender se o impacto destas atividades em empresas mais pequenas será o sentido da mesma forma. Relativamente aos dados recolhidos, as variáveis utilizadas para medir a performance inovadora das empresas apresentam algumas limitações no que toca à quantidade de informação disponível comparativamente com as restantes variáveis.

Recomendações de políticas: Os valores positivos da relação entre RSC e Inovação representam uma boa base para os formuladores de políticas continuarem a promover e melhorar a RSC nas empresas. É importante que exista apoio dos governos para que o impacto destas atividades não demore muito tempo para ser sentido nas empresas. É importante que haja um maior esforço por parte dos formuladores de políticas em alcançar níveis similares de RSC em todas as regiões.

Códigos JEL: O30, M14.

Palavras-chave: Responsabilidade Social Corporativa, Inovação, Performance financeira, Regressão hierárquica, Datastream.

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1. Introduction

The topic of Corporate Social Responsibility (CSR) has been subject of intense debate, both for academics and practitioners, especially regarding its effects on corporate strategy and value creation. CSR activities are associated with a combination of economic, social, and environmental factors, three variables that are critical to a company's strategic success. Involvement in these types of activities, when well managed and aligned with the business model, is a driving strategy for creating value in a company. According to the study of Ferrell et al. (2016) and Broadstock et al. (2019), companies involved in CSR activities can create indirect value to their business, and this value can be assessed through their relationships with stakeholders. In the study of Costa et al. (2015), the involvement in these activities by companies allows them to obtain external knowledge, thus increasing their capacity to absorb knowledge related to their corporate and innovative performance. It is important to realize that the impact of the involvement in these activities is mostly felt through intangible benefits, however, according to Chong & Tan (2010), these later translate into tangible benefits.

Within the topic of CSR, the link with corporate performance is often more investigated in the literature, however, a significant gap remains when considering the relationship between CSR and innovative performance (Martinez-Conesa et al., 2017). Studies like Gallego-Álvarez et al. (2011) concluded that the studied relationships, CSR with Innovation, and Innovation with CSR, have negative effects for the company and the involvement in CSR practices does not always allow companies to create value. The study conducted by Im et al. (2020) concluded that involvement in CSR activities allows the company to create value in various aspects, such as an increase in the commitment of its employees, which will allow the company to improve its level of production and innovation efficiency. Other articles from Macgregor et al. (2008), Mishra (2017) and Cook et al. (2019) are examples of studies that claim that companies with a high level of performance in CSR are more efficient in terms of their innovative performance.

However, despite the evidence suggesting that the relationship between CSR and Innovation should be considered as an important aspect in the elaboration of a corporate strategy, there is still a lack of consensus on this matter, especially related to different results obtained in empirical studies that assess the performance of this relationship (Martinez-Conesa et al., 2017).

Still within this relationship of CSR and Innovation, an important and contested topic of debate is beginning to emerge nowadays, which is responsible innovation. This topic is associated with the negotiation of responsibility between scientists, innovators and the outside world (Stilgoe et al., 2013). As with CSR, the main objective of responsible innovation is to understand the impacts of technologies in social, environmental and economic terms. (Von Schomberg, 2014). There has been a growing concern to understand the intended and unintended consequences of the introduction of new technologies in society, however, there is no consensus regarding their assessment because it is difficult to define the correct impacts desired.

To explore and contribute to the relationships and limitations listed above, this study will empirically explore how the relationship between CSR and innovation influence the financial performance of companies. Data were collected from the top 1000 companies listed on the stock exchange from the Thomson Reuters Eikon Datastream database. After processing and organizing the data acquired, the number of companies decreased to 744 to level out non-existent information. To assess the data, hierarchical linear regression was performed, using variables collected from 3 different categories: variables to assess the company's performance in relation to CSR; innovative performance; and financial performance.

2. Literature review

2.1 History and concept of CSR

Social responsibility is not new to academic study. This topic has been present in society for several decades, and its evolution to this day has been the subject of considerable debate, especially when it comes to studying whether companies benefit or not from involvement in activities in favor of society.

The emergence of social responsibility in companies originated in the beginning of the 20th century, where CSR was seen only as a philanthropic act, in which companies performed acts of charity and stewardship towards society (Marrewijk, 2013). However, its definition and purpose began to expand in the early 1950s and 1960s, largely due to an increase in production intensity in companies along with the start of the second phase of the industrial revolution. At this time, due to a high workload and some failures in human management by the companies, the first proposals related to the company's concern for the well-being of its workers began to appear. It was then that CSR studies began to emerge in the academic area, with the main objective of demonstrating to managers and administrators that, in addition to the economic function, companies should consider the social consequences of their actions. With that, not only companies would be seen as good places to work, it would be possible to achieve competitive advantages over the corporate strategy of rival companies (Barrena Martínez et al., 2016).

With the emergence of more studies, the idea of CSR gained momentum in the late 60s. These studies aimed at defining what social responsibility in companies is and how this topic could be correctly addressed by managers. In 1953, Howard Bowen, commonly referred to as the father of the definition of Social Responsibility, released his book *Social Responsibilities of the Businessman*. This book was, and still is, considered as the basis by which managers and academics can be guided to explore this theme. Since then, in the academic area, CSR has been increasingly explored, especially to reach a consensus on how it should be defined, both in the business and academic world. (Barrena Martínez et al., 2016). Much of the uncertainty associated with this consensus is due to the existence of a great abundance of definitions, often biased towards certain specific interests (Marrewijk, 2013) and also due to the different theories that exist to explain the behavior of companies with regard to the problems they face related to their social responsibility (Gallego-Álvarez et al., 2011).

The shareholder theory is considered the classical view, in which the company's social responsibility consists in maximizing its profit, and that the responsibilities must come from

individuals and not from the business itself (Friedman, 1970). According Quazi & O'Brien (2000), companies should focus on meeting their established objectives, placing greater emphasis on meeting the needs of their customers. In the stakeholder theory, Freeman & McVea (2001) refer that managers must satisfy a variety of stakeholders, such as customers, workers, suppliers, and not giving greater emphasis to just one. Davis (1960) states that companies that use their power without worrying about their impact on the community in which they operate can lose the trust and respect of their stakeholders. An example of this statement is present in the study of Branco & Rodrigues (2006) which states that customers, external stakeholders, are attracted to companies that have a good reputation when it comes to issues related to social responsibility. The third, and last, is the social theory that consists of a vision in which companies are responsible for society as a whole, since they integrate and are an essential part of it (Marrewijk, 2013). With the existence of several theories associated with the definition of CSR, there is no consensus on the best definition to describe it. The emergence of different theories can be explained due to the evolution of the subject over the years and how it is seen and approached by companies today (Ho, 2015).

Stakeholder theory is generally associated in the literature as conventional CSR theory (Bocquet et al., 2012). Aligning the present study with this statement, along with the analysis carried out by Dahlsrud (2008), the definition most frequently used and related to this theory is presented by the Commission of the European Communities (2001, p.4): *"A concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis."*

2.2 The influence of CSR on corporate performance

The interest in debating how involvement in responsible activities affects performance in companies, namely whether it improves, decreases or simply has no effect on their performance has been high in the last years. (Broadstock et al., 2019). The same author states that over the years there have been several empirical studies that attempt to assess the relationship between CSR and corporate performance, and vice versa, with most results showing undefined conclusions. However, there are two studies, (Orlitzky et al., 2003) and (Wang et al., 2016), both using an meta-analysis methodology, they assess a large number of studies on the subject. Both studies concluded that the relationship is positive and that the involvement of companies in responsible activities improves their financial performance due to enhancements in their corporate management. They also reveal that this relationship is stronger for firms from advanced economies than for firms from developing economies. Following the hypothesis that this relationship is positive between these two variables, the stakeholder theory already mentioned is the one that best fits this assumption, however it is necessary to understand the impact that these social activities have on the company.

As already mentioned, at the end of the 20th century the responsible activities carried out by the companies were limited to donations or acts of charity towards society. However, it is important to recognize that the philanthropic nature of this act has changed to the present day. At the beginning of the 21th century, consumers began to pay more attention to the products they purchased, how their production was carried out and what the effects of that product on society were (Im et al., 2020). All this change began to be seen as increasingly important to the company's stakeholders, from CEOs, employees and external stakeholders (Branco & Rodrigues, 2006). In a more present time frame, we can say that more and more companies won't wait for a responsible choice on the part of the consumer, and they advance with strategic decisions in terms of social responsibility. This investment in CSR activities can be understood from two perspectives: proactive CSR, where a company integrates CSR in its business model with an objective of sustainability and building value with several stakeholders; and reactive CSR, where companies only engage in these activities due to legal and risk management issues (Ji et al., 2019).

When a company invests in CSR activities, it reinforces its reputation as trustworthy and honest, allowing it to increase and gain the trust of its stakeholders (Im et al., 2020). This reputation once obtained is considered a valuable and inimitable resource (Russo & Fouts, 1997). In the article of Nidumolu et al. (2009), speaking of future implications, the author

states that only companies that take the sustainability issue into account will be able to achieve a competitive advantage over their competitors. This statement is in line with the study carried out by Russo & Fouts (1997) who claim that a high level of environmental performance is associated with an increase in the company's profitability. It is even possible to point out advantages at an internal level. A company focusing on social responsibility activities is fostering a competitive work environment, as it is building a strong organizational commitment, allowing its employees to acquire new skills. The involvement in these types of activities helps companies to develop better skills and organizational processes that increase their preparation for possible changes that involve the environment that surrounds them (Orlitzky et al., 2003). By creating a strong organizational culture, known for its sustainable reputation, it is also easier to attract top candidates to these companies. (Russo & Fouts, 1997).

Therefore, the investment in these activities bring important results to companies, with the majority being intangible resources. All of them involve a cost, and a difficulty may arise here for some investors and company stakeholders to assess the value of these types of decisions (Broadstock et al., 2019). However, currently these types of resources are associated with significant importance for an improvement in company's operations. Examples of resources such as know-how, corporate culture and reputation are increasingly important to a company's financial success (Branco & Rodrigues, 2006).

2.3 The relationship between CSR and Innovation

Within the study of the impact of social responsibility activities on corporate performance, it is important to consider the impact of these activities on the innovative performance of companies as an additional area under increasing study. This relationship between CSR and Innovation comes from the study of CSR and corporate performance, and the literature suggests that CSR can benefit a company's performance, promoting innovation capabilities (Mc Williams & Siegel, 2018). Similar to the relationship stated in **section 2.2**, some of studies on the relationship between CSR and Innovation found a positive relationship, (Ji et al., 2019) and (Luo & Du, 2015), while others have negative associations between the two topics. (Gallego-Álvarez et al., 2011).

Observing **figure 1**, it is possible to see the relationship between the two topics and the effects felt. Involvement in CSR activities is considered a potent source of innovation and competitive advantage (Broadstock et al., 2019), therefore, it is important to understand the impact felt in the various innovative aspects of a company, some of those being corporate

culture and its employees. Motivated employees who trust their superiors, who identify with a responsible business culture, offer companies less challenges in hiring to work within the innovation area. This is because the link between responsibility and innovation is often associated due to the positive impact that is possible to obtain with new sustainable developments. However, it is important to realize that CSR, sustainability and innovation do not form a sacred trinity, says Bennink (2020).

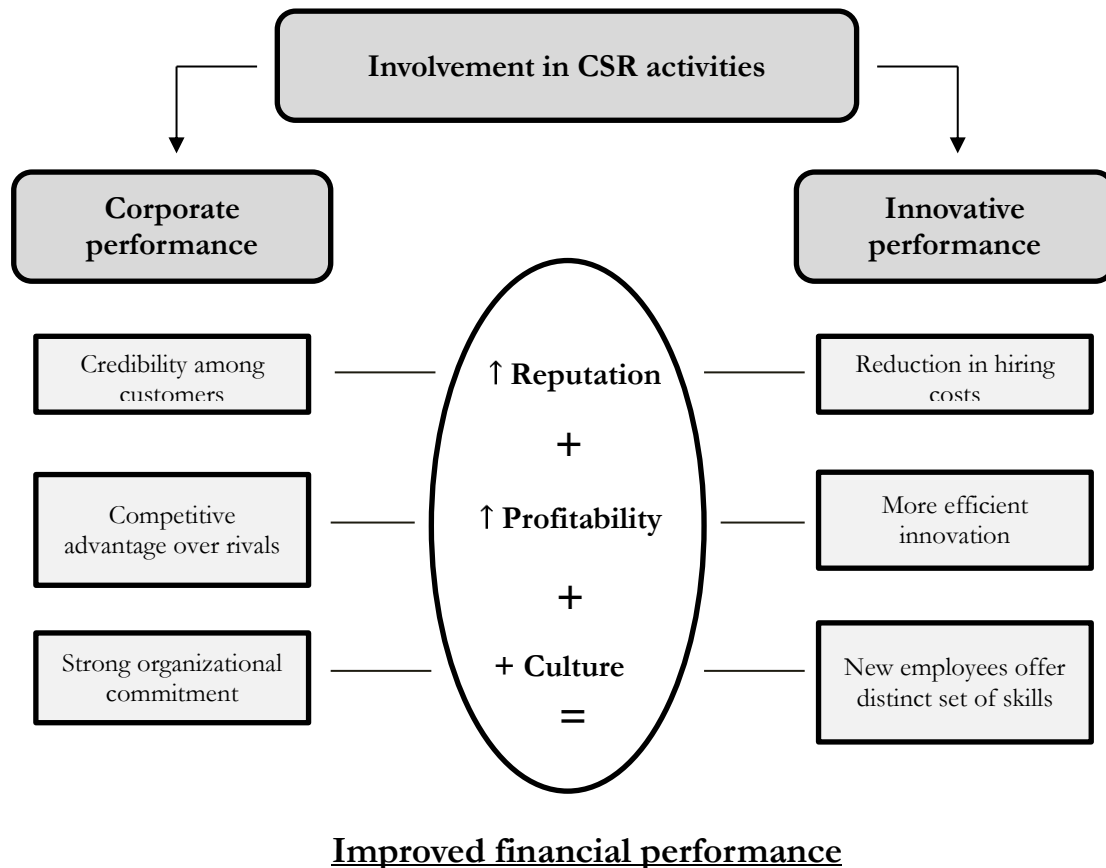


Figure 1 - The impact of CSR on corporate and innovative performance.

Source: Own elaboration.

According to the study of Macgregor et al. (2008), involvement in CSR activities gives companies access to a structure that allows them to innovate sustainably and with less risk. The same author suggests that companies that do not consider CSR activities may have difficulties in surviving as they will face problems innovating. A high involvement in CSR activities increases the economic value of a company's innovation due to greater efficiency in innovation activities and lower hiring costs (Im et al., 2020). Also within the same study, companies involved in CSR activities are able to easily obtain access to financing, thus allowing the company to transfer its innovative ideas to products, services or even the

improvements on its organizational processes. Bocquet et al. (2013) states that companies involved in these activities are more likely to be innovative in terms of processes and generation of new products.

It is possible to say that CSR can be used to develop innovative skills that are new to the company, however it is important to realize that these innovative skills are not always purely technological and that social innovations, in some cases, can have a more beneficial impact on companies (Broadstock et al., 2019). Accordingly to Gallego-Álvarez et al. (2011), CSR offers opportunities for innovation through social, environmental or sustainability motivations that allow the creation of new ways of working or new work processes. Once again, as in corporate performance, all the possible benefits that can be felt in the innovative performance from the involvement in social responsible activities are hard to measure but unavoidable to attract the attention of stakeholders.

2.4 State of the art

Tabel 1 - 5 most cited articles within the research topic.

Title	Authors	Journal	Objective	Methodology	Results	Citations
Social issues in supply chains: Capabilities link responsibility, risk (opportunity), and performance	Robert D. Klassen, Ann Vereecke	International Journal of Production Economics (2012)	Understand what social management capabilities contribute to competitiveness and how they can be linked to social responsibility, risk, opportunity and performance in the supply chain.	Construction of a framework by joining information from various case studies along with interviews responses.	Four links explain the existing relationship: exposure, audit, mitigation, and development.	311
Corporate social responsibility and its effect on innovation and firm performance: Empirical research in SMEs	Isabel Martinez-Conesa, Pedro Soto-Acosta, Mercedes Palacios-Manzano	Journal of Cleaner Production (2017)	Understand the relationship between CSR and organizational innovation and corporate performance in Spanish SMEs.	Construction of an equation model to evaluate data collected from a sample of 552 Spanish companies.	They proved the positive effect of CSR activities on companies' innovation.	137
Exploring the Relationship Between Business Model Innovation, Corporate Sustainability and Organizational Values within the Fashion Industry	Esben Rahbek Gjerdrum Pedersen, Wencke Gwozdz, Kerli Kant Hvass	Journal of Business Ethics (2018)	Analyze the relationship between business model innovation, corporate sustainability and underlying organizational values.	Interviews conducted with 492 managers in the Swedish fashion industry.	Fashion companies that exhibit high levels of business model innovation are more likely to be proactive on the sustainability agenda.	95
Who Needs CSR? The Impact of Corporate Social Responsibility on National Competitiveness	Ioanna Boulouta, Christos N. Pitelis	Journal of Business Ethics (2014)	Explore if and how CSR can impact the competitiveness of nations.	Analysis of data collected from a sample of 19 developed countries over a 6-year period.	CSR can make a significant positive contribution to national competitiveness, as measured by national standards of living.	94
The influence of corporate social responsibility practices on organizational performance: evidence from Eco-Responsible Spanish firms	Carmelo Reverte, Eduardo Gomez-Melero, Juan Gabriel Cegarra-Navarro	Journal of Cleaner Production (2015)	Analyze the impact of CSR practices on organizational performance, covering financial and non-financial indicators, and study the potential mediating role of innovation in the CSR-performance relationship.	Construction of an equation model to evaluate data from a sample of 133 Spanish eco-responsible companies.	Positive and significant direct effects of CSR on innovation and organizational performance in all groups of companies.	93

Source: Own elaboration.

Table 1 presents the most cited scientific articles in Scopus related to the main keywords of the research theme. It is observed that the type of methodology used in the studies is conducted both theoretically and empirically, however, empirical studies are directed to specific sectors or markets. All the results from the studies report that the involvement of companies in social responsibility activities positively affects innovative performance in various corporate areas. Having thus analyzed the existing literature, this study will be based on a central hypothesis: CSR leverages the innovative performance of companies, improving their financial performance.

2.5 The emergence of Responsible Innovation

Within the theme of responsibility and innovation, there is a new debate emerging called Responsible Innovation. Recent studies surrounding this theme have emerged in academic and political literature, although with little emphasis. As mentioned above, some companies are starting to stop innovating just for the economic return and are starting to analyze their aspects and impacts at social and environmental levels, a situation that is beginning to gather pace these days (Bennink, 2020). Increasingly, the creation and development of new technologies have a significant impact on society, and these impacts can be positive or negative. As in the topic of CSR, it is important that there is a high responsibility towards society on the part of researchers and suppliers of these technologies. It is important that there is specific control, especially for future implications. There must be anticipation and prevention before launching new innovations to the market. But are researchers or companies themselves able to anticipate the possible impacts on their own? This is where responsible innovation comes in. The definition of responsible innovation is, according to the European Commission's scientific policy team leader Von Schomberg (2014), *"Responsible Research and Innovation is a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society)"*.

While this view sounds attractive, it fails to demonstrate how complicated it is to reach a consensus on what is right and what is considered favorable for all. Von Schomberg (2014) refers to the importance of the existence of government policies capable of socially intervening in the research and innovation process, with the aim of having better control over impacts, whether positive or negative.

3. Methodology

3.1 Description of the sample

To conduct this research and have the main hypothesis assessed, data was initially collected from the top 1000 companies listed on the Thomson Reuters Eikon Datastream database. This number ended up being reduced to 744 to level out non-existent information. Despite this deduction, the sample of 744 companies is still unbalanced because information from all companies is not available for every variable collected. All companies observed are listed on the stock exchange and data was collected for the period 2015-2020. Due to the limited information obtained for the year 2020, data from 2019 was used as a reference. For a complete characterization of the sample and to ensure that any relationship found between innovation and social responsibility activities are not the result of other factors, variables such as industry technology intensity, age and size of the company were collected. The sample consists of companies spread over 39 countries, from 6 different regions, with the most predominant countries being the United States of America (39%), Japan (8.2%) and the United Kingdom (8.1%). The average age presented by companies is 71 years and 25 different industries are present, with the financial and electronics industries being the most frequent.

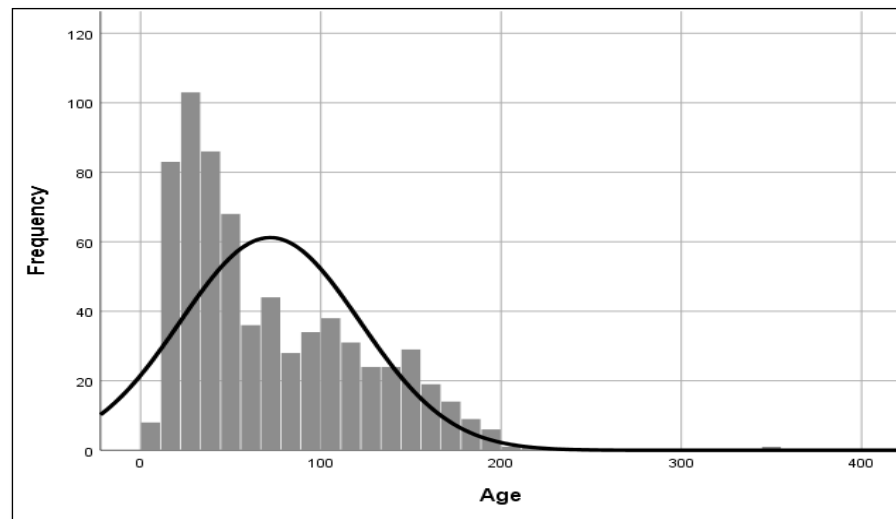


Figure 2 - Age frequencies.

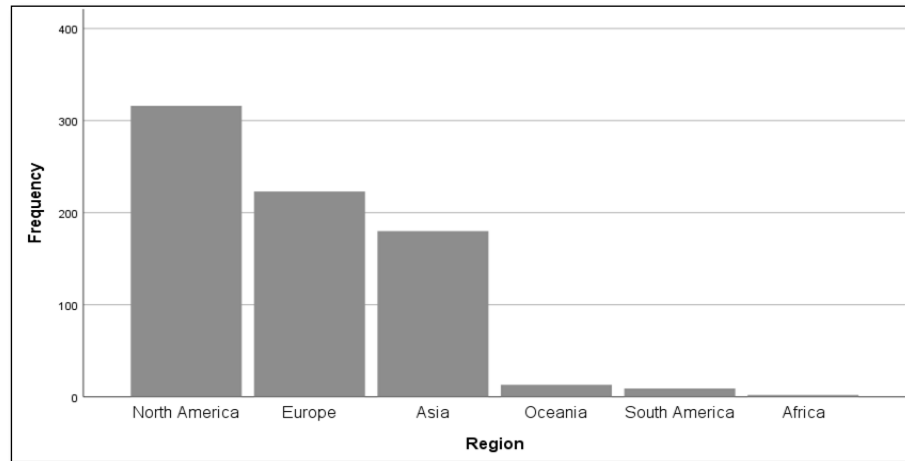


Figure 3 - Region frequencies.

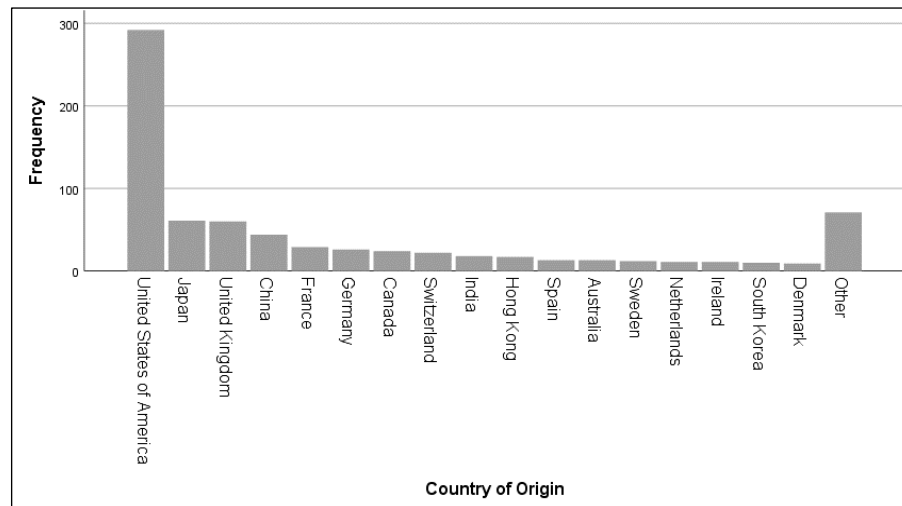


Figure 4 - Country of origin frequencies.

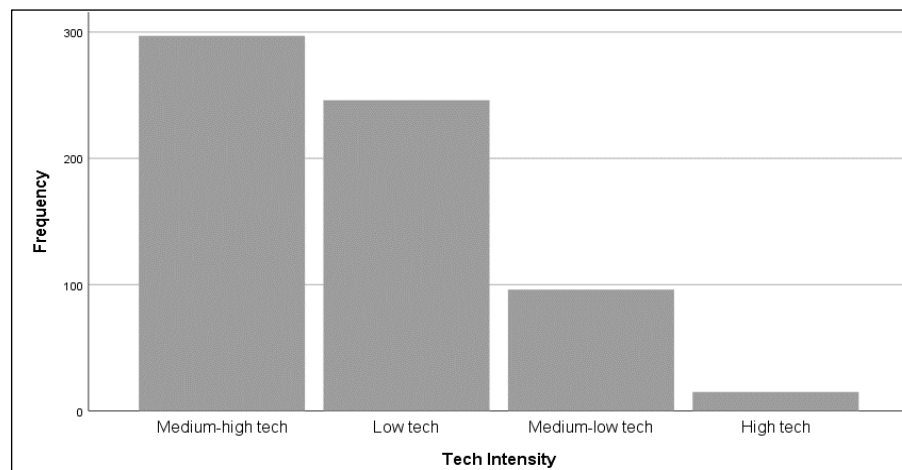


Figure 5 - Industry tech-intensity frequencies.

Source: Own elaboration (all 4 figures).

Tabel 2 - Characteristics of the sample (2019).

	N° of companies	%
N° Employees		
Less than 1000	10	1,3
Between 1000 and 100000	106	14,2
Between 10000 and 500000	282	37,9
More than 50000	297	39,9
Age		
Less than 50 years	312	41,9
Between 50 and 100 years	182	24,5
Between 100 e 150 years	135	18,1
More than 150 years	59	7,9
Sector		
Financial	170	22,8
Electronic	95	12,8
Utility Services	62	8,4
Drugs, Cosmetics and Health Care	52	6,9
Remaining	365	49,1
Annual Turnover		
Less than 5 million	162	21,8
Between 5 and 10 million	125	16,8
Between 10 and 20 million	134	18
More than 20 million	320	43,2

Note: For visual reasons, the least representative sectors were grouped in the “Remaining” category.

Source: Own elaboration.

Observing the characteristics of the sample through **table 2**, the analyzed sample is mainly constituted by large companies with very high turnover values. This tells us that they are companies with vast experience in the market where they operate. The choice of this type of companies was because these are the ones that have the greatest impact on the business world and on the societies in which they operate.

3.2 Measuring Corporate Social Responsibility

Due to the difficulty in being able to truly measure CSR, and because the use of only one or two variables provided a limited perspective on the performance of companies in this aspect, 4 different variables were collected. Despite not being a perfect metric for evaluation, the ESG Score variable was observed as the richest and most complete in relation to data obtained from the companies. As the theme of CSR is in constant evolution, the score given by Refinitiv¹ is a good starting point for conducting an analysis of the company's

¹ <https://www.refinitiv.com/en/sustainable-finance/esg-scores#data-process>

performance. It consists of measuring a company's performance in key environmental, social, and governmental attributes through 10 different categories: emissions, innovation, use of resources, human rights, product responsibility, workers, community where it operates, business management, shareholders, and CSR strategy. This score is assigned so that it is possible to transparently and objectively measure the performance, commitment and effectiveness of a company in the environmental, social and governmental spheres, based on data publicly disclosed by the same companies (Refinitiv, 2021).

Table 3 presents a brief description of the variables used and their evaluation method.

Tabel 3 - Description of CSR variables.

Variables	Abbreviation	Description	Evaluation
ESG Score (1)	ESG	Overall score given to the company based on information reported by management on the environmental, social, and corporate governance pillars.	Percentage
CSR Strategy Score (2)	CSRStr	Reflects the company's practices in communicating that it integrates the economic, social, and environmental dimensions in its decision-making processes.	Percentage
CSR Sustainability Committee (3)	CSRCom	Whether the company has a CSR committee or team.	0 = No; 1 = Yes
CSR Sustainability Reporting (4)	CSRRep	Whether the company publishes a separate report or a section in its annual CSR/Sustainability report.	0 = No; 1 = Yes

Source: Own elaboration.

Tabel 4 - Evolution of CSR variables from 2015 to 2019 (in p.p).

	North America	South America	Asia	Africa	Europe	Oceania
ESG	0,066	-0,017	0,100	0,029	0,054	0,019
CSRStr	0,129	0,019	0,118	0,037	0,093	0,031
CSRRep	0,17	0,00	0,18	0,00	0,06	0,00
CSRCom	0,10	0,33	0,10	0,00	0,05	0,15

Source: Own elaboration.

Observing **table 4**, which shows the evolution of the variables used to assess CSR between 2015 and 2019, a growth stands out almost across all regions. Companies located in Asian and North American countries registered the greatest growth in social responsibility, with European countries not being far behind. Despite being late compared to the other regions, the topic of CSR in the Asian region has been gaining more relevance. As the

involvement in CSR activities has been characterized as fundamental to the success of a company strategy, companies in the Asian region felt obliged to follow the standards established by the other regions. This growth, when it occurs, is especially notorious in multinational companies (Chapple & Moon, 2005). The adherence to this trend by Asian countries is considered important due to the impact that companies in this region represent on the world economy. Analyzing only the database used in this study, companies in the Asian region represent 60% of the sum of the annual turnover.

Outside of this pattern of growth are the South American companies, being the only region to show a decrease in the score attributed to their companies in the ESG Score and the smallest growth in the CSR Strategy Score. As a region made up of developing countries, Visser (2009) states that the topic of CSR in these countries has been and continues to be strongly shaped by the weak socio-economic and political conditions, which tend to aggravate many environmental and social problems.

3.3 The impact of CSR and Innovation on financial performance

To understand the relationship between CSR and innovative performance, and subsequently the effect on financial performance, several variables were collected for analysis. As mentioned in **section 2.2 and 2.3**, some of the impacts felt by CSR appear to be hard to quantify, making it difficult to measure the impact felt by companies.

To measure innovative performance, the variables of investment in R&D, the net value obtained by companies through brands and patents, and whether companies develop eco-designed products were collected. Once the independent variables of the study were collected, the dependent variables were chosen to understand the effect felt on financial performance. The chosen variables were ROA, ROE, Tobin's Q, Sales per Employee and Annual Turnover. As control variables, the size of the company (number of employees), age and technological intensity of the industrial sector in which they operate were used. **Table 5** addresses the description of each of these variables and the assessment scale used.

Table 5 - Description of corporate and innovative performance variables.

Variables	Abbreviation	Description	Evaluation
Research & Development (5)	R&D	Represents all direct and indirect costs related to the creation and development of new processes, techniques, applications, and products with commercial possibilities.	Absolute value

Eco-design Products (6)	EDPro	Whether the company reports specific products that aim to reuse, recycle, or reduce environmental impacts.	0 = No; 1 = Yes
Brands & Patents (7)	B&P	Represents the net value of brands, patents, and registered trademarks.	Absolute value
ROA (8)	ROA	Financial indicator of how profitable a company's assets are.	Percentage
ROE (9)	ROE	Financial indicator of a company's ability to add value using its own resources.	Percentage
Tobin's Q (10)	TsQ	Indicator with the objective of estimating whether a particular business or market is overvalued or undervalued.	Decimal
Sales Per Employee (11)	SPEmp	Ratio of a company's annual sales and the total number of employees.	Ratio
Annual Turnover (12)	AT	Gross sales and other operating income less discounts, returns and rebates.	Absolute value
Employees (13)	Emp	Represents the total number of employees in the company (company dimension).	Absolute value
Age (14)	Age	Number of years in operation.	Absolute value
Industry Tech Intensity (15)	ITI	Characterization of the technological intensity of the industrial sector.	1 to 4 ²

Source: Own elaboration.

Tabel 6 - Evolution of financial and innovative performance variables.

Variables	North America	South America	Asia	Africa	Europe	Oceania
R&D (in millions)	0,56	0,03	0,27	-0,01	0,22	0,01
EDPro (in p.p)	5,3	0,0	4,4	0,0	6,7	7,7
B&P (in millions)	0,36	-0,24	0,02	0,23	0,90	-0,28
ROA (in p.p)	0,02	0,01	0,00	0,00	0,00	0,00
ROE (in p.p)	1,11	0,12	-0,01	0,34	-0,08	0,05
TsQ (ratio)	0,37	0,44	0,02	0,14	0,00	0,29
SPEmp (in thousands)	0,16	0,05	0,06	0,05	1,45	-0,05
AT (in millions)	5,94	3,52	22,68	0,35	4,06	-1,21
Emp (absolute value)	4236	-11922	17825	-12092	5104	-2395

Source: Own elaboration.

² Rating used to rank: Eurostat NACE Rev. 2 3-digit level - Classification of manufacturing industries.

The choice of these 5 dependent variables to assess the impact on financial performance is because it is possible to assess the effects felt in different time periods. For example, through the Annual Turnover we can assess the effects felt in a shorter time span, as it is a metric capable of analyzing the company's performance at that specific time. Through TsQ, it is possible to understand the effect through the market and shareholders, which usually takes longer to be felt.

The evolution of variables shown in **table 6** follows the same growth pattern observed in the variables shown in **table 5**. As in the CSR variables, there is a similar growth in companies in the regions of North America, Asia, and Europe, especially noticeable in the variables that related to the measurement of innovative performance.

3.4 Descriptive Statistics and Correlations

Tabel 7 - Descriptive statistics.

Variables	Min	Max	Mean	Std. Deviation	N
ESG (1)	0,00	0,94	0,64	0,20	743
CSRStr (2)	0,00	1,00	0,63	0,32	743
CSRCom (3)	0,00	1,00	0,78	0,41	728
CSRRep (4)	0,00	1,00	0,88	0,33	728
R&D (5)	0,01	29,46	1,41	2,82	354
EDPro (6)	0,00	1,00	0,21	0,40	710
B&P (7)	-0,01	63,58	2,35	6,27	269
ROA (8)	-0,18	0,44	0,08	0,07	743
ROE (9)	-0,48	1,81	0,18	0,21	738
TsQ (10)	0,45	20,83	2,42	2,13	743
SPEmp (11)	0,02	243,41	1,05	9,43	695
AT (12)	0,01	2297,15	53,73	146,80	741
Emp (13)	2	2200000	78763	127864	694
Age (14)	8	353	72	50	687
ITI (15)	1	4	2,12	0,95	654

Source: Own elaboration.

Table 7 presents the descriptive statistics of all the variables used and **table 8** shows the values of the correlations between them. To analyze the strength of the relationship between the variables, the evaluation method presented by Cohen (1988) was followed: 0.10 to 0.29 – weak; 0.30 to 0.49 – average; 0.50 to 1.0 – strong. Following this assessment scale, we can observe high values of correlation between the CSR variables. The remaining

variables have low values between them. To contradict this information and confirm that there is no multicollinearity, correlations between variables will be assessed again along with linear regressions with Variance Inflation Factor (VIF) and Tolerance tests.

Tabel 8 - Correlations.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
ESG (1)	1														
CSRStr (2)	0,73***	1													
CSRCom (3)	0,61***	0,64***	1												
CSRRep (4)	0,62***	0,73***	0,58***	1											
R&D (5)	0,15**	0,02	0,09	-0,02	1										
EDPro (6)	0,26***	0,16***	0,17***	0,17***	0,13**	1									
B&P (7)	0,14**	0,10	0,12**	0,06	0,14*	0,11*	1								
ROA (8)	0,00	-0,04	0,01	-0,02	0,14***	0,14***	-0,06	1							
ROE (9)	0,01	0,06	0,05	0,06	0,11**	0,04	-0,01	0,46***	1						
TsQ (10)	-0,12***	-0,15***	-0,13***	-0,13	0,05	0,04	-0,08	0,69***	0,35***	1					
SPEmp (11)	0,02	0,00	0,00	-0,00	0,06	-0,02	0,03	-0,03	0,00	-0,03	1				
AT (12)	0,06*	0,04	0,07*	0,03	0,24***	0,03	0,14**	-0,05	-0,04	-0,09**	-0,01	1			
Emp (13)	0,14***	0,12***	0,13***	0,09**	0,37***	0,03	0,08	-0,06	0,01	-0,12***	-0,02	0,22	1		
Age (14)	0,25***	0,21***	0,18***	0,12***	0,00	0,16***	0,12*	-0,08**	0,03	-0,16***	0,02	-0,02	0,06	1	
ITI (15)	0,07*	0,04	0,07*	0,10**	0,06	0,18***	-0,13*	0,21***	0,08**	0,12***	-0,07*	0,03	-0,08*	-0,04	1

Note: *** p <0,01, ** p <0,05, * p <0,1.

Source: Own elaboration.

4. Econometric Analysis

4.1 Econometric Estimations

To test our main hypothesis, a hierarchical linear regression was employed using three different models: model **1** tested the effect between the CSR variables (predictors) and the dependent variables; model **2** added the innovation performance variables to the predictors; model **3** added the control variables to the predictors.

The addition of variables at each step is to obtain more in-depth results. Rather than performing a multiple regression where the predictors are all added simultaneously, the idea is to add predictors into the model in a series of steps to understand what the impact of each variables category is, especially, what is the observed impact of the relationship between CSR and innovation on the dependent variables.

Tabel 9 - Econometric estimations.

Model	Predictors	ROA	ROE	TsQ	SPEmp	AT
1	ESG	0,106 (0,086)	-0,013 (0,177)	0,154 (0,226)	0,228 (0,247)	0,599 (0,445)
	CSRStr	-0,164*** (0,056)	-0,043 (0,113)	-0,361** (0,147)	0,123 (0,160)	0,063 (0,288)
	CSRCom	0,009 (0,035)	0,094 (0,070)	-0,039 (0,091)	-0,158 (0,099)	0,041 (0,180)
	CSRRep	0,062 (0,053)	0,079 (0,111)	0,062 (0,139)	-0,003 (0,151)	-0,183 (0,273)
2	ESG	0,031 (0,089)	-0,296 (0,180)	0,001 (0,236)	0,135 (0,261)	0,084 (0,441)
	CSRStr	-0,155*** (0,055)	-0,021 (0,108)	-0,337** (0,144)	0,119 (0,160)	0,040 (0,269)
	CSRCom	0,001 (0,034)	0,073 (0,067)	-0,056 (0,090)	-0,169* (0,099)	-0,012 (0,168)
	CSRRep	0,064 (0,052)	0,086 (0,024)	0,064 (0,136)	0,021 (0,151)	-0,084 (0,255)
	R&D	0,006 (0,004)	0,024*** (0,009)	0,017 (0,011)	0,025** (0,013)	0,082*** (0,021)
	EDPro	0,050** (0,021)	0,083* (0,043)	0,100* (0,056)	-0,022 (0,062)	0,051 (0,105)
	B&P	-0,001 (0,001)	-0,004 (0,002)	-0,005 (0,003)	0,001 (0,003)	0,009 (0,006)

Model	Predictors	ROA	ROE	TsQ	SPEmp	AT
3	ESG	0,006 (0,088)	-0,321* (0,181)	-0,095 (0,216)	0,076 (0,260)	0,316 (0,394)
	CSRStr	-0,145*** (0,054)	-0,010 (0,110)	-0,287** (0,133)	0,104 (0,161)	-0,171 (0,243)
	CSRCom	0,011 (0,033)	0,088 (0,068)	-0,016 (0,083)	-0,144 (0,099)	-0,017 (0,150)
	CSRRep	0,058 (0,051)	0,074 (0,107)	0,030 (0,125)	0,037 (0,150)	0,039 (0,228)
	R&D	0,010** (0,004)	0,029*** (0,009)	0,031*** (0,011)	0,036*** (0,013)	0,073*** (0,020)
	EDPro	0,058*** (0,021)	0,093** (0,044)	0,138** (0,053)	-0,013 (0,063)	0,018 (0,096)
	B&P	-0,002 (0,001)	-0,004 (0,002)	-0,005 (0,003)	-0,001 (0,004)	0,004 (0,005)
	Emp	-0,000*** (0,000)	-0,000 (0,000)	-0,000*** (0,000)	-0,000* (0,000)	0,000*** (0,000)
	Age	-0,000 (0,000)	0,000 (0,000)	-0,001 (0,000)	0,000 (0,000)	0,000 (0,001)
	ITI	-0,016 (0,013)	-0,020 (0,027)	-0,050 (0,032)	-0,068* (0,039)	-0,094 (0,059)

Standard error in parentheses: *** p < 0,01, ** p < 0,05, * p < 0,1.

Source: Own Elaboration

Before performing econometric estimations, assumptions tests were made. Shapiro-Wilk tests were performed on all dependent variables, which showed us that none of them were normally distributed. To minimize this situation, data transformations were made for each dependent variable: square root transformation for ROA and ROE; log10 transformation to TsQ, SPEmp and AT. The results were still not acceptable, however, by checking the histograms in the **appendix** we can verify the data is much closer to the normal distribution curve. Correlations between the variables were again evaluated to look for multicollinearity because of the high correlation's values between the CSR variables on **table 8**. Some correlations remained strong, however, the VIF and Tolerance tests completely ruled out the existence of multicollinearity. Values obtained are also available in the **appendix**. The existence of homoscedasticity was also confirmed and identified outliers were left on the data for econometric estimations.

4.2 Results and Discussion

This study was conducted to determine the impact of the relationship between CSR and Innovation on the financial performance of companies. The central hypothesis is that the dependent variables (ROA, ROE, TsQ, SPEmp and AT) can be predicted by 2 types of factors that measure the company's CSR and innovation performance. It is considered a statistically significant value when $p < 0.1$ because the analyzed sample presents heterogeneous companies.

Model 1, evaluated with CSR variables as predictors, was only considered statistically significant with the dependent variables ROA and TsQ. On the other hand, models 2 and 3 are statistically significant with all dependent variables except for SPEmp. Looking at **table 10**, precisely at model 2 where innovation variables were added to the CSR ones, the R^2 change and the significant F values shows this addition brought significant better values for almost every analysis made. Model 3, the most complex one, provided us with a more detailed analysis of the regressions performed.

Tabel 10 - Simplified model summary

Model	Test	ROA	ROE	TsQ	SPEmp	AT
1	R ²	0,071	0,027	0,084	0,031	0,029
	R ² change	0,071	0,027	0,084	0,031	0,029
	Sig F change	0,064	0,533	0,031	0,438	0,476
2	R ²	0,142	0,140	0,142	0,067	0,180
	R ² change	0,071	0,113	0,058	0,011	0,151
	Sig F change	0,025	0,003	0,055	0,220	0,000
3	R ²	0,210	0,169	0,308	0,113	0,373
	R ² change	0,068	0,029	0,167	0,047	0,193
	Sig F change	0,024	0,292	0,000	0,122	0,000

Source: Own elaboration.

Analyzing table 9 and the significant values obtained, we can conclude that the relationship between CSR and Innovation is able to leverage a firm financial performance, however, not with a lot of relevance. The standard coefficients values are not high across model 2 and 3, which indicates the strength of the effect of CSR and innovation predictors to the dependent variable are not very felt. However, the values related to R&D and, specially, EDPro are the most meaningful ones. According to descriptive statistics, although there are few companies involved in this type of activities, this variable proved to be the one with the greatest impact on the analyzed hypothesis. This is a good indication that companies that mix innovation with sustainability causes not only are considering the environment in

which they operate, they are also able to profit from this decision. Since some companies do not feel fully confident in adopting a strong CSR strategy, public policies could focus on eco-designed activities as a starting point for responsible activities.

The control variables were also not positively statistically significant, which can be related to the sample being made with companies with not vastly distinct characteristics. Although some are larger, or have some more experience in the industry, as they all have a significant impact on the global market, the effects may not vary between them. It should also be noted that the results did not vary considering the technological regime of the industry.

Looking at the same analysis but with data from 2015, model 3 presents statistically significant values for some of the dependent variables, however, the analysis as a whole is not convincing. The analysis performed showed results that are not statistically significant, and the few that are, the standard coefficients values obtained from each predictor are very weak. Comparing these results to the ones obtained with the data from 2019 we can confirm there was a pattern of growth in the topic of CSR. This shows that exists a maturity path towards true CSR and innovation integration (Macgregor et al., 2008).

5. Conclusions

5.1 Theoretical and Empirical findings

After the analysis made, one can say Innovation is one of the main driving forces for sustainable development and the promotion of financial growth in companies. Through this study, we can demonstrate this statement through the results obtained by the variables of R&D and EDPro and its impact when combined with CSR strategies.

Focusing on the results obtained with model 1, they show us that involvement in CSR activities does not seem to have significant results in the financial performance of companies. As mentioned in **section 2.2**, the reason for these values may be because the involvement in these activities increases the companies' costs, and therefore these types of strategies need to be well supported by policies so they can have a positive impact on companies' financial performance. When we analyze strategies that combine CSR and Innovation, the values are already significantly different. This tells us that when a company develops a strategy in which combines innovation with its responsible activities, it manages to make the most of CSR. These results can also be considered good for companies that merely seek to add value through the involvement in CSR activities. It can be considered a

good starting point for policy makers to build a strategy that encourages the development and growth of this type of activities for companies more afraid to dig into the subject.

Emphasizing the results obtained with the EDPro variable, we can associate it with the theme of responsible innovation mentioned in **section 2.5**. As stated, almost all studies in the academic world related to responsible innovation are theoretical. This is mainly due to the difficulty in getting the correct metrics to measure it. Observing the significant values obtained with the EDPro variable, we can suggest it as a possible metric for evaluating how companies manage to innovate responsibly.

5.2 Limitations and future research

Once the study is finished, it remains to be seen what its limitations are and what are the recommendations for future research.

The sample of firms is made only with large multinational companies with vast experience in the market where they operate. Since these companies are well established in their industry, the impact of these activities may not be felt as much in their financial performance. It would be interesting to see the effect on smaller companies and understand what the effect is on their financial performance when they combine CSR and Innovation.

There is also a limitation associated with the number of valid observations for the econometric estimations. Since there was not much data related to innovation for firms on the database (see **table 7**), the number of observations in each linear regression made went down from 744 to a mean of 124. It is still a valid number accordingly to the prerequisites of the analysis performed, but it would be interesting to see the effect with a higher number of observations.

For future research, it would be interesting to obtain data for proactive and reactive CSR to try to understand the effect felt on the financial performance through the two possible strategies of adoption by companies. It would also be interesting to conduct a dynamic analysis, in which it would be possible to better assess the effects felt over time. Conducting this type of analysis will bring even more positive results since these types of strategies require some time to fully assess the impact felt on companies' performance.

5.3 Policy recommendations

Based on the results obtained, it is possible to state that the relationship between CSR and Innovation positively impacts a company's financial performance. Taking this into consideration, this relationship is a good foundation for policy makers to keep promoting

and improve CSR activities in companies. Since the involvement in CSR activities are accompanied with costs, which can lead to a decrease of a company's financial performance, it is important that public policies can foster companies into more responsible actions while supporting them.

Comparing the results obtained from the 2015 and 2019 analysis, it is possible to state that this type of strategy may take some time to impact companies' performance. This demonstrates that this type of strategy is not properly supported by the governments. If there had been the correct support for companies during this period, the effect felt on corporate performance could have been accelerated and felt in less time. It is also important to state that, through the results obtained, public policies should broadly support all sectors of activity and not focus on certain ones.

The positive results with the EDPro variable would be a good starting point for policy makers to encourage and improve this type of activities in companies, supporting those who promote sustainability and innovation together. If there are already policies related to the theme of eco-designed products, the suggestion would be to review them in a way that they will help to ensure that the impact felt takes less time to be observed and that it manages to captivate more companies to join this type of innovation.

To finish, according to the data obtained in table 4, policy makers, especially in Europe, are not finding the right instruments to foster involvement in CSR activities as they should when compared with North America and Asia. They should look at the strategies of the regions referred, so the growth and the impact is felt with the same intensity. It will be even more important for policy makers to work hard to achieve quick growth in the regions of South America and Africa, as these continue to be hampered by their weak socio-economic conditions. The most important thing in achieving similar results across all regions will be for the business world to continue to contribute to improving society's quality of life and contributing to achieving sustainable development goals established by the United Nations.

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Appendix

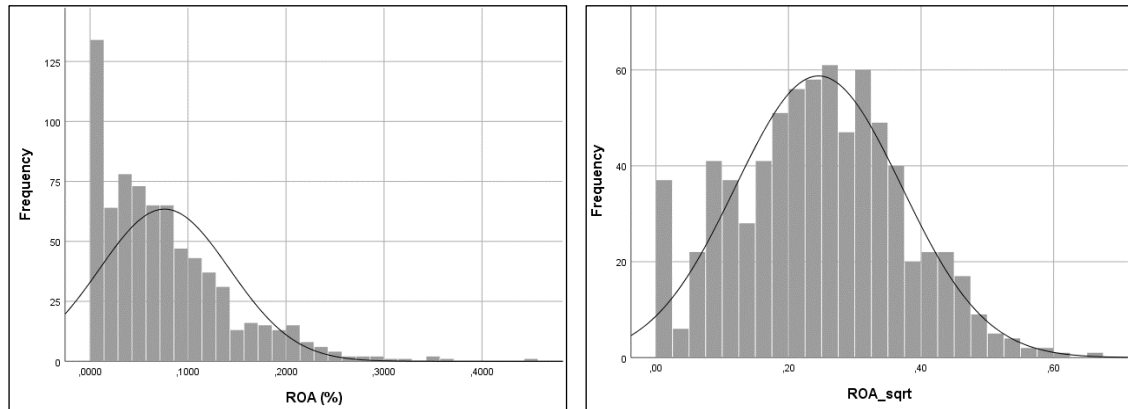


Figure 6 – ROA vs ROA_sqrt: before and after data transformation (histograms).

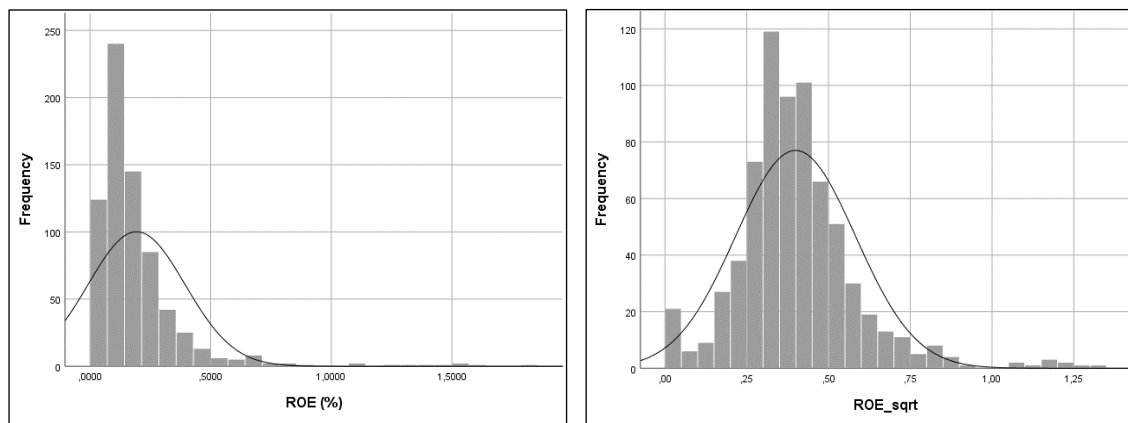


Figure 7 - ROE vs ROE_sqrt: before and after data transformation (histograms).

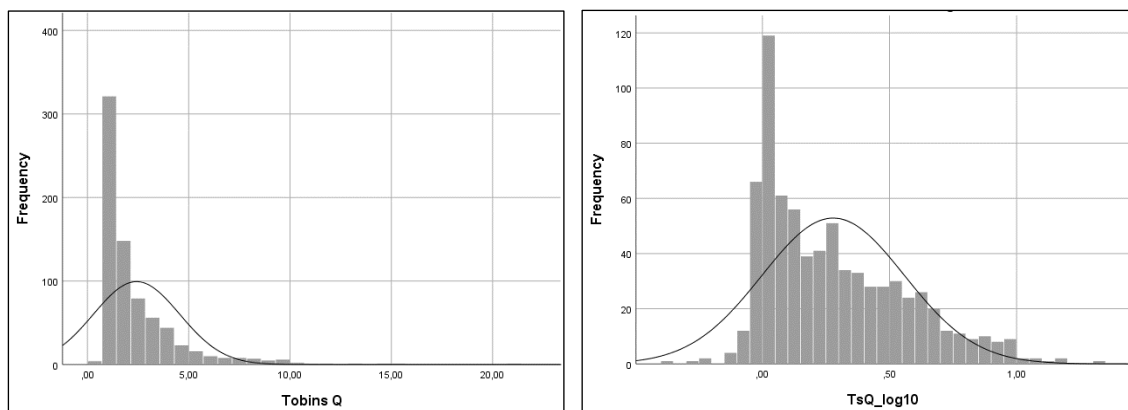


Figure 8 - TsQ vs TsQ_log10: before and after data transformation (histograms).

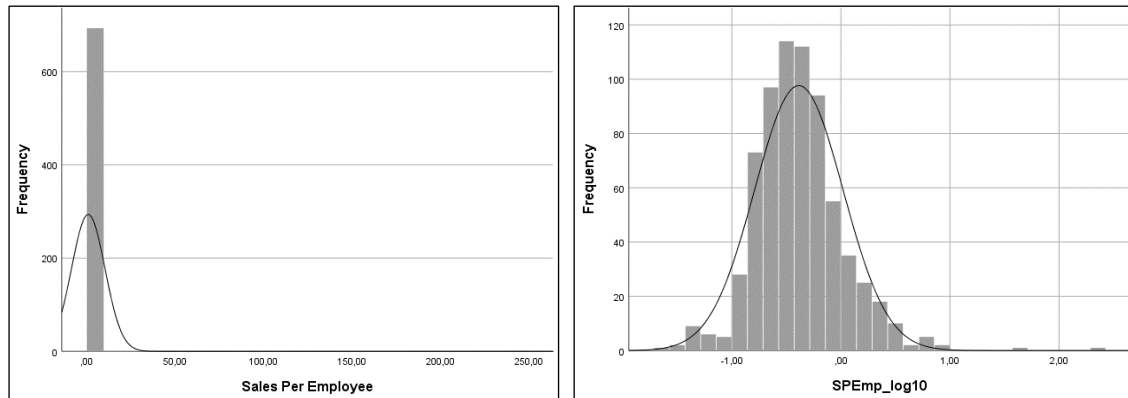


Figure 9 - SPEmp vs SPEmp_log10: before and after data transformation (histograms).

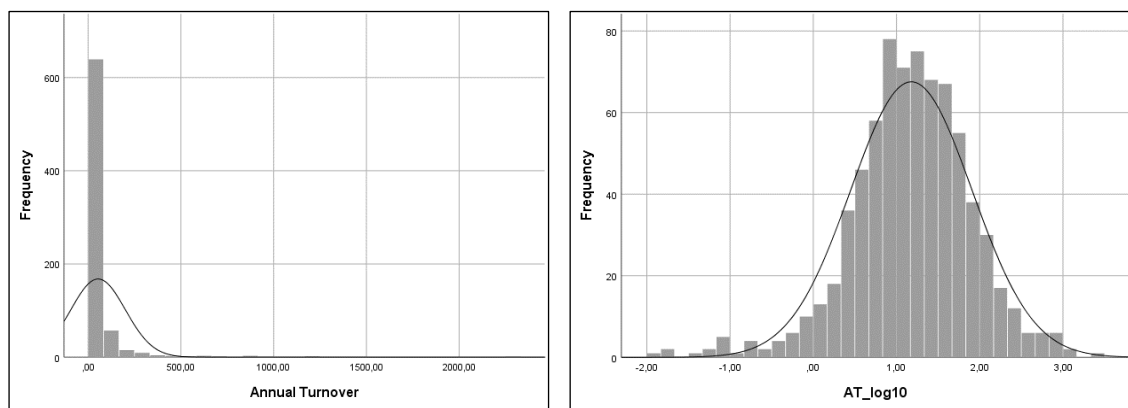


Figure 10 - AT vs AT_log10: before and after data transformation (histograms).

Table 11 - Tolerance and VIF values.

Model	Predictors		ROA	ROE	TsQ	SPEmp	AT
1	ESG	Tolerance	0,568	0,608	0,568	0,564	0,568
		VIF	1,762	1,644	1,762	1,774	1,762
	CSRStr	Tolerance	0,414	0,445	0,414	0,412	0,414
		VIF	2,414	2,249	2,414	2,425	2,414
	CSRCom	Tolerance	0,611	0,647	0,611	0,612	0,611
		VIF	1,635	1,547	1,635	1,634	1,635
	CSRRep	Tolerance	0,589	0,634	0,589	0,589	0,589
		VIF	1,697	1,577	1,697	1,697	1,697

Model	Predictors		ROA	ROE	TsQ	SPEmp	AT
2	ESG	Tolerance	0,501	0,532	0,501	0,499	0,501
		VIF	1,997	1,880	1,997	2,004	1,997
	CSRStr	Tolerance	0,412	0,441	0,412	0,410	0,412
		VIF	2,430	2,269	2,430	2,442	2,430
	CSRCom	Tolerance	0,607	0,641	0,607	0,607	0,607
		VIF	1,648	1,559	1,648	1,646	1,648
	CSRRep	Tolerance	0,584	0,629	0,584	0,584	0,584
		VIF	1,712	1,589	1,712	1,712	1,712
	R&D	Tolerance	0,863	0,853	0,863	0,864	0,863
		VIF	1,159	1,173	1,159	1,158	1,159
	EDPro	Tolerance	0,820	0,816	0,820	0,821	0,820
		VIF	1,220	1,225	1,220	1,219	1,220
3	ESG	Tolerance	0,492	0,522	0,492	0,490	0,492
		VIF	2,032	1,915	2,032	2,039	2,032
	CSRStr	Tolerance	0,398	0,424	0,398	0,394	0,398
		VIF	2,515	2,357	2,515	2,537	2,515
	CSRCom	Tolerance	0,593	0,624	0,593	0,593	0,593
		VIF	1,688	1,602	1,688	1,686	1,688
	CSRRep	Tolerance	0,573	0,612	0,573	0,572	0,573
		VIF	1,746	1,633	1,746	1,748	1,746
	R&D	Tolerance	0,764	0,751	0,764	0,764	0,764
		VIF	1,310	1,331	1,310	1,309	1,310
	EDPro	Tolerance	0,780	0,791	0,780	0,782	0,780
		VIF	1,282	1,265	1,282	1,279	1,282
	B&P	Tolerance	0,831	0,833	0,831	0,832	0,831
		VIF	1,204	1,200	1,204	1,202	1,204
	Emp	Tolerance	0,873	0,870	0,873	0,875	0,873
		VIF	1,145	1,150	1,145	1,143	1,145
	Age	Tolerance	0,853	0,871	0,853	0,855	0,853
		VIF	1,173	1,148	1,173	1,169	1,173
	ITI	Tolerance	0,801	0,796	0,801	0,801	0,801
		VIF	1,248	1,257	1,248	1,249	1,248

Table 12 - Econometric estimations (2015).

Model	Predictors	ROA	ROE	TsQ	SPEmp	AT
1	ESG	0,034 (0,078)	-0,049 (0,250)	-0,063 (0,169)	-0,124 (0,202)	0,295 (0,440)
	CSRStr	0,032 (0,054)	0,175 (0,179)	0,055 (0,117)	0,459*** (0,142)	0,146 (0,309)
	CSRCom	-0,046 (0,030)	-0,018 (0,096)	-0,059 (0,066)	0,097 (0,078)	0,288* (0,169)
	CSRRep	0,008 (0,038)	0,000 (0,123)	-0,038 (0,081)	-0,385*** (0,098)	0,254 (0,214)
2	ESG	0,025 (0,082)	0,053 (0,262)	0,023 (0,174)	-0,199 (0,210)	-0,187 (0,417)
	CSRStr	0,033 (0,055)	0,173 (0,182)	0,052 (0,118)	0,446*** (0,143)	0,031 (0,284)
	CSRCom	-0,045 (0,030)	-0,006 (0,097)	-0,048 (0,066)	0,092 (0,078)	0,248 (0,155)
	CSRRep	0,010 (0,038)	-0,006 (0,125)	-0,043 (0,082)	-0,367*** (0,099)	0,379* (0,197)
	R&D	0,005 (0,005)	-0,006 (0,017)	-0,007 (0,011)	0,020 (0,013)	0,111*** (0,026)
	EDPro	0,000 (0,022)	-0,084 (0,072)	-0,073 (0,047)	0,017 (0,057)	0,096 (0,113)
	B&P	-0,002 (0,002)	-0,003 (0,008)	-0,002 (0,005)	-0,002 (0,006)	0,010 (0,012)
3	ESG	-0,004 (0,077)	-0,008 (0,264)	-0,048 (0,162)	-0,240 (0,209)	-0,133 (0,338)
	CSRStr	-0,014 (0,054)	0,118 (0,190)	-0,055 (0,114)	0,378*** (0,148)	0,162 (0,239)
	CSRCom	-0,037 (0,028)	0,001 (0,097)	-0,027 (0,062)	0,103 (0,077)	0,229* (0,125)
	CSRRep	0,048 (0,038)	0,001 (0,131)	0,043 (0,079)	-0,311*** (0,103)	0,116 (0,166)
	R&D	0,014*** (0,005)	0,007 (0,019)	0,015 (0,011)	0,034** (0,015)	0,067*** (0,024)
	EDPro	0,010 (0,021)	-0,060 (0,073)	-0,049 (0,044)	0,033 (0,057)	0,067 (0,092)
	B&P	-0,002 (0,002)	-0,005 (0,008)	-0,001 (0,005)	-0,001 (0,006)	-0,002 (0,010)
	Emp	-0,000*** (0,000)	-0,000 (0,000)	-0,000*** (0,000)	-0,000** (0,000)	0,000*** (0,000)
	Age	-0,000 (0,000)	0,001 (0,001)	-0,000 (0,000)	-0,000 (0,000)	0,001 (0,001)
	ITI	-0,025* (0,013)	-0,062 (0,043)	-0,053** (0,027)	-0,035 (0,035)	-0,053 (0,056)