UNIVERSIDAD DEL ROSARIO

How Does Sustainability Initiatives Enhance the Brand Equity of Firms

Homologation by exchange

Author:

Thomas Eduardo Blain Campos

Rennes, France

2021

UNIVERSIDAD DEL ROSARIO

How Does Sustainability Initiatives Enhance the Brand Equity of Firms

Homologation by exchange

Author:

Thomas Eduardo Blain Campos

Tutor:
Mahabubur Rahman

Program:

Administración de Negocios Internacionales

Rennes, France

2021

Acknowledgement

I would like to give my sincere gratitude to all the persons that with their guidance, support, help, encouragement, and cooperation, helped me throughout the process of completing this project. It wouldn't be possible without you all.

I want to mention and thank my supervisor Mr. Mahabubur Rahman, associate professor at Rennes School of Business who guided me and gave me the opportunity to work with him in this project.

I want to also acknowledge all the professors from Rennes School of Business who prepared me and taught me many things during my time in the school, you helped me grow as a person and as an individual.

To my family, my parents Martha and Henry and my sisters Cristina, Carolina and Maria Paula who supported me throughout every process and action that I took during my career. With your endless love and support, you guided and encouraged me to follow my dreams and become the best person I could be. Thank you for everything, I wouldn't be where I am without you, I love you so much.

Thank you,

Thomas E. Blain Campos

Table of Contents

Tables list

Glossary

Brand Equity: Refers to the perceived value of a brand derived from the consumer perceptions of the brand name of a particular product or service, rather than from the product or service itself.

Brand Value: Value conferred by actual and future customers, to the name, symbols and personality of a brand that is added to the value provided by the products, services and / or company that identify with that brand

Corporate sustainability: The implementation of a business plan that focuses on the ethical, social, environmental, cultural, and economic elements of doing business in order to produce long-term stakeholder value.

GMM system: Method for constructing estimators, analogous to maximum likelihood.

Sustainability: It refers to a balance that exists in the development of the needs that our generation requires without affecting the resources for future generations.

Abstract

Due to the increasing involvement of corporate firms in the field of environmental protection over the past few years, several authors in their work have investigated the precursors and consequences of corporate environmental protection. Existing research investigating the impact of corporate environmental awareness primarily measured the impact on the firms performance. Despite this, no studies have yet been found where the author investigated whether the most important environmental protection initiatives a firm can perform at a corporate level will eventually have any effect on the brand equity or brand value of a firm. Given the above, this study proposes several environmental initiatives a firm can perform in order to demonstrate if these initiatives will have any positive impact on the firms brand value and fill the hole in the literature regarding this topics. Out of the initiatives we highlight three, emission reduction, environmental innovation, and optimization of the use of natural resources. After concluding this research, the results demonstrated that a firm that performs environmental initiatives like emission reduction, environmental innovation, and reduction in the use of natural resources at a corporate level will definitely have a positive and improved brand value.

Keywords: Corporate environmental protection, brand value, brand equity, emission reduction, environmental innovation, optimization of the use of natural resources.

Resumen

Debido a la creciente participación de las empresas corporativas en el campo de la protección ambiental durante los últimos años, varios autores en su trabajo han investigado los precursores y las consecuencias de la protección ambiental corporativa. La investigación existente que investiga el impacto de la conciencia ambiental corporativa midió principalmente el impacto que tienen estas iniciativas en el desempeño de la empresa. A pesar de esto, aún no se han encontrado estudios en los que el autor haya investigado si las iniciativas de protección ambiental más importantes que una empresa puede realizar a nivel corporativo eventualmente tendrán algún efecto sobre el valor de marca de una empresa. Dado lo anterior, este estudio propone varias iniciativas ambientales que una empresa puede realizar para demostrar si estas iniciativas tendrán algún impacto positivo en el valor de marca de la empresa y así llenar el vacío en la literatura sobre estos temas. De las iniciativas destacamos tres, reducción de emisiones, innovación ambiental y optimización del uso de los recursos naturales. Luego de concluir esta investigación, los resultados demostraron que una empresa que realiza iniciativas ambientales como reducción de emisiones, innovación ambiental y reducción en el uso de recursos naturales a nivel corporativo definitivamente tendrá un valor de marca positivo.

Palabras clave: Valor de marca, Sustentabilidad, Practicas sostenibles, Competitividad de marca, Eco-innovación.

1. Introduction

It is important to know that sustainable activities are mentioned to be all social activities and ideologies targeting the protection of the environment. Its main objective is to guard and conserve nature and its ecosystems along with its habitants and elements within it. Companies today know the image they reflect to the public regarding sustainability will affect its brand value and reputation in a positive or in a negative way, where they completely control the way they communicate about their sustainable involvement withing the company with its employees, policies and environment. They do sustainable communication with a specific end goal, to pass on their positive image in accordance with customers' desires (Wheeler *et al.*, 2013). Sustainability is becoming a key element in companies and is giving them a differentiation to enhance their brand value and equity vs. their competitors, and for their stakeholders, employees and the consumers who currently buy their products and use their services. Everyday society, including investors and consumers are targeting new companies performing activities, offering products, services and even experiences that enhance sustainability in their operations to promote the conservations of the environment as a whole.

Environmentalism is getting more serious and its crucial from companies who want to last in time because of what is happening to the world, and all the footprint certain business activities, products or materials generate for the overall business environment. Society is now giving more attention to the treatment companies have towards their employees and society, as well as in business policies such as the diversity of the board of directors and ethics business (Ajour, Consolacion-Segura, Huertas, 2020). Therefore, companies are now looking to differentiate themselves from competition, and becoming corporate sustainable might be the best way to do it. Sustainability gives companies a long-term perdurance, as Haanaes (2016) mentions "sustainability is a business approach to creating long-term value". In the end, this approach is increasingly demanded from companies, as Nielsen (2018) states "no matter what, sustainability is no longer a niche play: your bottom-line and brand growth depend on it".

Now, a brand is much more than only having a logo. Having a strong and well stablished brand provides a firm with an asset to build up a company, and the success of that brand and the company depends most of the time on the brand image perceived and given by the consumers, investors, and stakeholders. Brand equity is a key factor in both marketing and business strategy thanks to the idea that brands are assets that drive business performance over time. The value of a brand is not only a strategic asset to generate sales in the short-term, but also and interesting strategical support for companies to generate value over the years and for the future. When people talk about brand equity, they refer to the value a brand have according to the public related to that brand¨ (Forbes, 2017). Sometimes the gap between aspirations of a company can influence their honest/dishonest adoption of sustainability-oriented business practices, there by eroding or enhancing their brand e. (Gupta, 2016). That is why sustainability is so important, bad practices or dishonest practices will always hinder a company, while responsible and honest practices are always associated with enhancing brand image and an increase in society approval.

To stablish and build the brand value, companies must know how the consumers perceive their product or service you are offering. Baalbaki and Guzman (2016) suggested a consumer-perceived consumer-based brand equity scale with four key dimensions i) quality ii) preference iii) social influence and iv) sustainability. Brand trust and sustainability are important for the increase of brand value and indicated they are positively associated with brand equity (Delgado Ballester and Munuera-Alema´n, 2005).

In this paper, the desire is to achieve as a final result the knowledge about how sustainability initiatives can influence the brand value of companies and reduce the gap in literature about specific environmental activities and their consequences or impact in the brand equity of firms, since it is a subject that to date has been well discussed and studied. This research is a compile of information learned through the academy, which were complemented by different studies and research methodologies conducted throughout the years, including what it is known so far as sustainability and brand image.

The structure of this document will be developed as follows, at the end of this segment there will be a research question, which will reveal certain unknowns to solve throughout the document, continuing with the objectives, both the general and the specific which will then allow us to fulfill with the first mentioned objective. It will continue with a key part of this document, which is the literature review, where 3 fundamental and indispensable topics for this research will be explained. The different concepts of brand value, sustainability and finally, gather information about how sustainable initiatives and brand value are related to each other, this being the main topic of this paper. Since the information presented here is the basis of this research work, the literature review will allow the adaptation of knowledge through accurate all reliable sources of information, which will end up adding value to the document.

At the end of the literature review, the research will continue with the review of the current study, to get more knowledge regarding the current situation in which this topic is being unfold, later on, three hypothesis propositions will be presented, and then the methodology used in this document will be described, where the most significant points about the influence of sustainability initiatives on brand value will be mentioned. Examples of real and important companies of today's societies will be shown, companies that have put into practice some of the points mentioned throughout this work, and that will be very helpful to further understand the relation between brand value and sustainability. At the end of the document there will be results and conclusions, and after that, the limits and advices for future papers, which would be the end of the document.

It has been stipulated that this document carries this structure, so that the understanding and description of the situation can be well explained and implemented.

1.2 Research question

For the above mentioned in the first part of this document, the research question will be:

How can environmental initiatives influence brand equity to create competitive advantage and therefore stand out as a company?

1.3 Objectives

1.3.1 General Objective

Develop a research paper that allows us to get information about how different corporate sustainability initiatives can influence the brand equity of firms.

1.3.2 Specific objectives

- Define what is brand value and sustainability.
- Identify what is the relationship between brand value and sustainability. Show how sustainability initiatives influence the brand equity of firms.
- Answer the three-hypothesis stated on the research.

2. Literature Review

There are various studies that are found regarding brand value in this document, you can find a series of different authors, who in their work give a definition about what brand value and equity means within companies. To learn more about this, the term brand value means the value of a brand to the focal firm (Gupta et al., 2018). Also, Escobar (2002) in his definition where he mentions that brand equity is the value conferred by customers, to the name, symbols and personality of a brand that is added to the value provided by the products, services and / or company that identify with that brand.

On the other hand, there is another definition of which this document is made of and that has significantly importance in our research, "sustainability" which it can be mentioned that it is all developments where all the needs of the current generation are met, without compromising the overall capabilities of future generations to meet their needs (Brundtland, G.H., 1987). Sustainability or environmentalism is going to be seen in a corporate frame, meaning, several environmental activities available for companies to perform will be analyzed.

2.1 Sustainability

"Sustainability is the process of building a society in which a proper balance is created between economic, social, and ecological aims. For businesses, this involves sustaining and expanding economic growth, shareholder value, prestige, corporate reputation, customer relationships, and the quality of products and services. It also means adopting and pursuing ethical business practices, creating sustainable jobs, building value for all of the company's stakeholders, and attending to the needs of the underserved" (Szekely and Knirsch, 2005).

It is important to mention that the origin of sustainability is associated with the growing concern that exists in the international community in the last decades of the twentieth century, about the conditions and deterioration of the environment. In previous centuries, even a few years ago there were no concerns at all about something related to environmentalism, but when a link between economic and social development was proven with its immediate effects on the environment, people started to take it into account by showing how important being sustainable is for our planet and for the brand equity of the companies. In the twentieth century there was a wrong idea that planet earth could endure or at least resist all growth from humanity, but this thesis was quickly eliminated by seeing how much earth was suffering and how resources are being reduced over the years, which made humanity search for solutions.

The worldwide awareness of the close relationship between economic development and the environment, had its expression within the framework of the United Nations when in 1983 they created a commission for development and the environment. To put it in a very general way, it was at this time when a close up of the concept of corporate sustainability began with a group of personalities from the scientific, political and social fields, representing the diverse interests existing in the international community, within this same commission with a report that responded to the following concerns related to the problems that were occurring at that time with our planet, three of them are mentioned bellow:

• Analyze issues related to development and the environment and formulate proposals in this regard.

• Propose new forms of international cooperation capable of influencing development and environment issues to achieve the proposed objectives.

• Promote levels of understanding and commitment to these objectives by individuals, organizations, companies, institutes, and governments.

In April 1987 the Commission published and released its report, entitled "Our common future", also known as the "Brundtland Report" (Brundtland, GH, 1987) in which, For the first time in a Commission focused on this problem, the concept of sustainable development is introduced, emphasizing that there are more than 30 years of a real problem, which at that time was defined as follows:

"*It is in the hands of humanity to ensure that development is sustainable, meaning, to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own".*

Referring to sustainable development as an integral process that demands commitments and responsibilities from the different actors of society when applying economic, political, environmental, and social mechanisms, as well as in the consumption patterns that determine the quality of life. Here 4 spheres are taken into account, where it already illustrates a more complex concept of the term, but for this to occur and have a purpose, the management of natural, human, social, economic and technological resources is required, in order to achieve a better quality of life for the population, and at the same time, ensure that the patterns of current consumption do not affect the well-being of future generations.

Corporate sustainability first came to light with Gladmin, Kennelly, and kruse (1995), they mentioned sustainable development as "a process of achieving human development in an inclusive, connected, prudent equitable, and secure manner". Later on, Bansal in 2005 stablished the term "corporate sustainable development" taking into account three dimensions based on social equity, economic property and environmental integrity.

Hart and Dowell (2011) stated that according to *"A Natural-Resource-Based View of the Firm"*, sustainable development is part of the three key strategic capabilities together with product stewardship and pollution prevention. Sustainable development *"*does not merely seek to do less environmental damage but to actually produce in a way that can be maintained indefinitely into the future*"* (Hart and Dowell, 2011). They also mentioned in 2011 that it has evolved in two spheres: base of the pyramid strategy and clean technology.

> *"is not restricted to environmental concerns but also involves focusing on economic and social concerns. Since economic activity in developed countries is intimately connected with issues of poverty and degradation in less-developed countries, a strategy that considers sustainable development must recognize this link and act to reduce the environmental burden and increase the economic benefits for the lesser developed markets affected by the firm's activities".* (Hart & Dowell, p. 1466)

On the other hand, Valente in 2012, talks about the "sustacentric" orientation of a business. He described it as a step bent on a driven orientation to sustainability. Companies have to market it possible for social, economic and ecological systems to be synchronize using "coordinated approaches" that harness the collective cognitive and operational capabilities of multiple local an global social, ecological, and economic stake holders operating as unified network system" (p. 586).

Riechmann (2003) describes in his work that sustainability is ecological viability: socio-economic systems that function by destroying their biophysical base are unsustainable. To put it in a different way, the above refers to the fact that human activities should not overload environmental functions, nor deteriorate the environmental quality of our world, moreover, they should not cause even the slightest damage to the planet, since this would refer to irreparable damage and its impact will be disastrous. This fundamentally implies two requirements, mentioned by the same author, which are:

1. Respect the limits. What we take from the biosphere (as a source of raw materials and energy, which is, low-entropy matter-energy) and what we return to it (as a sink for waste

and heat, which is, high-entropy matter-energy) must be within the absorption and regeneration limits of ecosystems.

2. Thinking about tomorrow. We should leave to the next generation a world that is at least as livable and makes possible as many vital choices as we have received from the previous generation.

Indeed, sustainability, understood as ecological viability, is a generic principle, which can then be specified in different economic models and social orders.

Sustainability can be defined as meeting human necessities while at the same time preserving the nature or our planet. (Ajour, Consolacion-Segura, Huertas-Garcia, 2020). It is the link between society and nature. There is a field in science called “Sustainable Science” that is pursuing the examination of the correlation between society and natural resources to understand how they have been utilized alongside with their boundaries and limitations. Sustainable science is also addressing the behavior of companies with their responsibilities with nature and society. Currently on business environment and activities, sustainability is affecting companies’ competitiveness. Companies are very aware that failing to meet with sustainability impacts their Brand equity and therefore their organization in a negative way. (Ajour, Consolacion-Segura, Huertas-Garcia,2020).

Consumers are now searching for the sustainable environmentally friendly products since concerns about climate change have increased. In order for companies to get a sustainability advantage they need to have green product offerings sustainable products designed to minimize environmental impacts during its whole life cycle and waste.

2.2 Measurement of Sustainability at a Business level:

To measure sustainability at a business level, there are three tools that can be used the most because they can measure the three pillars of sustainability at the same time (Social, Environmental and Economic).

> *"Examples include KLD, the Dow Jones Sustainability Index/SAM, the Ethibel Sustainability Index, and the Calvert Social Index (e.g., Fowler & Hope, 2007). Other sources are CS reporting guidelines and codes of conduct such as the GRI and the United Nations Global Compact. Researchers in the management field (e.g., Bos-Brouwers, 2010; Kurapatskie & Darnall, 2013; Weber, 2012) mainly used KLD ratings, the DJSI, and the GRI to measure CS and to compare firms' CS performance"* (Montiel and Ceballos, 2014).

KLD is an independent rating tool that analyzes the companies' social and environmental behavior within seven different dimensions: corporate governance, product quality and safety, employee relations, diversity, human rights, community relations, and environment. The KLD index is one of the most known resource used to obtain the relationship between social performance and financial performance (e.g., Jayachandran, Kalaignanam, & Eilert, 2013; Waddock & Graves, 1997).

DJSI is a tool used to find the best corporations in terms of sustainability, and as a proxy for corporate sustainability when examining the relationship between firm performance and CS (Cheung, 2011).

> *"companies are selected for the indices based on a comprehensive assessment of long-term economic, environmental and social criteria that account for general as well as industry-specific sustainability trends. Only firms that lead their industries based on this assessment are included in the indices".* (Dow Jones Sustainability Indices, 2013).

GRI is considered to be a leading guideline for creating sustainability reports. GRI separates corporate sustainability in three:

- **Economic:** Economic performance, market presence, indirect economic impacts.
- **Environment:** Materials; energy; water; biodiversity; emissions, effluents, and waste overall.
- **Social:** Labor practices and decent work, human rights, society, product responsibility.

Lastly, the Thomson Reuters Eikon data base on environmental, social and governance scores (ESG). These three scores were developed to measure a company ESG performance on ten different scenarios based on company reported data. We can find environmental product innovation, emissions, shareholders, human rights, etc. They also provide an overall score which is discounted for ESG controversies that have an impact on the companies.

2.3 Brand Equity

It is essential to see what has happened throughout the years with the definition of what is known as ***Brand Equity***. The last few years several authors have taken on the task of sharing their different thoughts to what they think it means. For this work, it is important to mention different definitions, since each paper and authors have their own perspective, which will help structure this research taking into account the objectives set out above.

Today, in the business sector, having a stablished brand can and should be the determining, differential, and an inimitable factor to create and add value to products and services that companies offer to society and its customers. Organizations should take this as a priority, since currently being recognized by some feature is a core value to be successful. The correct management of brands is based on with its function / mission in the dimensions that make up brand equity, which are both actionable and measurable variables, and have many different factors that must be considered.

As already mentioned, it is essential that companies position their brand so that people immediately recognize it and have it on their top of mind, so that their first reaction when seeing or taking a product or service can relate it precisely to the company. This is something that happens every single day with companies that are well known worldwide and is one of the keys of having the success they have achieved.

Based on the literature, it is seen that the origin of the concept of brand equity according to Larry Light, an expert in brand value, and author of the publication "*Brand Relationship*". In his publication, Larry goes back to the time when there were two legal systems in the Vatican: The Court of Law and the Court of Equity, which dealt with issues of justice and equality, since behaviors and actions were considered sinful. Deviating from equity, the Church administered the Court of Equity. (Aaker, 1996), It may sound a bit strange, this relationship, between the church and equity, but they were the first to determine "equity" in some publications.

To begin with, we see that Escobar (2002) mentions that brand value is the value conferred actual and future customers, to the name, symbols and personality of a brand that is added to the value provided by the products, services and / or company that identify with that brand. For Escobar, the most valuable aspect is the value that the clients themselves can give to the brand, seeing as a key feature what the client thinks about what the brand can represent for them and for society.

In recent years, a lot has been written in relation to the conceptualization of "brand value". With the intention of focusing the analysis on the valuation of the brand itself, instead of delving into a semantic or etymological discussion of its definition, Matias in his work *Brand Equity: Valuation Models* (2001), mentioned the concepts that synthesize adequately the dimension and importance of brand equity for a company:

• D. Aaker, mentions that brand equity is "the set of assets and obligations related to a brand, its name and symbols, which are added to or deducted from the value provided by a product or service to a company and / or its clients". In this definition we can see another significant view, unlike the other authors we have mentioned, Aaker, refers to the symbols that the company uses, which significantly helps positions a brand if the clients feel attracted to it.

• L. Leuthesser, an author who, in his works, seeks to emphasize the understanding of this concept, affirms that "brand equity represents the value of a product (for the consumer) above that of any other identical product without the name of the brand. In other words, brand equity represents the degree to which just the name of the brand adds value to the offer". Here, on the contrary to the various authors we have analyzed, only one name can be the factor between choosing a brand or not, so choosing a good name could help stand out or not stand out between competitors.

• The Marketing Science Institute, an organization known worldwide for its influence in this area, defines brand equity as “the set of associations and behaviors of consumers, channel members and related companies that allow the brand to win higher volume and higher margins than it would obtain without the brand name, giving it a strong, sustainable and differentiated advantage over its competitors ”. This is a starting point for the information that have been presented, since this institution encompasses three important factors, since consumers, members and related companies are the ones that give the value of the brand, compared to the other definitions, the which only mention a determining factor, and had not encompassed or related other factors.

• Last, De Chernatony and Mc Donald understand that brand equity is “the added value or difference between a brand and a commodity. The brand transforms the value of a simple product, becoming an important input in the value creation process”. By this it can be inferred that a product without a brand that supports it will never be referred as a leading product. That is why for companies it is more important to stablish a brand than to have the best product on the market, because customers are loyal to brand, they like in spite the product are not the best among the competition.

Studies have shown that the perceived image of a company, product and service quality, price and perceived sacrifices affects in a positive or negative way industrial brand value (Backhaus et al., 2011; Cretu & Brodie, 2007). Companies are very aware that failing to meet with sustainability affects their brand value and therefore their organization in a negative way

(Ajour, Consolacion-Segura, Huertas-Garcia,2020). On the other hand, Wang (2018) demonstrated in their work that industrial brand equity of firms' gates within six factors: functional advantage in products, solution advantage in services, analytical advantage in CRM, omni-channel advantage in communication, symbolic advantage in publicity and network advantage in resource sharing.

It is important to mention that a very used tool to measure brand value of companies is the Interbrand brand valuation methodology. This methodology seeks to provide a rich and insightful analysis of brands, providing a clear picture of how they are contributing to today's companies' growth, together with a clear list of activities to guarantee that they are delivering even higher growth in the future. Interbrand's brand valuation methodology has been very used in past studies, positioning it as a very reliable source.

Now, given what has been mentioned above, it is now time to build a relationship between them. How does environmentalism with sustainability in a firm relates to their brand value and brand equity? Many research and studies focused their efforts and organization in the internal resources of a firm, instead if looking and analyzing the external factors of the environment that might have even bigger influence in the brand value and equity of the firms. That is why it is important to analyze the external environmental factors that influences the boost of the brand equity and value of a firm.

3. Current study and hypotheses

A company that contains a strategy with sustainable development has two notable differences that can influence the value of the brand: First, the consumer will know the sustainable development strategy where the brand of their choice not only seeks to do less environmental damage, but rather, to start producing in a way that can be maintained indefinitely in the future. For consumers if the brand of their choice gives them the enough confidence that its actions will not jeopardize future generations, in their minds they will probably feel more secure and well-being (Hart, 2005).

Secondly, brand equity of sustainable development, by definition, is not limited to environmental concerns, but also implies a focus on economic and social concerns, which is why it is essential that companies begin to be influenced by these initiatives, so that they can improve in all aspects. Given that economic activity in developed countries is sometimes related to problems of poverty and degradation in less developed countries, a strategy that considers that sustainable development must recognize this link and act to reduce the mental burden on the environment and increase economic benefits for the markets affected and less developed, by the activities of the company. The brand will be very present in society, as a company and organization that supports from its value as a brand, to bear in mind the values that humanity should have. Therefore, brand value of companies has become essential and has been shown to be a competitive advantage (Hart, 2005).

Environmentally proactive industrial firms that possess the necessary skills and capabilities capitalize on this constraint imposed by the natural environment and use this constraint to their advantage (Hart, 1995; Hart & Dowell, 2011). Ameer (2012) tells that business who consider sustainability involving ecosystems, societies and environments of the future have better financial performance compared to those that are not involved with these practices, and this increase in performance is maintained over time. Having great environmental performance is significantly associated with good economic performance and this tends to lead to positive future performance of companies and lower risk exposure, as a result of the social responsibility actions taken and the improvement of their brand equity.

To support this and as an example, let's look at some examples. In Japan where majority of urban waste is incinerated to reduce the volume and the residue (incineration ash) is land filled. Japanese municipalities, however, are confronted with serious shortages of waste landfill sites. To mitigate this situation, **Taiheiyo Cement Corporation** has developed two technologies, which are Ash Rinsing Process and *Eco-cement*. This two eco-friendly and products have been massively appreciated not only by Japanese customers, but also everybody who is willing to avoid leaving a footprint on the environment. *Eco-cement* provides a double environmental benefit: a reduction in the extraction of resources and in the amount of waste that reaches the natural environment (Carrillo-Hermosilla et al., 2010).

At **Grupo Bimbo** they recognize that their environmental impact reaches their entire value chain. To minimize their environmental footprint, they have adopted a broad and long-term commitment, seeking to grow the business through the implementation of various sustainable practices. Grupo Bimbo recognizes that sustainability is an important part of its function as a company, and that the negative (or potentially negative) effects on the environment must be reduced as much as possible in the operation, at the same time safeguarding the safety and health of the population. Through its code of conduct for suppliers, they establish that it is their obligation as suppliers to know and comply with all environmental legislation, develop plans and best practices that promote sustainability.

As mentioned above, Grupo Bimbo, its subsidiaries and all its collaborators comply with the following principles:

- Strategic planning that integrates sustainability
- Responsible environmental management, through visible leadership in all areas of the company, Involvement of stakeholders with our environmental policy and programs,
- Continuous improvement and monitoring of environmental performance, efficient use of resources (water, energy, raw materials and others) and minimization of waste generation and emissions.
- Communication of performance to external and internal audiences, and promotion of a sustainable culture.
- Remodeling and new construction, according to environmental sustainability criteria.
- Optimization of packaging and use of recycled materials and / or renewable sources, considering the requirements of our products.

Something that seemed a determining point for Grupo Bimbo and that as a society it is very much appreciated, and as mentioned above, is that they recognize their mistakes, they know that their manufactured facilities and the whole process that goes behind the development of their products is not environment friendly, which is something that very few companies have the courage to accept, therefore, this instead of detracting from the brand, adds a positive point, since they put their values into practice by accepting that they have a responsibility for what they do, and they know they have work to do to make it better, and this is something that is adding another point in favor to improve their brand equity.

As mentioned before, advertising and marketing have been essential to let consumers know that this company is guided and encourages the use of sustainability initiatives, even its advertisements and packaging already describe and imply that they care about the environment, in which they are not exploited in a way where resources are affected. What this company seeks in a few more years is to become fully sustainable.

In 2020 the **Coca-Cola** Industry turned 128 years old and today, more than ever, they are committed to a sustainable future and their commitment is to make an investment with social responsibility in order to generate progress. Since their creation, they have not done nothing more than create and promote sustainability initiatives in all aspects, not only environmentally but also socially and economically, making it a company that seeks to completely change the way of producing soft drinks.

Among all the companies previously mentioned, Coca-Cola is definitely the best known around the world, honestly now days, who doesn't know Coca-Cola or haven’t bought one of its products? Everyone knows this brand; their products are very much appreciated around the world. They are a successful company that can be taken as an example of how to position itself in the mind of the consumer in many different ways, since its colors, its symbolism, its slogan and especially the flavor of Coca Cola are present everywhere around the world.

In its 2019 business report, Coca-Cola affirms that one of its main commitments is to preserve and care for the environment, and that is why the undertake actions that contribute to the conservation of natural wealth. Something interesting is that through the Coca-Cola Foundation, collaborative alliances are created with authorities, civil society organizations and communities to implement actions that have produced great results.

The company is committed to a global initiative "World Without Waste" whose objective is to collect and recycle the equivalent of 100% of Coca-Cola packaging by 2030, the year where they would reach their maximum objective as a company, which confidentially is similar to that of Apple. In order to be sustainable, the company seeks to reinvent its packaging, maximizing its use and minimizing its impact on the environment. Millions of their packaging are made from 100% recycled material.

Coca cola (2016) from its concern to create things that do not impact negatively planet earth, they try to ratify though their yearly business reports its commitment as a responsible company in the protection of the environment, promoting sustainable development, the preservation of natural wealth and the actions that contribute to mitigating the impact of climate change such as:

- Replenishment, reduction, and reuse of water.
- Promotion of recycling.
- Development of sustainable packaging.
- Reduction of emissions.

Consumers can realize what the company is willing to do to be sustainable and its concerns with the environment though its advertisements, since very time they are carrying out campaigns where they show what their sustainability strategies or initiatives are to be better and help more.

The thing about Coca Cola is that its Brand Equity has been created more by the product itself than by the characteristics or organization. That doesn't mean they are not improving it throughout sustainability initiatives, instead, the company with all the responsibilities it has with sustainability initiatives they are adding a plus compared to their biggest competitors in the industry making new potential consumers to create a bond and trust in the brand making them feel represented by them and also making them able to recognize all this work they are enhancing.

Lastly, since its birth in May 1937, **Volkswagen** the company based in Wolfsburg, Germany, has been characterized by the innovation and development of its vehicles, for which it has managed to position itself as one of the best automotive companies in history achieving success as any other before in this industry. Its problems started 5 years ago, but it should be noted that, even in the first half of 2015, it obtained the number one position in sales globally with the commercialization of more than 5 million vehicles. Before the scandal Volkswagen was considered a top rising company and was one of the leaders of the industry due to the quality and price of their cars, they had an excellent brand image regarding sustainability and environmental procedures inside the company and with their products. The company was also ranked in the 31st place in brands listing of 2015 and dropped to the 40th place in the ranking by 2016. By this it can inferred the impact it has in the market and the number of customers they have.

On 2014 when the United States alongside German researchers from the ICCT, standing for (International Council on Clean Transportation), stablished a research and test where they wanted to figure out and confirm if certain diesel car models such as: BMW X5, VW Jetta and Passat where having incorporated a clean diesel technology to protect the environment from emissions and not a regular bluff technology that eventually contaminated and produced more polluted emissions. This research and test showed how Volkswagen “clean diesel cars” were found to be violating the clean air act and contaminated a lot more than what was permitted by law. They responded to this saying that their cars were intentionally equipped with “line of Turbocharged Direct Injection diesel engines with a “defeat device” that was intended to “bypass, defeat, or render inoperative elements of a vehicle’s emission control system” during emissions testing” (Blackwelder, Coleman,Wozniak, 2016). More than 11 million cars between 2009 and 2011 were affected by this scandal.

Given all this situation, it was extremely necessary to make decisions with extreme agility, to serve all customers and future consumers being affected, since in the vast majority of cases, the multitude of questions from the media increased. Good communication was needed in order to give a transparent image of the company and that its brand value that has been created in its consumers does not lose that great value that they have built over the years. In this sense, the bad news that comes to light for companies or institutions becomes interesting news for the press.

This scandal damaged its brand image around the world in a big scale, losing many customers who had trusted the brand for many years. Matthias Muller, Volkswagen CEO stated that his “most urgent task is to win back trust for the Volkswagen Group – by leaving no stone unturned and with maximum transparency.”. The company took out its diesel cars from the market and worked on different initiative to reestablish the relationship with its customers and dealers, including reimbursement for stuck inventory and new deals with gasoline cars to fulfill the dealer requirements.

But the crisis does not only affect a specific brand, but an entire country. Germany until recently was a benchmark in quality and fulfillment of promises. The "Made in Germany" was synonymous with things well made and quality, but both scandals are shaking the foundations of one of the strongest country brands on the planet. And it is that for Germany cars, the environment and integrity are part of its DNA, so that both its citizens and the rest of the world are shocked by this information, which has destroyed at a stroke the national pride they felt for them. symbols of its economic strength (Trejo, 2015).

Now, companies’ sustainable direction will influence their brand equity, suggesting that they should start investing in sustainable activities, since these investments have a positive effect on the business as a whole and also, on intangible assets. Companies, when implementing procedures should take into account that a company’s positive brand equity can give a competitive advantage that will evolve into better performance while still taking care of the importance of the availability of resources. Consumers are now searching for the sustainable environmentally friendly products since concerns about climate change have increased. In order for companies to get a sustainability advantage they need to have sustainable initiatives within the company and organization, alongside with green practices and offerings sustainable products designed to minimize environmental impacts during its whole life cycle and waste.

4. Hypotheses

NRBV theory states that there are three crucial areas of corporate environmentalism which are: i). pollution prevention, ii). Sustainable development and iii). Product stewardship (Fraj et al., 2013). Each of these three mentioned areas of corporate environmentalism can be the road of success for companies who aim to acquire a competitive advantage. Companies that constantly engage and perform in pollution prevention, sustainable development and pro- duct stewardship practices are more trusted by stakeholders and their clients which allows them to win more credibility and in consequence improve their brand image and reputation.

After mentioning the above, the following three hypothesis are proposed:

4.1 Hypothesis 1

<u>Environmental innovation has a positive impact on corporate brand value.</u>

One of the most modern discussed topics not only in companies but in the governments all around the world is environmental innovation or eco- innovation. Many definitions for this this relevant topic have arose. Ahmed, A., Angelo, F. D., Jabbour, C. J. C., & Galina, S. V.

(2012). state that environmental innovations are organizational implementations and changes focusing on the environment, with implications for companies' products, manufacturing processes and marketing, with different degrees of novelty, while Reid, A., & Miedzinski, M. (2008) gave a more complete meaning of eco-innovation that is the creation of novel and competitively priced goods, processes, systems, services, and procedures that can satisfy human needs and bring quality of life to all people with a life-cycle-wide minimal use of natural resources (material including energy carriers, and surface area) per unit output, and a minimal release of toxic substances. This suggest that reliance on traditional environmental technologies or policies are no longer enough to impulse a real corporate Brand value.

It can be found that eco-innovation can assist firms finding growth opportunities and new more sustainable business. The environmental innovative industry is having an important positive effect in brands and their financial rewards.

Nowadays is surely not enough to do "something", clear and quick actions are necessary to really be one step forward competitors and gain that competitive advantage companies are looking forward to have. Regulation and customer pressure are mechanisms through which companies are already been encourage to environmental innovation. According to Doran, J., & Ryan, G. (2016) who proofs how such innovations positively impacts firm performance, while there is increasing pressure to deliver environmentally friendly products and services, little is known about what drives the many different types of environmental innovation, or, how such pursuits' impact firm performance.

As not to be left behind in this globalized fast world innovation in policies, structures, processes, services, products, technology, etc., is seen as key component to not only to be competitive but to make your business profitable to survive. Many recent researches are now proving to argue that the type of innovation matters for critical outcomes to succeed, within what we can find is the “new” eco-innovation.

Innovations looking to improve a company environmental performance are also going to deliver positive effects on the companies’ economic performances due to the improvement of the products and processes they perform, which are engendered by the adoption of the innovation (Porter and van der Linde, 1995). The direct benefits for the company innovating are: Operational advantages, productivity, better logistics, increase in sells. The indirect benefits are: better brand image, better relationship with suppliers, authorities and their customers, health and safety benefits, better innovation capabilities for the future and worker satisfaction (Sarkar, 2013).

4.2 Hypothesis 2

<u>The greater the emission reduction ability of a firm is, the higher the corporate brand value will be.</u>

“Emissions are perceived to have negative consequences for society at large by contributing to potential climate change and represent a potential cash drain from firms from exposure to future regulatory, abatement, and compliance costs.” Cooper, S. A., Raman, K. K., & Yin, J. (2018).

The second view of corporate environmentalism is where companies are compromised with various ecologic initiatives to minimize or at least reduce emission that harm the atmosphere, this damages to the atmosphere are causing a huge phenomenon called Global Warming.

Global warming is the worryingly fast increase in Earths average surface temperature over the past century primarily due to the emission of gases.

According to Lash, J., & Wellington, F. (2007) Global Warming is affecting every business, despite the type of industry in which they operate. Whether operating in a traditional industry with smokestacks or in what you can call “clean” business like a firm or a bank, you are not safe of the effects that environmental pollution can cause. Even analyzing this from the few skeptical points of view about the danger that pollution represents nowadays, it is happening today that investors are already leaving or minimizing share prices from companies poorly working toward the prevention of global warming through the reduction of gas emissions, consumers are really paying attention to companies with a responsible environmental record when making a purchasing decision.

On the other hand, customers all around the world are decreasing their consumption of product or services coming from companies that are not environmentally responsible. Consumers are now more disposed to pay more money for products that contribute to the maintenance of the environment and reduces the human footprint on the planet. This is causing companies that are not environmentally friendly to lose profit and also to decrease their brand image which will led to less stakeholders and customers.

Nonetheless, members of the Organisation for Economic Co-operation and Development (OECD), are decreasing their business operations with companies who doesn't have responsible environmental performance in the reduction of emissions and effluent reduction. They are increasing their engagement to reduce pollution by partnering with companies who have stablished policies on this matter, making them more attractive to stakeholders (Machiba T, 2011).

It is also important to mention that governments all around the world are creating tough emission-reduction legislations, this can cause an unsustainable growing cost for companies that are not anticipating and investing in being continually more eco-effective. It is very important for companies to identify the ways they are affecting the climate change and how this returns to affect them. So, companies that manage the risk of cause-effect of the global warming will for sure, not only anticipate inside complications in the company but generate an advantage over their competitors.

All that was exposed before can be clearly measured and public shown in the firm's social responsibility reputation (as reflected in its CSR score) does not protect the firm from the adverse firm value effects of this emissions. Analyzing CSR score of the company can lead to actions that will for sure a great positive impact in the company reinforcing the corporate brand value.

4.3 Hypothesis 4

The greater the ability of a firm to use fewer natural resources is, the greater the corporate brand value will be.

Companies are now starting to take sustainability initiatives into account for their business organizations because they will be able to take a competitive advantage, since they will be able to have a differentiator compared to the other companies in the industry they are in, they will help the planet and stakeholders will be more interested in them. It has been noticed in the literature that sustainability is known as a capacity, but the key part mentioned by Hart (2011) is that if a company is guided by environmental initiatives, such as the reduction of natural resources in their productions process, recycling campaigns, conservation of water, less energy usage in their operations, partnering with eco companies in their supply chain and the reverse logistics, they will be moving towards success because that is what society and the industries demands today.

Companies are always seeking for its customers to recognize them by a specific characteristic, which can be achieved by different ways. Today the biggest companies such as apple, Amazon and Tesla are using initiatives that are aimed to improving their practices towards the environment and the improvement of their brand image by introducing environmentally sustainable practices in their production process, such as the use of less natural resources as possible, they know it is a fundamental part of the growth they can have in the future. But this is something all companies are capable of doing, because it is derived from the resources and routines that each company can stablish in their structure.

Customers of industrial firms with environmentally sustainable activities consider products and services of these firms more dependable and of better quality (Fraj et al., 2013; Mariadoss et al., 2011; Mcwilliams & Siegel, 200; Rahman,2021). As mentioned before, when consumers know that the company from which they buy or acquire their service or product stands out for exercising eco-practices on their operations when producing they product or service, they tend to build a stronger relationship with that brand and by doing that, companies are winning new customer but also retaining the ones they already have.

5. Methodology

To perform this study, three different sources were considered to gather the information needed to analysis and comprehend companies' performance. The brand value of the companies was measured using a U.S. based brad consultancy company called Interbrand. Their measures of brand value encompass two factors: consumer perception and financial perception (Rahman, Rodriguez & Faroque, 2021). On the other hand, Thomson Reuters Eikon data base was used to gather information about corporate environmental activities. They also have three different measures called: *Environmental innovation score,* which measures a firm's capacity to reduce the environmental costs and burdens for its customers, thereby creating new market opportunities through new environmental technologies and processes or green products (Rahman, Rodriguez & Faroque, 2021). The *Resource use* score, helps analyze the companies capacity and performance regarding the findings of new eco-friendly solutions in their processes by reducing materials, water or energy in their supply chain management. The *Emission reduction score* reflects how committed and effective are companies towards reducing environmental emission in the production and operational processes. (Rahman, Rodriguez & Faroque, 2021).

These being said, the idea was to analyze Interbrand brand valuation ranking during the sample period from 2007 and 2016, but due to missing data about some companies on the different sources used to obtain the information, the sample of companies was reduced to eleven companies (HP Inc, Caterpillar Inc, Cisco Systems Inc, FedEx Corp, General Electric Co, International Business Machines Corp Intel Corp, Microsoft Corp, Oracle Corp, United Parcel Service Inc, Xerox Corp).

Companies receive a score from 0-100 determined by their performance on each of the three types of measures mentioned before: Environmental innovation, Resource use and Emission Reduction score. The higher score, the better performance each company has. On the other hand, Rahman, Rodriguez & Faroque, 2021, mentioned in their study that three control variables were mainly used in their research. The control variables are i) Firm size: used as a proxy for a firm's visibility, and a firm's visibility in the marketplace affects brand value, ii) Firm performance: affect brand value because firms with better financial performance have more access to more resources, and iii) Capital intensity, is also controlled for as it is expected to impact brand value. Selection and data regarding the control variables was taken from Compustat and guided by other relevant literature of previous studies.

In order to find the relationship between brand value and environmental activities performed by companies, the following model stipulation was followed in the study (Rahman, Rodriguez & Faroque, 2021):

$$Brand\ value_{it} = \beta + \alpha_0 Brand\ value_{it-1} + \alpha_1\ Environmental\ innovation_{it} + \alpha_2 Emission\ reduction_{it} + \alpha_3\ Resource\ use_{it} + \alpha_4 Firm\ size_{it} + \alpha_5 Capital\ intensity_{it} + \alpha_6 Net\ income_{it} + \eta_i + \varepsilon_{it}\,.$$

When it comes to cause and effect relationship models, endogeneity variables are always present in the studies. That is why a Durbin-Wu-Hausman test was performed (DWH) to find endogeneity variables for this model. The results of this test dropped *Net Income* variable as endogenous making it the only variable incorporated in the model as endogenous, while the other variables were incorporated as exogenous.

The presence of endogenous regressors in the model of the study, therefore, necessitated adoption of instrumental variable approach to estimate the coefficient parameters. Resultantly, this study used the system generalized method of moments (GMM) estimation technique, a dynamic panel data method to examine the relationship between corporate environmentalism and brand value (Rahman, Rodriguez & Faroque, 2021). The GMM system is appropriate for this study due to a couple reasons:

First, this study has an endogenous variable, second, it is arguable that the brand value of the companies' part of the study will be persistent over the sample time frame. Meaning, the current value of the variables may be affected by the past value of themselves, which in this case will require the use of autoregressive regression model and GMM. Third, GMM doesn't need finding instruments from different or other sources.

6. Main findings

After concluding the GMM system, it is shown that the coefficient estimates of the three explanatory key variables which are: Emission reduction, Resource use and environmental innovation are significant and positive at a 5% level. Therefore, the results show that the three-hypothesis stated before the study were all supported by the research. Hypothesis 1: Environmental innovation has a positive impact on corporate brand value, meaning that companies that develop and create product and services that within their creation process involves the conservation of the environment, will have a higher brand value than the one that don't. The results of the study backup this statement. The analysis show that industrial companies that wish to improve their corporate brand value, should make the effort to develop, create and market products that take care of the environment. Hypothesis 2: The greater the emission reduction ability of a firm is, the higher the corporate brand value will be. This hypothesis has also been proved positive in the results of this study, the analysis show that industrial companies that are driven by the reduction of environmental emissions in their operational and production processes, and also, want to reduce the footprint they leave on the planet, are keener to benefit from a higher brand value. Third hypothesis: The greater the ability of a firm to use fewer natural resources, the greater the corporate brand value will be. The last hypothesis is also confirmed by the result of the study. The analysis show that companies that include strategies to reduce the use of materials, water, and energy in their operations, also benefit from a better brand value.

With respect to control variables, the analysis show that companies that are bigger in size, and have fewer amount of capital intensity and greater net income ($\alpha 4 = 6866; 99$, p- value = 0:000; $\alpha 5 = -4:93995$; p - value = 0:006; $\alpha 6 = 0:18272$; p - value = 0:000) have a higher brand value (Rahman, Rodriguez & Faroque, 2021).

Since there were endogenous regressor in this model, it was important to the perform a Hansen test to check and confirm that the instruments were all valid, and the conditions were correct (Roodman, 2009). The validity of the instruments used were validated in *Table 1.* In addition, in order to confirm that there was not a second order serial correlation between residuals, an Arellano–Bond second order auto- correlation test (AR (2)) was done, which in the results in *Table 1* confirms that there is no second order autocorrelation (Capezio et al., 2011; Rahman, Rodriguez & Faroque, 2021).

Table 1. Dynamic panel data regression analysis and results performing System GMM.

	Brand Value
Brand Value (t-1)	0.4855***
	(0.0650)
Environmental innovation	30.5665*
	(13.1226)
Emission reduction	65.3627*
	(27.2851)
Resource use	174.137*
	(81.0255)
Firm size	6866.99***
	(1053.86)
Capital intensity	−4.9399**
	(1.8077)
Net income	0.1827***
	(0.0334)
Constant	−86109.52***
	(12939.32)
*WaldChi*2	3121.84***
Arellano-Bond test for AR(2) (*p*-value)	0.668
Hansen test (*p*-value)	0.943

Taken from: "Corporate environmentalism and brand value: A natural resource-based perspective", Rahman, Rodriguez & Faroque, 2021.

6.1 Additional Analysis:

To better understand the three key explanatory variables of the research model, namely the relative importance of environmental innovation, emission reductions, and resource use for the brand value of companies, the study calculated the: *Squared simple correlation*, which is a measurement that allows us to see the impact of each of the variables in the brand value of companies. The *Squared partial correlation*, allows us to assess the size of the unique contribution of a particular explanatory variable to the total variation of the outcome variable. squared semi-partial correlation. The *Squared partial correlation* shows equally the same information, but not regarding the total impact of the outcome variables. It is the proportion of the variability in the outcome variable that is not explained by other explanatory variables but has been explained by the focal explanatory variable (Rahman, Rodriguez & Faroque, 2021). See Results in table 2.

Table 2 shows the two explanatory variables that account for the largest variation in brand value of companies, are *environmental innovation* and *resource use*. However, looking at the first column, where the simple squared correlation is displayed, it seems that the explanatory variable *resource use* reflects the largest change in the variable according to the results. Thus, this analysis shows that the variable *resource use* shares diversity with other variables. On the other hand, the variable *emission reduction* shows only 0.09% of the variance of brand value (Rahman, Rodriguez & Faroque, 2021).

Table 2. Squared simple, squared partial and squared semi- partial correlations.

Variables	**Squared sim- ple Corr.**	**quared par- tial Corr.**	**Squared semi par- tial Corr.**
Environmental innovation	0.1481	0.0137	0.0036
Emission reduction	0.0406	0.0034	0.0009
Resource use	0.2924	0.0137	0.0036

Taken from: "Corporate environmentalism and brand value: A natural resource-based perspective", Rahman, Rodriguez & Faroque, 2021.

7. Other methodologies used in previous literature

In 2013 Gupta, S., Czinkota, M., Melewar, published their research paper "*Embedding knowledge and value of a brand into sustainability for differentiation",* that gathers two dimensions for sustainability that relates to brand differentiation: i) Brand knowledge of customers about the brand's sustainability actions and ii) perceptions of customers about value contributed by the brand. They proposed 12 hypotheses from which we can highlight 4 of them related to corporate environmentalism.

> *"H4. An increase in the concern of a brand about pollution related environmental challenges being faced by the society in which it operates will positively influence brand value and brand knowledge".*
>
> *H5. An increase in the concern of a brand about energy conservation related environmental challenges being faced by the society in which it will positively influence brand value and brand knowledge".*
>
> *H7. An increase in the concern of a brand about waste management related environmental challenges being faced by the society in which it operates will positively influence brand value and brand knowledge".*
>
> *H9. An increase in the concern of a brand about product recycling related economic challenges being faced by the society in which it operates will positively influence brand value and brand knowledge".*

To test these hypotheses a process of iteratives research was conducted. First, a list of suitable items related to brand value and sustainability was identified. Secondly, a research tool was constructed from previous literature from books, internet, literature about sustainability, consumer blogs, and marketing related to branding. Then using a multi item scale, the sustainable orientation of the constructs: i) brand knowledge, ii) brand value and iii) brand differentiation, was tested (Gupta, Czinkota and Melewar, 2013). The social aspect scale of brand value and brand knowledge was made at this stage form 6 items taken from scholars and other data available. The environmental concern of brand scale was made of 4 items, this scale was thought to increase brand value and brand knowledge in the mind of consumers. All four items were taken from the research of Steenkamp et al. (2003), and more information for other secondary sources. The third dimension of sustainability, "economic" was introduced to the branding theories with the help of items mentioned in the research of Sheth (2011) and Snider (2003). The third dimension of sustainability i.e. economic dimension was embedded into the branding theories using three items based on the works of Snider et al. (2003) and Sheth et al. (2011). Lastly, the research tool was ready to start using for testing arguments that showed a holistic view of various aspects of two diverse domains; sustainability and branding.

With data collected from brand conscious customers, the hypotheses were empirically tested. This data was used because this customers understood the value a brand can give to determined products or services offered, they also knew the implications climate and environment controversies had for companies and in consumers' minds, such as the events of oil spill in Mexico in 2010 caused by British Petroleum, and third, the understanding of brand value and sustainability encouraged them to know the difference of brands based on sustainability-based actions (Gupta, Czinkota and Melewar, 2013). Consumers perceived brand differentiation based on two components: brand value and brand knowledge, both related with sustainability concerns.

To perform the test, a pre-test was needed where costumers from the sample selected where asked to answer the survey, while they were answering the survey, they were also asked to give feedback on question they though inappropriate or questions they thought they could not answer. This allowed the researchers to adjust specific questions to make them more appropriate and helped with the inclusion of new question more suitable for them and the exclusion of other questions which were not being very useful for the study. In other words, the pre-test allowed the researchers to optimize and to perfect the questionary that was going to be the final test.

Finally, the test consisted of a list of eleven items where social orientation was utilized for landing precursors into sustainability with six items, environmental orientations had 4 items and economic scale had 3 items. The impacts of sustainability brand actions were measured by a total of 13 items. All respondents had to determine a score from zero to seven (scale was from totally disagree to totally agree) to each of the items. Using field surveyors to send out the research instruments, a total of 1200 respondent were approached and 460 of them participated in the research.

Table 3. Variable diagnostic

Variable description		Mean	Std Dev	Correlation
Knowledge about health related practices	53.517	154.067	0.320	Variance inflation factor
Knowledge about care for nature related practices	51.441	144.561	0.369	3.474
Knowledge about education related practices	53.771	162.355	0.356	2.208
Knowledge about pollution related practices	48.771	152.069	0.437	3.454
Knowledge about energy restoration practices	48.347	352.894	0.225	2.647
Knowledge about energy conservation practices	46.695	147.348	0.405	1.336
Knowledge about waste management practices	45.932	156.959	0.351	3.407
Knowledge about fair trade practices	52.288	161.330	0.464	2.867
Knowledge about recycling related practices	52.161	147.024	0.402	2.301
Knowledge about profitability related practices	50.805	151.794	0.392	2.535
Value for health of underprivileged	51.441	150.050	0.483	2.114
Value as care of resources	50.212	149.737	0.427	4.208
Value as care for education	52.034	149.359	0.392	3.098
Value as consciousness towards pollution	48.136	147.864	0.487	4.191
Value as consciousness towards energy restoration	50.763	492.610	0.161	3.237
Value as consciousness towards energy conservation	45.636	144.111	0.480	1.163
Value as consciousness towards environmental waste	46.441	138.087	0.471	3.450
Value as fair-trade practices	50.000	146.156	0.542	2.870
Value as recycling practices	50.508	144.309	0.500	2.881
Value as profitability	49.492	134.858	0.447	3.051

Taken from:"Embedding knowledge and value of a brand into sustainability for differentiation" Gupta, Czinkota and Melewar, 2013.

The results obtained supported the relationship of causation conceptualized between Brand value and Brand differentiation constructs as independent and outcome variable indicating convergent validity. All hypotheses proposed where validated excluding one (Energy Restoration). Meaning that all four-hypothesis mentioned before were accepted and validated. Customers are becoming sensitive to the three dimensions of sustainability (economic, social and environmental) and are widely open and interested about the role played by a company that specifically has a brand.

The social dimension of band differentiation statistics with its six items came out to be high with a 0.87, and the environmental dimension with the four items: energy restoration, energy conservation, pollution and waste management came out to be 0.69. The brand differentiation for its economic dimension of sustainability construct with its three items came out to also be reliable with a score of 0.79, and regarding the reliability of the brand value based on sustainability-based actions construct came out to be also very high. The social dimension of brand value came out to be 0.91, while environmental dimension of brand value without refinement again scored a low 0.56 and the refined construct of environmental brand value with 3 items (after removal of energy restoration) came as a result to be 0.87 (Gupta, Czinkota and Melewar, 2013).

Also, the correlation score between energy conservations and waste management actions of the brand from the environmental perspective led to brand differentiation with a calculated score of 0.68 and 0.72 reflecting a very positive relationship. On the other hand, Recycling from the economic context of sustainability indicated weak or poor correlation with scores of 0.60 and 0.58 for both brand knowledge and brand value (Gupta, Czinkota and Melewar, 2013).

The empirical findings reflects that branding based on sustainability concerns when conceptualized by marketing managers from a sustainability perspective can increase brand value of a company and create and important brand differentiation (Gupta, Czinkota and Melewar, 2013). Companies should get into sustainability from a brand value perspective in-order to increase their brand value and gain brand preferences of customers in a turbulent market environment. In conclusion, brand value and brand knowledge that reacts to current needs of society, customers and future needs of society will increase band value and make a brand more attractive for stakeholder, customers, and investors.

Another important reference for our research was Flammer (2013), with her paper "Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors. The aim of the study was to understand and analyze shareholders sensitiveness around corporate news related to environmental activities in the US from 1980 to 2009. On her research, according to the belief that environmental corporate social responsibility (CSR) provides businesses with new and competitive resources, Flammer (2013) proposed eight hypotheses where we can highlight: Hypothesis 1: Shareholders react positively to the announcement of eco-friendly corporate initiatives. Hypothesis 2: Shareholders react negatively to the announcement of eco-harmful corporate events. Hypothesis 3: Shareholders ' negative reaction to the announcement of eco-harmful corporate events increases over time. Hypothesis 4: Shareholders' positive reaction to the announcement of eco-friendly corporate initiatives decreases over time (Flammer, 2013).

The stock market's reaction to the release of environmental related corporate news was studied in order to test the hypotheses. Flammer (2013) utilized Factiva, one of the largest newspaper databases, to look for the Wall Street Journal (WSJ) for relevant press coverage related to companies environmental news, and the stock market data was gathered from the Center for Research in Security Prices (CRSP). To obtain the stock market reaction a cumulative abnormal return average was analyzed from the timeframe mentioned before. Then, CAR was used, which is a measure used to know how much a stock price deviates from its expected value during an event window (Flammer, 2013).

Flammer, (2013) in her results identified that companies that were reporting a positive behavior toward the conservation of the environment, had an increase in the value of their stocks, while companies who were having irresponsible actions toward the environment, were having a significant reduction of their stocks price. The data obtained in the results backs up her hypotheses proposals: the negative stock market reaction to environmentally destructive activity was increased over time, while the favorable reaction to environmentally benign measures declined. Second, Flammer (2013) proposed that environmental CSR is a resource with diminishing marginal returns and traits similar to insurance, meaning, companies with a wider stock of environamental resources may be less benefitted from performing sustainable initiatives. Simultaneously, such companies could experience fewer losses if an eco-harmful occurs, since they are better insured for them.

In line with this viewpoint, Flammer (2013) found that companies with higher levels of environmental CSR have a less positive (negative) stock market reaction to environmentally favorable (harmful) occurrences. The more that becoming green is institutionalized as part of govenrmet law, the more that eco- harmful behavior has a negative effect on the Brand value of companies, because they will start being punished for not following the rules. Likewise, the more that companies enact the institutional laws of becoming green, the less that shareholders reward firms for eco-friendly initiatives (Flammer, 2013).

8. Conclusions

Famous author Stephen King stated, "a product is something that is made in a factory, while the brand is what consumers buy" and it is precisely what this research helped conclude, and that is precisely what brand value means, it is the value of the brand given by what surround them (customer, stakeholders, society, etc). After addressing the research and results mentioned above, it can be concluded that currently companies seek to excel to be able to achieve the success established at the beginning and foundation of the business, so they must implement various strategies and tools to reach consumer tastes.

Undoubtedly, corporate environmental initiatives, as it has been seen, represents an opportunity for companies to get closer to their customers and their future consumers in a way not seen before. This research proposed and tested three hypotheses: i) Environmental innovation has a positive impact on corporate brand value, ii). The greater the emission reduction ability of a firm is, the higher the corporate brand value will be and, iii). The greater the ability of a firm to use fewer natural resources is, the greater the corporate brand value will be. The research was completed and effectively showed the positive influence of these three environmental activities have on the brand value of industrial companies, demonstrating that companies that perform and are good at reducing emissions, innovate environmentally and reduce the use of natural resources will have a higher brand value. Also, this research gives a clear path for companies on what to do to increase their brand value and therefore increase their performance in their respective industries, there is a clear and effective solution.

The influence of the three variables; Environmental innovation, Emission Reduction and Resource use are fundamental for the brand value of companies, as they were described, they can help generate a competitive advantage and a difference between companies in the same industry. With all these corporate environmental initiatives, companies will be able to increase the number of customers, investors, thresholders, and followers they have, because the trust in the brand will be even higher making customers feel closer to the brand, loyal and proud to consume it in their respective ways.

Corporate environmentalism has different types, as described throughout the work, giving companies a wider "catalog" of alternatives to choose which one they want and are able to apply to their company and to help the environment. In recent years, society has sought to relate more to caring for the planet and for the future generation, something that is not easy to do, but companies involved with sustainability initiatives will help preserve and achieve the goal. Customers must push companies to the change; they are a fundamental part of the chain and are the ones who decide consumer trends. For this reason, throughout the work an important emphasis was made that the value of the brand today is fundamental since it constitutes in a very significant way the product and / service that it represents. So, improving brand value should be a priority for any company, the consumer operates within a context full of brands offering similar products and services, so the decision to choose one or another is complex, since the pros and cons are analyzed or checked, but currently without a doubt, corporate environmental initiatives such as the ones presented throughout the paper with the three hypotheses proposed in the methodology and the other hypotheses presented by similar researches, enhance the brand equity and value of companies, giving them an advantage over their competitors and increasing companies stock price.

As a result, the findings of this study add to previous research by giving real evidence of how various forms of corporate environmental initiatives help industrial companies establish better corporate brand value. Earlier B2B branding research took an internal perspective and proved the importance of a company's internal resource base in creating and increasing the companies brand value. In contrast, this research took an outsider's perspective, mentioning that both theoretically, empirically in a quantitative and qualitative manner, that the natural environment's restraints on industrial enterprises can also be a source for enhancing and creating brand value. Brand value and brand knowledge that reacts to current needs of society, customers and future needs of society will increase band value and make a brand more attractive for stakeholder, customers, and investors. Also, while all important areas of corporate environmentalism contribute favorably to developing a strong brand, according to Rahman, Rodriguez & Faroque (2021) emission reduction activities are the ones that have less impact on the brand value of the companies. On the other hand, according to Gupta, Czinkota and Melewar (2013) energy conservation sustainable activities are the ones that have less positive impact on the brand knowledge and brand value of companies.

Now, because shareholders care about environmentally friendly and destructive company strategies, management science research could benefit from explicitly including environmental factors into managerial decision making. From a policy point of view, legislators may benefit from coordinating environmental regulations with firms; since legislators and stockholders appear to share very similar core views on the environment and increasing cooperation could be positive. As analyzed throughout the whole document, it can be said, this is the future of society, where companies with sustainability initiatives help preserve the planet and reduce the industrial and human footprint (Flammer, 2013). By doing this their relationship with their consumers, stakeholders and overall people will be better and will be reflected on growth and the brand value of each company.

Finally, his type of work allows people to acquire more knowledge about real life situations that happened to very important companies, and from which can be taken many learnings, that will eventually help other cope out with future or present problems to solve. The intention of this document is to serve as a reference for future researchers and businesspeople, since this is a very interesting topic and should be further studied.

8.1 Limitations and Future directions.

We consider it is pertinent that the methodology used to develop this document can be taken into account, since a literature review allows us to better understand the issue presented. Also, it would be useful to take the alternative of using a methodology where surveys are applied or questionnaires to people who can give their personal opinion on whether the influences of the sustainability initiative are related to that of brand value and if they are more keen to consume product or services from a company who have sustainability initiatives in their business instead of consuming products from a company who does not have any.

This type of paper show that there are numerous areas that can be related to corporate sustainability for boosting brand value and how communicate to customers the company's care and sense of responsibility for societal requirements. The influence of sustainability-based branding actions on the overall performance of the brand is the most essential factor that may require immediate attention. Also, the brand's success can be examined separately for both intangible and tangible characteristics. In the form of longitudinal study, it would also be beneficial to investigate customers' perceptions of the impact of embedded sustainability brand initiatives on the health of any brand over an extended period of time.

The evidence, the new scientific knowledge and the technological possibility of integrally evaluating phenomena previously considered as two separate things, will be very relevant in the future to help identify the changes that may occur between sustainability initiatives and the influence it may have on brand value, making it one of the most relevant points to consider for future directions that would have research papers or projects with a similar topic to the ones presented. Ultimately, future research should take into account the potential instability of a brand's developed brand value. A single employee with ignominious actions or the occurrence of a series of unfortunate events might result in the loss of a whole depot of brand benefits.

9. References

Aaker, D. (1996). El éxito de tu producto está en la marca. México: Prentice Hall

Agus Harjoto, M. and Salas, J. (2017), "Strategic and institutional sustainability: corporate social responsibility, brand value, and Interbrand listing", *Journal of Product & Brand Management*, Vol. 26 No. 6, pp. 545-558.

Ahmed, A., Angelo, F. D., Jabbour, C. J. C., & Galina, S. V. (2012). Environmental innovation: in search of a meaning. *World Journal of Entrepreneurship, Management and Sustainable Development*.

Ajour El Zein, S., Consolacion-Segura, C., & Huertas-Garcia, R. (2020). The role of sustainability in brand equity value in the financial sector. Sustainability, 12(1), 254.

Ameer, R.; Othman, R. Sustainability practices and corporate financial performance: A study based on the top global corporations. J. Bus. Ethics 2012, 108, 61–79.

Baalbaki, Sally & Guzman, Francisco. (2016). Consumer-based brand equity.

Backhaus, K., Steiner, M., & Lügger, K. (2011). To invest, or not to invest, in brands? Drivers of brand relevance in B2B markets. *Industrial Marketing Management*, *40*(7), 1082–1092. https://doi.org/10.1016/j.indmarman.2011.09.002

Blackwelder, Britt, Katherine Coleman, Sara Colunga-Santoyo, Jeffrey S. Harrison, and Danielle Wozniak. The Volkswagen Scandal. Case Study. University of Richmond: Robins School of Business, 2016.

Capezio, A., Shields, J., & O'donnell, M. (2011). Too good to be true: Board structural independence as a moderator of CEO pay-for-firm-performance. Journal of Management Studies, 48(3), 487–513. https://doi.org/10.1111/j.1467- 6486.2009.00895.x

Carrillo-Hermosilla, J., Del Río, P., & Könnölä, T. (2010). Diversity of eco-innovations: Reflections from selected case studies. Journal of Cleaner Production, 18(10–11), 1073–1083. https://doi.org/10.1016/j.jclepro.2010.02.014

Chen, Y. (2010). The Drivers of Green Brand Equity: Green Brand Image, Green Satisfaction, and Green Trust. *Journal of Business Ethics, 93*(2), 307-319. Retrieved February 5, 2020, from www.jstor.org/stable/40605343

Cheung, A. W. K. (2011). Do stock investors value corporate sustainability? Evidence from an event study. Journal of Business Ethics, 99, 145-165.

Cooper, S. A., Raman, K. K., & Yin, J. (2018). Halo effect or fallen angel effect? Firm value consequences of greenhouse gas emissions and reputation for corporate social responsibility. *Journal of Accounting and Public Policy*, *37*(3), 226-240.

Consolandi, C., Jaiswal-Dale, A., Poggiani, E., & Vercelli, A. (2009). Global standards and ethical stock indexes: The case of the Dow Jones Sustainability Stoxx Index. Journal of Business Ethics, 87, 185-197

Cretu, A. E., & Brodie, R. J. (2007). The influence of brand image and company reputation where manufacturers mar- ket to small firms: A customer value perspective. Industrial Marketing Management, 36(2), 230–240. https://doi.org/10. 1016/j.indmarman.2005.08.013

Delgado-Ballester, E. and Luis Munuera-Alemán, J. (2005), "Does brand trust matter to brand equity?", *Journal of Product & Brand Management*, Vol. 14 No. 3, pp. 187-196. https://doi.org/10.1108/10610420510601058

Doran, J., & Ryan, G. (2016). The importance of the diverse drivers and types of environmental innovation for firm performance. *Business strategy and the environment*, *25*(2), 102-119.

Dow Jones Sustainability Indices. (2013). Overview.

Escobar, S. (2002). La Equidad de Marca “Brand Equity” Una Estrategia para Crear y Agregar Valor. Universidad ICESI, 1, 35-41.

Flammer, C. (2013). Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors. The Academy of Management Journal, 56(3), 758-781. Retrieved August 22, 2021, from http://www.jstor.org/stable/43589942

Forbes.com. (2020). *Building Brand Equity*. [online] Available at: https://www.forbes.com/sites/propointgraphics/2017/07/08/building-brand-equity/#7f7375cd6e8f [Accessed 5 Feb. 2020].

Frame, E., Martínez, E., Matute, J. (2013),Green marketing in B2B organisations: An empirical analysis from the natural-resource-based view of the firm,Journal of Business andIndustrial Marketing.

Fraj, E., Martínez, E., & Matute, J. (2013). Green marketing in B2B organisations: An empirical analysis from the natural-resource-based view of the firm. *Journal of Business & Industrial Marketing*. https:// doi.org/10.1108/08858621311330245

Francisco Székely, Marianna Knirsch, (2005). Responsible Leadership and Corporate Social Responsibility: Metrics for Sustainable Performance, European Management Journal, Volume 23, Issue 6, 2005, Pages 628-647,ISSN 0263-2373, https://doi.org/10.1016/j.emj.2005.10.009

Gupta, S. (2016). Enhancing brand equity through sustainability: Waste recycling. *Thunderbird International Business Review*, *58*(3), 213-223.

Gupta, S., Czinkota, M., Melewar, (2013) Embedding knowledge and value of a brand into sustainability for differentiation, Journal of World Business, Volume 48, Issue 3, 2013, Pages 287-296, ISSN 1090-9516, https://doi.org/10.1016/j.jwb.2012.07.013.

Gupta, S., Foroudi, P., & Yen, D. (2018). Investigating rela- tionship types for creating brand value for resellers. *Industrial Marketing Management*, *72*, 37–47. https://doi. org/10.1016/j.indmarman.2018.03.012

Haanaes, K. (2016). Why all businesses should embrace sustainability. IMD. [online] Available at: https://www.imd.org/research-knowledge/articles/why-all-businesses-should-embracesustainability/ [Accessed 16 Feb. 2021].

Hart, Stuart L., & Dowell, Glen. (2011). Invited Editorial: A Natural-Resource-Based View of the Firm: Fifteen Years After, Editorial, Journal of Management, pp. 1464-1479. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=65152028&lang=es&site=ehost-live

Hart, Stuart L. (1995). A Natural-Resource-Based View of the Firm. The Academy of Management Review, 20(4), 986-1014.

Hui-Ju Wang. (2017). A brand-based perspective on differentiation of green brand positioning : A network analysis approach. Management Decision, 55(7), 1460–1475. https://doi-org.ez.urosario.edu.co/10.1108/MD-04-2016-0251.

Ishaq, Muhammad Ishtiaq & Di Maria, Eleonora. (2020). Sustainability countenance in brand equity: a critical review and future research directions. Journal of Brand Management. 27. 10.1057/s41262-019-00167-5.

Iwata, H., & Okada, K. (2011). How does environmental performance affect financial performance? Evidence from Japanese manufacturing firms. *Ecological Economics*, *70*(9), 1691-1700.

Jarque, Eduardo (2019). Corporate Social Responsibility, Distribution Efficiency, and Environmental Sustainability by the World's Largest Bakery Business Group: Grupo Bimbo's Green Energy Development

Jayachandran, S., Kalaignanam, K., & Eilert, M. (2013). Product and environmental social performance: Varying effect on firm performance. Strategic Management Journal, 34, 1255-1264.

Jin Z, Hewitt-Dundas N, Thompson NJ. 2004. Innovativeness and performance: Evidence from manufacturing sectors. Journal of Strategic Marketing 12(4): 255-266. DOI: 10.1080/0965254042000308075.

Lash, J., & Wellington, F. (2007). Competitive advantage on a warming planet.

Louchran, V. and Kangis, P. (1994), "Commentary: Gift Packaging in Duty-free Markets – Environmentalism and Brand Equity", *Journal of Product & Brand Management*, Vol. 3 No. 3, pp. 5-7. https://doi.org/10.1108/10610429410067379

Machiba T. (2011) Eco-Innovation for Enabling Resource Efficiency and Green Growth: Development of an Analytical Framework and Preliminary Analysis of Industry and Policy Practices. In: Bleischwitz R., Welfens P., Zhang Z. (eds) International Economics of Resource Efficiency. Physica-Verlag HD. https://doi.org/10.1007/978-3-7908-2601-2_19

Misra, S. and Panda, R. (2017), "Environmental consciousness and brand equity: An impact assessment using analytical hierarchy process (AHP)", *Marketing Intelligence & Planning*, Vol. 35 No. 1, pp. 40-61. https://doi.org/10.1108/MIP-09-2015-0174

Montiel, Ivan & Delgado-Ceballos, Javier. (2014). Defining and Measuring Corporate Sustainability: Are We There Yet?. Organization &amp Environment. 27. 113-139.

10.1177/1086026614526413. Avalable at: https://www.researchgate.net/publication/262766688_Defining_and_Measuring_Corporate_Sustainability_Are_We_There_Yet

Nielsen, (2018). Sustainability sells: linking sustainability claims to sales. [online] Available at: https://www.nielsen.com/us/en/insights/news/2018/sustainability-sells-linking-sustainabilityclaims-to-sales.html [Accessed 16 Feb. 2021].

Radhouane, I., Nekhili, M., Nagati, H. and Paché, G. (2018), "The impact of corporate environmental reporting on customer-related performance and market value", Management Decision, Vol. 56 No. 7, pp. 1630-1659.

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*, 1-17.

Reid, A., & Miedzinski, M. (2008). Eco-innovation. *Final report for sectoral innovation watch. Europe Innova. Technopolis group*.

Riechmann, J. (2003). Cuidar la T (t)ierra. Políticas agrarias y alimentarias sostenibles para entrar en el siglo XXI. Barcelona: Icaria

Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. The Stata Journal, 9 (1), 86–136. https://doi.org/10.1177/1536867X0900900106

Sarkar, A.N.. (2013). Promoting Eco-innovations to Leverage Sustainable Development of Eco-industry and Green Growth. Eur. J. Sustain. Dev.. 2. 171-224. 10.14207/ejsd.2013.v2n1p171.

Trejo, D. (24 de Octubre de 2015). Comunicación de crisis: Caso Volkswagen e impacto en la imagen de marca “Alemania”. David Trejo. Available at:

http://davidtejo.com/2015/10/comunicacion-de- crisis-caso-volkswagen-e-impacto-en-la-imagen-de-marca-alemania/

Porter, M. E., and Van der Linde, C. (1995).Toward a new conception of the environmentcompetitiveness relationship. The Journal of Economic Perspectives

Valente, M. (2012). Theorizing firm adoption of sustaincentrism. Organization Studies, 33, 563-591.

Wang, Y. J., Capon, N., Wang, V. L., & Guo, C. (2018). Building industrial brand equity on resource advantage.

Yu, M., Liu, F., Lee, J. and Soutar, G. (2018), "The influence of negative publicity on brand equity: attribution, image, attitude and purchase intention", *Journal of Product & Brand Management*, Vol. 27 No. 4, pp. 440-451. https://doi.org/10.1108/JPBM-01-2017-1396