

Sustainability and Brand Heritage in B2B Marketing

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Abstract:

This study examines the interplay between environmental sustainability communication, brand heritage, and their influence on brand equity in the steel industry within the B2B market. The research employed a quantitative approach to investigate the impact of environmental sustainability communication on brand equity, considering the moderating effects of brand trust and the perceived need for sustainable suppliers. Data is collected of 92 B2B buyers through a questionnaire-based survey, and a between-subjects design is used to measure the effects of environmental sustainability communication on brand equity.

The findings indicate that, in the context of a heritage brand in the steel industry, environmental sustainability communication does not have a discernible impact on brand equity. However, the study uncovers a significant moderating effect of the perceived need for sustainable suppliers (PNSS) on this relationship. This highlights the importance of contextual factors, such as the perceived need for sustainable practices within the industry, in shaping the impact of environmental sustainability communication on brand equity.

By challenging the conventional belief that environmental sustainability communication universally impacts brand equity positively, this study offers practical implications for managers to reassess resource allocation for sustainability communication based on negative sentiments and industry priorities. The research suggests the need for in-depth qualitative analysis to gain a more nuanced understanding of consumer attitudes and perceptions and recommends expanding the scope to compare the effects of environmental sustainability communication on brand equity across different industries.

Contents

1. Introduction.....	5
2. Literature Review	8
2.1 Brand Equity	8
2.2 Brand heritage.....	10
2.3 Defining Environmental Sustainability Communication.....	12
2.4 The Emergence of Environmental Sustainability Communication.....	13
2.5 Outcomes of environmental sustainability communication	13
2.6 Sustainability Challenges in the Steel Industry.....	14
2.7 Factors Influencing the Effectiveness of Environmental Sustainability Communication.....	16
2.8 Brand trust and environmental sustainability communication	17
2.9 The role of PNSS in Message Effectiveness	18
3. Conceptual Model	20
4. Methodology	21
4.1 Introduction.....	21
4.2 Research design.....	21
4.3 The design of the text.....	21
4.3.1 Heritage section	21
4.3.2 Experimental condition: Sustainability efforts section	23
4.3.3 Control condition: Neutral section	24
4.4 The design of the questionnaire.....	24
4.5 Measures	25
4.5.1 Measurement of Brand Equity	25
4.5.2 Measurement of Brand Trust	26
4.5.3 Measurement of message credibility Control variable	26
4.5.4 Measurement of Perceived Need for Sustainable Suppliers.....	26
4.5.5 Measurement of Brand Heritage	27
4.6 Sample and procedure	27
4.7 Data collection.....	28
4.8 Data screening.....	28
5. Results	30
5.1 Sample	30
5.2 Randomization and Counterbalancing:	30
5.3 Dimensionality and reliability of the construct	31

	4
5.4 Analyses.....	32
5.5 Hypothesis testing.....	33
5.6 Control variables.....	34
6. Discussion.....	35
6.1 Introduction.....	35
6.2 Main Research question.....	36
6.3 Theoretical contributions.....	38
6.4 Managerial implications.....	40
6.5 Limitations and Suggestions for Further Research.....	41
References.....	43

1. Introduction

The modern B2B landscape is characterized by a high level of competitiveness, clients have more knowledge, a broader range of choices, and therefore elevated expectations. This poses a task for marketers dealing with industrial products, as they must put in additional work to differentiate their offerings and prevent them from being viewed as common. To stand out within this increasingly competitive environment, B2B marketers are adopting branding as a tactic to set themselves apart from their rivals (Michell et al., 2001).

Brand equity serves as a valuable and intangible asset that plays an important role in gaining and maintaining sustainable competitive advantage of successful companies operating within such fiercely competitive market landscapes (Voleti et al., 2008). Brands with strong brand equity can charge a premium price in the consumer market (B2C) for their products (Anselmsson et al., 2007; Lassar et al., 1995). While research suggests that managers often perceive this effect as applicable solely to the consumer market due to the perception that industrial buyers are trained to make rational, business-focused decisions, without emotional or other irrelevant factors (Bendixen et al., 2004), it is worth noting that brand equity also has an effect on the repurchase frequency and willingness to pay a premium among industrial buyers (Roberts & Merrilees, 2007; Taylor & et.al, 2007).

Heritage is one of the components of brand identity that can enhance brand equity (Aaker, 1996). Brand heritage encompasses several facets, including “a brand's track record, longevity, core values, use of symbols, and the organizational belief in the importance of its

history” (Urde et al., 2007) Within the steel industry these heritage brands, with their deep-seated historical significance in the trajectory of industrialization, often grapple with a dual identity. On one hand, they embody the legacy of innovation and progress that has shaped modern societies (Birat, 2018; Yellishetty et al., 2011). On the other, they bear the weight of negative historical associations with environmental impact (Sugita, 2008). The latter can lead to a negative perception about the companies environmental impact. These historical associations can contribute to a less favourable perception of these companies concerning their environmental impact.

Stakeholders increasingly prioritize social responsibility and decreasing environmental impact, prompting organizations to become more environmentally responsible (Gajdzik & Wolniak, 2021; Trivedi et al., 2018). The values that were common then are not the same values as now, being sustainable is becoming increasingly important. The imperative to adopt environmentally responsible practices has led brands across sectors to infuse sustainability into their communication strategies, taking part in Environmental Sustainability Communication. Environmental sustainability communication is defined here as the intentional sharing of business practices that prioritize environmental responsibility, emphasizing transparency and education in the exchange of information. This emphasis on sustainability in marketing is not only an ethical consideration but also a strategically important with the potential to enhance brand value, firm performance, return on investment, market value, and corporate brand reputation (Kumar & Christodouloupoulou, 2014; Luo & Bhattacharya, 2006; Hansen, Samuelsen, & Silseth, 2008). However, This might not be the right strategy for heritage brands within the steel industry, as Environmental Sustainability Communication might not be aligned with the overall industry’s image of having an adverse environmental impact. The steel industry has historically accounted, and still does, for a substantial portion of global industrial energy consumption, primarily reliant on fossil fuels

like coal, leading to significant CO₂ emissions. Additionally, the steel industry generates considerable waste, but many by-products can be recycled. However, increased steel production contributes to environmental challenges, including solid waste, air pollution, and potential ecosystem contamination. Considering that the heritage of these brands is rooted in longevity and stability (Pecot & De Barnier, 2017), where longevity, encompassing the company's duration and enduring heritage-related qualities, is linked with the historical pollution of the steel industry, and stability focuses on maintaining core values that may not align with current sustainability norms, there is a potential conflict with the practice of environmental sustainability communication.

While the individual topics of **brand heritage, sustainability messaging and the environmental situation** throughout recent history in the steel industry have been extensively discussed in the literature, the interplay between these three topics is not yet been researched. Therefore, it is interesting to see if these three concepts interact and influence each other, when it comes to brand equity. This research will to provide valuable insights, helping managers in the steel industry make informed decisions about whether to adopt environmental sustainability communication. While positive outcomes in the B2B sector are evident when assessing the impact of environmental sustainability communication in isolation—resulting in a competitive advantage through increased brand trust (Casidy & Li, 2022) and enhanced brand image (Casidy & Li, 2022)—the interplay among these factors might result in different outcomes. Thus, leading to the research question: *“How does environmental sustainability communication impact the brand equity of heritage brands in the steel industry, considering the moderating effects of brand trust and the environmental context?”*

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2. Literature Review

2.1 Brand Equity

The term Branding stems from the way farmers branded their animals with a hot iron marking their ownership (Kapferer, 1994). Although contemporary branding does not literally involve branding with hot irons, companies do want to set their product or company aside from the competitors by marking it. A useful conceptualisation is “as a bundle of tangible and intangible features (Park and Srinivasan, 1994), which increase the attractiveness of a product or service beyond its functional value” (Farquhar, 1989). The term brand equity is used to describe the idea that brands enhance the value of products. (Pappu & Quester, 2006).

Brand equity, a concept that emerged in the early 1990s, has been subject to various definitions by different researchers. Aaker (1991) characterizes it as "a set of assets and liabilities linked to the brand" that can either add or subtract value provided by a product or service to a firm and its customers. Keller (1993) views brand equity as the unique marketing effects attributable to a brand. Ailawadi et al. (2003) define it as the situation when more consumers are willing to pay a premium for a branded offering compared to a non-branded one. Raggio and Randle (2007) propose that brand equity is essentially what the brand means to the consumer, while Yoo et al. (2000) describe it “as the incremental value added to a product solely by its brand name.”

Measuring brand equity is crucial for effective brand equity management. Various frameworks have been developed, including the financial perspective, which estimates the brand's value as a financial asset on the company's balance sheet, relying on projections of future cash flows (Farquhar et al. 1991; Simon and Sullivan 1990). However, this perspective has faced criticism for overlooking the importance of creating brand value with customers. Therefore, this study will focus on the consumer perspective of brand equity.

The concept of brand equity has undergone multiple refinements and iterations, resulting in variations in its definitions and components. Despite these differences, there is a

common thread among these frameworks: an increase in brand equity contributes to added value. A strong brand can add value to a product or service beyond its functional attributes, making it more appealing to customers and potentially justifying premium pricing. While compelling arguments can be made for different frameworks such as the ones of Aaker (1991) and Kapferer (2007), this research adopts the framework proposed by Keller (1993).

Selecting the Keller framework is justified for two compelling reasons. Firstly, Keller's model has gained substantial recognition and adoption within the marketing field, making it a widely accepted and trusted framework among practitioners and researchers. The Customer-Based Brand Equity (CBBE) model, as proposed by Keller, adopts a customer-centric approach, focusing on how consumers' perceptions and experiences shape brand equity. This customer-oriented perspective makes it suitable for studying the impact of environmental sustainability communication on brand equity, because it's about all consumer responses and attitudes.

Moreover, Keller's CBBE model offers a comprehensive and well-structured framework for understanding brand equity, encompassing two dimensions: brand awareness and brand image. Brand awareness refers to the ability of consumers to recognize or recall a brand, while brand image is a set of brand associations. Brand associations are the thoughts, feelings, perceptions, and attitudes linked to a brand. While brand awareness is primarily concerned with recognition and recall, brand image encompasses a broader array of associations related to the brand. So, logically, brand awareness does involve some level of brand associations, but it's usually more narrowly focused on basic recognition and recall compared to the richer set of associations captured under brand image. The concept of brand associations is based on the widely accepted theory associative model (Raaijmakers & Shiffrin, 1981; Fukushima, 1984). It explains that associations are formed within the brain, through intricate networks of connections. Concepts, like brands, are stored and retrieved within those networks. When a consumer encounters a brand cue (e.g., a brand logo or a product name), it triggers the

spreading of activation through their mental network of brand associations. When a brand attempts to convey a message or image that contradicts or deviates from its existing associations, it introduces a level of inconsistency, which confuses consumers (Loken & John, 1993; Milberg et al., 1997). This has a negative effect on brand equity.

2.2 Brand heritage

Building brand associations for a positive impact on brand equity can be achieved by intentionally embracing a company's history and traditions to establish a distinct and long-lasting brand identity. This particular form of branding is commonly referred to as heritage branding. Unlike the concept of history, heritage branding isn't just recollection of the past. Instead, it involves deliberate, romanticized, and positively portrayed selections from historical elements. Furthermore, these selections are also forward-looking, not solely focused on the past, as they aim to identify and adapt those relevant elements that can be effectively utilized in both the present and the future (Urde, 2007).

It is a concept that has gained quite some attention since it was first conceptualised by Aaker in 1995. The most used definition by scholars is that brand heritage “is a dimension of a brand’s identity found in its track record, longevity, core values, use of symbols, and particularly in an organisational belief that its history is important” (Urde et al., 2007). The more these dimensions are present in a company, the greater the degree to which a company possesses or exhibits brand heritage, also named Brand Heritage Quotient (HQ). Firstly, “track record” refers to a company's past performance. It shows the company's ability to fulfil its promises and demonstrate a consistent alignment with its stated values. In essence, it reflects the history of the company in delivering on its commitments and upholding its principles. “Longevity” is not just defined by how long the company has been in operation but also by the presence of heritage-related qualities and traditions within the organization's culture over a longer period of time. “Core values” are the most fundamental principles that drive the actions of the organisation. These values are deeply ingrained within the

organization and serve as a compass for how the company conducts itself. They are reflected in external communications as promises and commitments and guide internal behaviour, contributing to the company's identity and heritage over time. When discussing the "Use of symbols," heritage brands employ visual elements to visually convey and symbolize their past. These symbols should transcend mere identification; they should signify the company's underlying values and principles, becoming a powerful representation of its core identity and beliefs. Finally, "an organisational belief that its history is important" -shows the company's conviction that its historical legacy holds significance and value. It reflects a corporate culture that recognizes the importance of its past in shaping its present and future. Brand stewardship involves managing and overseeing a brand to ensure its consistency, integrity, and effectiveness. In maintaining a strong brand heritage quotient this is deemed indispensable. In Figure 1, the elements of brand heritage surround the concept of brand stewardship, which represents the fact that brand stewardship is at the core of leveraging and protecting HQ. Effectively conveying a brand's heritage to consumers can enhance brand equity, resulting in reduced price sensitivity, increased brand recommendations, and a higher likelihood of purchase (Wiedmann et al., 2011; Wiedmann et al., 2013)."

Figure 1

The Five Dimensions of Brand Stewardship



Note. The brand stewardship framework is also known as the heritage quotient framework.

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2.3 Defining Environmental Sustainability Communication

In the extant literature the terms green, sustainable, eco-conscious and environmental have been used more or less interchangeably to describe practices, initiatives, and products that prioritize environmental responsibility and seek to minimize negative impacts on the planet. This study uses the terms environmental sustainable communication. It does not include the term eco-conscious. This is because the focus is on a specific practice rather than a mindset, as is the case with eco-consciousness.

Further, this study is more focused than the broad and multidimensional concept of sustainability. Sustainability encompasses the three pillars of sustainability as described by Elkington (1999). This includes not only environmental concerns but also social aspects like employee well-being, ethical practices, and community engagement, as well as the economic dimension, acknowledging the need for profitability in a company. Given that this thesis specifically examines environmental sustainability, the term environmental sustainability is employed to ensure clarity and precision in the research.

Another term that can be used is "green communication," which also refers to the environmental aspect of sustainability. However, it could imply that the communication itself is green, suggesting that the way information is conveyed aligns with sustainable principles, such as using less paper when delivering the text.

Lastly, the term "Communication" is appropriate because it implies the exchange of information, ideas, and values, which is the primary purpose of the text. It doesn't carry the commercial connotations associated with terms like "advertising" or "promotion" and aligns well with the educational and transparent aspects of sustainability messaging. This term is highly justified as the environmental initiatives portrayed in the text are measurable and have been executed without any exceptions. From this point on, the term "environmental sustainability communication" is used to incorporate the concepts I previously described.

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2.4 The Emergence of Environmental Sustainability Communication

Over the past two decades, sustainability has become a prominent focus in both academic and business domains, leading to the establishment of sustainability science as a distinct field (Kates et al. 2001; Komiyama and Takeuchi 2006; Schoolman et al. 2012; Kajikawa et al. 2014). In B2C markets, previous research has demonstrated that adopting environmental sustainability practices, including the prevention of pollution and the conservation of energy and resources, can enhance a firm's **brand equity** (Chen, 2009; Olsen et al., 2014). Adding to that, Manufacturers are now compelled to adopt sustainability practices in their operations as a result of the ever-increasing strictness of environmental regulations and the mounting pressure exerted by governmental and environmental protection agencies. (Esfahbodi et al., 2016).

2.5 Outcomes of environmental sustainability communication

In the B2B context, the effective communication of sustainability practices becomes crucial for firms aiming to gain a competitive edge through sustainability. Surprisingly, despite the significant marketing activities occurring in B2B markets, sustainability marketing has received less attention and practice among B2B firms (Chamorro et al., 2007; Sharma et al., 2010). This is remarkable considering that the majority of marketing activities, along with their economic value, occur in B2B markets (Vesal et al., 2021). Buyers in B2B markets often rely on their perceptions of the sustainability of their supply chain partners, and effective communications are vital in building demand for sustainable products and services (Simula et al., 2009; Zaušková et al., 2015). As a result, there is a growing trend among B2B firms to prefer environmentally-friendly suppliers, aligning with their corporate social responsibility commitments and regulatory compliance (Davis-Sramek et al., 2020; Thomas et al., 2020). A recent survey even indicated that a significant proportion of B2B buyers (up to 87%) prefer to purchase from firms that support sustainability (Forbes, 2021).

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Prior research has highlighted that adopting sustainable marketing strategies can enhance a firm's reputation, brand image, financial performance, and overall corporate brand reputation (Esty & Winston, 2009; Lash & Wellington, 2007; Vesal, Siahtiri, & O'Cass, 2021). Consequently, there is a growing call for research to explore the impact of B2B sustainability marketing, particularly focusing on the role of suppliers' sustainability positioning in influencing buyers' performance (Sharma, 2020).

2.6 Sustainability Challenges in the Steel Industry

“Brand heritage is deeply rooted in the company’s or product’s history” (Hakala et al., 2011). This might be a problem in the case of the steel industry. Within the context of the steel industry the longevity of a heritage brand automatically brings a long a history of pollution, waste and energy consumption.

One of the biggest concerns associated with the steel industry is its energy consumption. According to the International Energy Agency (IEA), the steel sector accounted for a staggering 17% of the energy consumption within the industrial sector in 2016. This heavy reliance on energy carriers, primarily coal, is responsible for approximately 27% of global industrial CO₂ emissions and around 5% of the entire man-made carbon dioxide emissions. Efficiency improvements have been more than offset by growing steel production, leading to a net increase in energy consumption and carbon emissions of this sector (IEA, 2016).

In 2010, it claimed a 5% share of global energy consumption. Fossil fuel is still a big part of that energy. In 2017, fossil fuels, including oil (32%), coal (27%), and natural gas (22%), still dominated the global energy landscape, leaving only 19% for renewables and nuclear energy (Enerdata, 2017). On average, the production of one ton of steel results in emissions of approximately 997 kilograms of carbon dioxide. This staggering statistic contributes significantly to the global carbon dioxide emissions, with the steel sector accounting for 4-5% of these emissions. The steel industry generates a substantial amount of

waste in the form of solid waste, including dust, sludge, slag, and gas. Each ton of iron produced in a blast furnace yields around 600 kilograms of such by-products.

The encouraging aspect is that many of these by-products can be recycled and repurposed. Gas can be reintegrated into the steel production process, blast furnace slag finds applications in cement production, and other by-products, such as sludge and dust, have versatile uses in various industries. This recycling not only minimizes waste but also demonstrates a commitment to environmental responsibility (World Steel Association, 2008). Increased steel production, alongside the consumption of energy and materials, contributes to a range of environmental consequences. These include heightened solid waste production, increased air pollution due to emissions from industrial plants, and contamination of surface and groundwater. Toxic elements further increase environmental concerns, posing risks to ecosystems and public health ("Benefits and Application of Nanotechnology in Environmental Science: An Overview," 2020).

This has led to evolving customer expectations in the corporate world. According to Drumwright (1994) Social responsibility and environmental concerns are increasingly important to stakeholders, including customers, employees, and investors. Many organizations are feeling pressure to be more environmentally responsible. The effectiveness of conveying a company's commitment to environmental responsibility lies in its communication strategies, as this is how individuals gather information about the organization's environmental efforts. The success of conveying of a company's commitment to environmental responsibility relies on effective communication, as this is primarily how individuals gather information about the organization's environmental efforts (Du et al., 2010). However, it is important to note that some companies may engage in deceptive or misleading practices, although this particular study does not explore the phenomenon of greenwashing.

2.7 Factors Influencing the Effectiveness of Environmental Sustainability Communication

In order for communication about environmental sustainability to be successful, perceptions of company and customer need to align (Kim & Ferguson, 2016). Managers try to create their own story, customers may not perceive it in the way managers intended it. This is because “some elements of brand heritage may be beyond the scope of managers' actions because they are embodied in an objective vision that leaves no room for subjective interpretation.” (Pecot & De Barnier, 2017). As for the case of the steel industry, this objective vision is that the steel industry is not environmentally sustainable. In other words, it is not possible to make a convincing case for the notion that the steel industry is historically sustainable. Consequently, there is a conflict between the company's efforts to communicate its environmental sustainability and the industry's historical perception of being unsustainable.

In addition to that, “corporate heritage brands, despite strong reputations, face the problem that comes with longevity, namely as being perceived as old rather than innovative” (Sørensen et al., 2018; Wiedmann et al., 2011). In the case of the steel industry this perceived oldness or outdatedness carries an additional negative implication. Beyond the potential decline in customer appeal and, ultimately, business performance (Sull, 1999), it also signals a lack of sustainability.

Taking this in to account, the previously highlighted positive effect of environmental sustainability communication is expected to be diminished, or maybe perhaps even disappear altogether. This leads to the first hypothesis:

- H1: Environmental Sustainability Communication from Heritage brands in the steel industry has a no effect on Brand Equity.

2.8 Brand trust and environmental sustainability communication

While brand heritage in this context shapes the way environmental sustainability communication is perceived, brand trust becomes important in the way it is eventually interpreted. Brand trust is the consumer's confidence and readiness to depend on the brand's capability to fulfil its promised function (Chaudhuri & Holbrook, 2001).

Whether people see an organization as environmentally responsible depends on what they think about its environmental actions, not just what it has actually done. In other words, the credibility of a company's communication about the environment plays a big role in whether people see it as genuinely committed to being environmentally friendly (Hunter and Bansal, 2007). This type of communication, referred to as "brand initiated communication intent on impacting people," aims to influence customers' perception of the company's sustainability and its commitment to being environmentally conscious (Dahlén & Rosengren, 2016).

Brand trust is a key factor in enhancing the effectiveness of messages related to environmental sustainability (Chatterjee & Chaudhuri, 2005). Consequently, this improvement leads to an improved perception of the brand within its respective category, making the message more noticeable and appealing. Additionally, brand trust also increases the likelihood of the message being heard and processed. Not only does it increase the effectiveness of the message, the study suggests that brands with a higher level of trust require less exposure to the message, resulting in more efficient communication.

In addition to that, trust also strengthens the relationship between the customer and the brand (Moslehpour et al., 2020). Lui et al. (2012) also found that Trust in a brand improves the quality of the Buyer-firm relationship and further asserts that it builds a durable relationship between the firm and the buyer. This trust fosters long-term relationships, leading to brand loyalty. This loyalty can translate into sustained positive perceptions even in the face

of sceptical environmental claims, as consumers are more inclined to give the brand the benefit of the doubt. Previous research has indicated that the trust consumers place in a brand is contingent upon the brand's reliability and integrity. (Moorman, Deshpande, and Zaltman 1993; Morgan and Hunt 1994). If people think the brand is integer, they wouldn't assume that they make false environmental claims.

This is further exemplified through research by Chaudhuri and Holbrook (2002) and Mauri and Minazzi (2013), indicating that high brand trust is associated with a favourable response and positive purchase intentions towards the brand. This suggests that when consumers trust a brand, they are more likely to respond positively to the brand's offerings and express an intention to make a purchase. This implies that high brand trust enhances consumers' perception of the benefits associated with a product. In the context of environmental claims, this could mean that when consumers trust a brand, they are more likely to believe in and perceive the positive environmental attributes claimed by the brand.

Therefore, it is hypothesized that, : H2: Brand trust moderates the effect of environmental sustainability communication on brand equity, such that the relationship is stronger when brand trust is high

2.9 The role of PNSS in Message Effectiveness

When trust in the brand and its conveyed messages is established, the need for sustainable suppliers becomes crucial in the weight of the effect of the message for B2B buyers. PNSS is the degree to which buyers feel there is a need to buy from sustainable suppliers. In simpler terms, individuals may believe in the message, yet remain indifferent to its importance. This could even be the case if the reader values sustainability, given that organizational buyers are driven by different incentives compared to individual buyers (Fraj et al., 2013).

For organizational buyers, who are not standalone decision-makers but are accountable to their company, the evaluation of sustainable suppliers becomes a strategic imperative (Grewal et al., 2015). Unlike individual customers who may make decisions independently based on personal preferences, Organizational buyers operate within company governance that extent beyond personal beliefs, like their believes about the environment (Veerabhadrapa et al., 2023). Their perceived need for sustainable suppliers comes from an external influence, unlike individual customers.

As organizational entities, Organizational buyers are held responsible for the choices they make on behalf of the company. Organizational buyers feel the need to prioritize factors such as cost-effectiveness, quality, and reliability over environmental sustainability, especially if they believe that the benefits of green products do not outweigh the costs (Veerabhadrapa et al., 2023). Additionally, organizational consumers may face institutional pressures that make it difficult for them to prioritize environmental sustainability, such as regulatory constraints, limited resources, and competing priorities, their needs are driven to what is economically viable, although their personal 'wants' can be a lot more environmentally friendly (Andersson et al., 2013). In the B2B setting, where decisions are partly based on organizational objectives, the perceived need for sustainable suppliers goes beyond personal beliefs. Because organizational buyers are not an standalone decision-making entity, they are held accountable by the company, they would respond differently to the effects of sustainability messaging than the more independently decision of a B2C customer. More than in the B2C environment, B2B buyers have to perceive a need for sustainable suppliers.

A high PNSS reflects a shared commitment to sustainability among buyers and suppliers. When companies communicate their sustainable initiatives with sustainable buyers, it demonstrates shared values and a collective effort toward environmental responsibility.

Buyers who perceive this alignment of values are more likely to trust the brand and develop a stronger emotional connection, thereby enhancing the brand's equity among environmentally conscious buyers (Andersson et al., 2013).

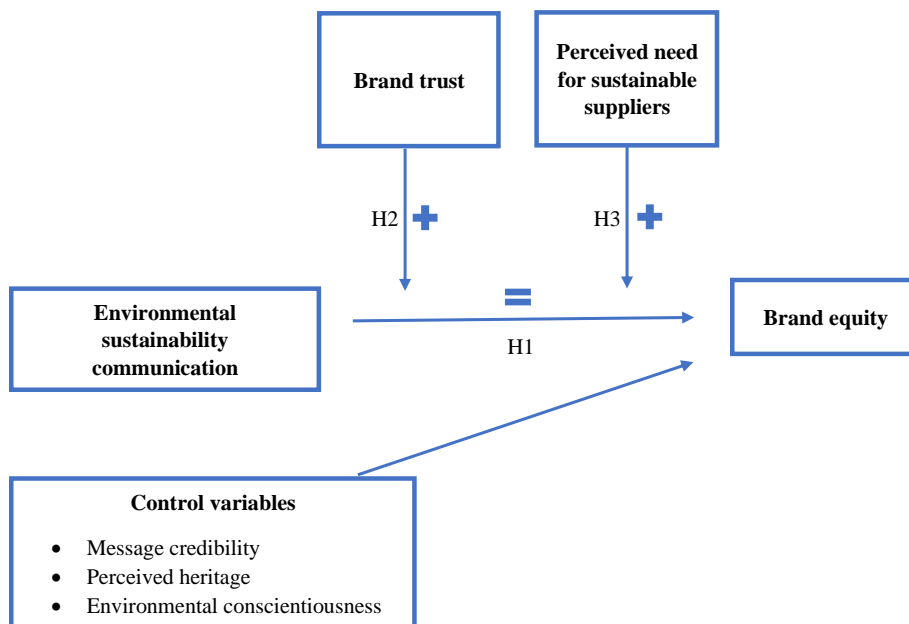
This all leads to the hypothesis H3:

Perceived need for sustainable suppliers moderates the effect of environmental sustainability communication on brand equity, such that the relationship is stronger when the perceived need is high..

3. Conceptual Model

Figure 2

Conceptual model



4. Methodology

4.1 Introduction

In order to test the hypotheses, a between-subjects experiment was employed, wherein participants were randomized between two distinct versions of a text describing a heritage company.

A questionnaire followed thereafter to measure the effects.

4.2 Research design

This research has opted to use one company as an example of a heritage brand in the steel industry. This because the alternative of making a prototype simply is not a viable option. Branding is done on past experiences and concepts like brand trust are build over time (Mogaji, 2021). Asking a respondent on their past experiences with a company that doesn't exist would not be sensible. Therefore, the selection of this specific company demanded careful consideration, closely meeting the fundamental attributes of a prototype heritage brand within the steel industry. Van Rooy & Co was picked as the heritage brand in the steel industry as it closely met of the requirements of being both a heritage brand and actively taking part in sustainable practices.

4.3 The design of the text

4.3.1 Heritage section

The text is made up of two sections and 304 words. The first section, includes the first 176 words known as the heritage section, is identical for both groups. The process of writing this part started with the collection of information about two aspects: the values held by individuals within the company and the company itself. This information was gathered through informal interviews and an examination of the Van Rooy & Co website. These two characteristics where then described in based on the specific traits of company van Rooy & Co. To accomplish this, the company must inherently possess these traits. Firstly, the company must exhibit longevity, and in this case, with 86 years of operation, surpassing the

average forecasted life-span of S&P 500 companies (Viguerie et al., 2021) by more than four times, the criterion for longevity is clearly met. Additionally, stability should be a prominent feature, and indeed, the company's ownership has remained unchanged since 1985, demonstrating a consistent and reliable presence. Moreover, without being dependable, trustworthy, and consistent, the company wouldn't have sustained itself for 86 years. Because of the distinct nature of brand heritage implementation, there are no pre-tested or standardized versions available. Nonetheless, the text is based on relevant theory and it was carefully crafted to align with the characteristics of a heritage brand as closely as possible.

Subsequently, the heritage characteristics of the company, adhering to predefined heritage criteria, were incorporated throughout the entire text. These criteria were based on the five dimensions of Urde (2007). However, from these five dimensions it is argued by Pecot and De Barnier (2017) that "longevity" and "stability" are the two primary dimensions of brand heritage that are most relevant and noticeable to consumers. Stability, as a dimension of brand heritage, refers to the idea that a brand has a sense of continuity and timelessness. It suggests that the brand has a strong connection to its past, present, and future, and that it is able to maintain a consistent identity over time. Stability is not necessarily related to the actual age of the brand, but rather to the perception of the brand as being reliable, trustworthy, and consistent (Pecot et al., 2019). It is distinct from the longevity dimension, which refers to the actual age of the brand and its ability to survive over time. They suggest that these dimensions are more directly related to what consumers perceive and value when it comes to a brand's heritage. Combining the gathered information with the specified criteria yielded three statements related to longevity and four statements related to stability, as illustrated in Table 8.

Table 8*Brand Heritage Statements in Van Rooy & Co Text*

Longevity	Stability
"Since as early as 1937, Van Rooy & Co has been a leading supplier of high-quality wire and wire products."	"But our heritage extends beyond just the long history. It is also a story of stability."
"Our nearly century-long history is evidence of our longevity"	"We not only uphold our values and promises to our customers, but we also strive to be innovative and future-proof."
"'Since 1937' featured in our logo says a lot about our history and reliability."	"We understand that stability does not mean stagnation, rather mastering the art of change while maintaining our core values." "This is our way of bridging the gap between the past, the present, and the future"

Note. This is a translation of the original dutch text.

The section following the brand heritage section will be different per participant.

Either a section containing the sustainability efforts of Van Rooy & Co or a section containing 'neutral' information about the company

4.3.2 Experimental condition: Sustainability efforts section

The sustainability section serves as the experimental manipulation, designed to assess the influence of environmental sustainability communication on brand equity. This portion of the text is an enumeration of van Rooy & Co.'s actual environmental sustainability initiatives,

including waste minimization, waste separation, renewable energy generation, and carbon reduction objectives. Again these are all true efforts, in the sense that they're not made up. This has two reasons, one because it is an actual company and the text is read by actual suppliers of the company it would be unethical to misrepresent (environmental) information (Israel, 2014). By providing false information about the company's sustainability practices may contribute to a misunderstanding of the company's actual impact on the environment. This can have implications for consumer choices and perceptions. The other reason is that buyers may be familiar with the actual efforts of the company and if they perceive inconsistencies with the communicated information, it may impact their responses. Thereby influencing the results (see Appendix A for full text)

4.3.3 Control condition: Neutral section

To mitigate potential confounding effects of text length on participants' responses, a neutral section was included in the control condition, containing the same number of words (128) as the sustainability section. This design choice ensures that any observed differences are more likely attributable to the content of the texts rather than variations in length. In the control condition, the second section of the text contains neutral information about Van Rooy & Co. This text, derived from actual information about the company, includes details about location, customer base, and product offerings. It is neutral in the sense of minimal expected impact on the dependent variable, brand equity (in the form of repurchase intention). Because location, customer base, and product offerings is assumed to be basic and pre-existing knowledge for participants or easily accessible to them. This minimizes the likelihood of this information influencing their perceptions significantly.

4.4 The design of the questionnaire

Data on buyers was gathered through the use of a questionnaire (See APPENDIX C). Using questionnaires offers several advantages (Morling, 2020). Questionnaires provide

structured response options, making it easier to quantify and analyse the data. This is important when doing statistical analysis. Furthermore, they are often more cost-effective compared to other data collection methods like interviews or focus groups, as they don't require extensive manpower or resources. But perhaps most importantly they can be administered remotely and at the convenience of the respondent. This is especially important in gathering data from buyers in steel industry, given their time constraints. Even the approximately 10 minutes required for survey completion had to be thoughtfully considered and scheduled by the participants. The questionnaire contained 24 closed questions and 1 open question. The questionnaire aimed to capture the underlying constructs of Brand equity (DV), Brand Trust (Moderator) and Perceived Need for Sustainable Suppliers (Moderator), as well as Demographics and Control Variables (CV).

The questionnaire will consist of the following parts in that order:

1. Demographic Questions
2. The manipulation: One of two versions of the text, either sustainable or neutral (IV)
3. Questions measuring repurchase intention (DV)
4. Questions measuring brand trust (Moderator)
5. Questions measuring message credibility (CV)
6. Questions measuring perceived need for sustainable suppliers (Moderator)
7. Questions measuring perceived heritage (CV)
8. Questions measuring environmental consciousness (CV)

4.5 Measures

4.5.1 Measurement of Brand Equity

Because Brand Equity is not something that can be measured directly (Mogaji, 2021),

this research uses Repurchase Intention is used as an outcome measure of Brand Equity.

Repurchase intention can be defined as an individual's opinion about buying from the same

company again (Ariffin et al., 2016). Repurchase intention is selected instead of Purchase Intention because of the fact that respondents have already made a purchase from the company under consideration, making it nonsensical to ask about their general purchase intention. Multiple studies indicate that brand dimensions of brand equity, positively affect repurchase intention (Aquinia & Soliha, 2020; Bojei & Hoo, 2012; Hellier et al., 2003).

4.5.2 Measurement of Brand Trust

A 7-point rating scale, developed by Chaudhuri and Holbrook (2001), was used to assess Brand Trust through a four-item index. The reliability of this brand trust index, measured by the coefficient alpha, was found to be .81, indicating high reliability. The scale ranges from "strongly disagree (helemaal mee oneens) =1" to "strongly agree (helemaal mee eens)=7,".

4.5.3 Measurement of message credibility

This variable is included as a Control variable. Message credibility refers to an individual's perception of how truthfull the presented message is (Appelman & Sundar, 2015). On a 7-point Likert scale, the message conveyed in the observed text appears to be authentic (authentiek), believable (geloofwaardig), and accurate (accuraat). Partipants were also asked about message credibility through an open question: "What is the reason you found the text credible or not credible?" to gain valuable insight in what people actually thought about the text and why they it was credible or not.

4.5.4 Measurement of Perceived Need for Sustainable Suppliers

Participants' perceived need for sustainable suppliers (PNSS) was measured by means of five items, translated to Dutch, from Paulraj (2011) study on a 5-point Likert scale:

- "We select suppliers based on their environmental competence"
- "Suppliers are selected based on their ability to support our environmental objectives"
- "We select suppliers based on their technical and eco-design capability"

- “We select suppliers based on their environmental performance”
- “We select suppliers based on their ability to develop environmentally friendly goods”

The reliability of this brand trust index, measured by the coefficient alpha, was found in the Paulraj (2011) study to be an alpha value of 0.96, which suggests high internal consistency.

4.5.5 Measurement of Brand Heritage

This variable is included as a Control variable. To evaluate the perception of the company as a heritage brand across two groups, two additional questions were introduced later in the survey. Participants were asked to assess on a 5-point Likert scale whether Van Rooij & Co is a company with heritage ('Van Rooij & co is een bedrijf met erfgoed') and to evaluate its longevity ('Van Rooij & Co heeft een zeer langdurige en ononderbroken geschiedenis').

4.6 Sample and procedure

The sample consists of Dutch buyers associated with the company “van Rooy & Co”, all of whom are attached to companies, ranging from big corporations to sole traders. They all fall in to the category business buyers, not consumers. It contains, horticultural infrastructure providers, Chemical companies, Landscapers, Assembly Companies, steel companies, ship repair companies and many more companies who use steel, in total the sample is taken from 1123 buyers.

The questionnaire was filled out online via the platform Qualtrics. It was made clear that the information that provide in this questionnaire was to be used for research purposes only and that it would not be used in a way that would allow the identification of individual responses. So that their privacy would be respected but also they would answer more honestly and less socially desirable. The participants were asked to carefully read the text and to

answer as honestly as possible and told there were no 'right' or 'wrong' answers. This to ensure that the text was processed properly and to limit the social desirable answers.

The questionnaire was completed online using the Qualtrics platform. Participants were explicitly informed that the information they provided in the questionnaire would be used for research purposes only and would not be used in a way that would allow the identification of individual responses. This approach was adopted not only to safeguard their privacy but also to encourage more honest and less socially desirable answers. Participants were instructed to carefully read the text and to answer as honestly as possible, assuring them that there were no right or wrong answers. This to ensure that the text was processed properly and minimize socially desirable responses.

4.7 Data collection

This sample was obtained through three sampling rounds. First an email blast was sent to the entire B2B customer base of the company which contains 1123 buyers. This was done via the marketing automatization platform MailChimp. Subsequently, one week after the initial email blast, a follow-up email served as a reminder to complete the survey. While this resulted in additional survey completions, the sample size remained insufficient. To address this, companies were randomly selected and contacted to participate in the survey. Due to time constraints, not all companies were called, with each call lasting approximately 5 minutes and achieving a success rate of about 1 in 3 calls. These efforts resulted in an initial sample of 159 respondents.

4.8 Data screening

This study has opted for Casewise deletion. Casewise deletion involves removing cases or respondents from the analysis if they have any missing responses. The nature of the

sample resulted in a lot of participants not finishing. They are really busy with day to day work so they drop out if they think its to long. Also they get a lot of surveys and only do it if its quick or they are motivated because they it's a survey of an important client. Data was excluded if the people did not finish the survey, since, this is also a sign that they are not fully focused on the survey. Also some participants did not get to see a text, those were also excluded. Finally, some participants did not fall in to the six products categories. They did not fill in follow-up questions about repurchase intentions, and because this was the most important variable, the dependent variable, they were also excluded. Moreover, by excluding participants who do not fall into any of the specified categories, the homogeneity of the sample is enhanced, which, in turn, can improve the internal validity. Finally, there were three fewer observations for the Repurchase Purchase Intention (RPI) construct compared to the others. This because those three people didn't fall into the category of the 6 products, that could be a reason to not fill in purchase intent. They might have skipped the question but filled in the rest. These cases 3 were deleted because they did not/weren't able to fill in the dependent variable making them not usable. The final step in ensuring consistency involves examining extreme values in age. No respondents provided extreme answers, and consequently, no participants needed to be excluded.

Due to a smaller sample size, due to the before mentioned reasons, it was opted to use the calculated factor scores for the analyses. Using factor scores in analyses can result in an increase in statistical power (Skrondal & Laake, 2001). Factor scores are composite variables that capture the common variance among a set of observed variables, thereby reducing measurement error and increasing the signal-to-noise ratio in subsequent analyses . This reduction in measurement error can lead to more reliable and precise estimates of the relationships between variables, which in turn can enhance the statistical power of the analyses.

5. Results

5.1 Sample

A descriptive analysis was conducted describe the final sample. The age distribution revealed a mean age of 47.73 years, with a minimum age of 25 and a maximum of 84 ($SD = 12.833$). Regarding gender distribution, the majority was male (85.87%). In the TextNeutral condition, there were 36 male participants, 5 female participants, and none who identified as "other." In the TextSus condition, there were 43 male participants, 7 female participants, and 1 participant identifying as "other."

Educational backgrounds were diverse within the sample. In the TextNeutral condition ($N=41$), participants reported the following educational levels: 9 with a middelbare school education, 10 with an MBO background, 16 with an HBO degree, and 6 with a university education. In the TextSus condition ($N=51$), participants reported the following educational levels: 8 with a middelbare school education, 21 with an MBO background, 15 with an HBO degree, and 7 with a university education.

5.2 Randomization and Counterbalancing:

The participants were then randomly assigned to one of the conditions, control (neutral) or experimental (sustainability). This resulted in a distribution of $n=41$ for neutral condition and $n=51$ for experimental condition. The skewedness in the distribution is a result of a problem uneven allocation, the two groups were not evenly distributed. A chi-square test was conducted to check whether participants' demographics, their gender, education, and product preference significantly differed across conditions. Results showed that the two groups are not significantly different from each other (Table 3).

Table 3: Crosstabulations and Chi-square statistic

Question	Answer Option	TextSus	TextNeu	Total	Chi-square
Q2 : Please select your gender.	Man	43	36	79	,645
	Woman	7	5	12	
	Other	1	0	1	
	Total	51	41	92	
Q3 : What is the highest level of education you have completed?	High school	8	9	17	,450
	MBO level	21	10	31	
	HBO level	15	16	31	
	University	7	6	13	
	Total	51	41	92	
Q4: Which of the following 5 products have you purchased most frequently in the past year?"	Wire	11	10	21	,762
	Mesh	22	16	38	
	Insect screen	16	11	27	
	Expanded metal	1	1	2	
	Perforated sheet	1	3	4	
	Total	51	41	92	

Furthermore, an independent samples t-test shows that the differences between the age of the respondents assigned to the neutral condition ($M_{neutral} = 47.20$, $SD_{neutral} = 13.83$), and to the sustainable condition are not significant ($M_{sustainable} = 48.16$, $SD_{sustainable} = 12.09$); [$F(1, 90) = 1.823$, $p = 0.723$]. Subsequently, an independent samples t-test was conducted to examine the difference in scores between the two conditions on brand heritage.

Therefore the randomization can be deemed a success. Variables, such as age, gender education level, and product preference which may influence the relationship between environmental sustainability and brand equity, are equally represented across the experimental groups (Morling, 2020).

5.3 Dimensionality and reliability of the construct

Factor analysis (Table 2) confirmed that items belonged to four specified factors, forming four distinct constructs, Repurchase Intention (RPI), Brand Trust (BT), Message Credibility (MC) and Perceived Need for Sustainable Suppliers (PNSS). Item analysis was conducted for each dimension to test internal consistency. The closer Cronbach's alpha gets to 1.0, the more reliable the scale becomes. Researchers working with self-report measures often strive for a Cronbach's alpha of .70 or above to ensure the reliability of their findings

(Malhotra and Birks, 2007). Cronbach's Alpha coefficients ranged between 0.747 and 0.951, indicating high reliability for all identified items (Table 2). Finally, the communalities represent the proportion of the variance in the item that is accounted for by the factors. In other words, the higher the communality the more the question fits with the construct it is trying to measure. Finally, also the control variable Perceived Heritage demonstrated a high level of internal consistency, as reflected by a Cronbach's alpha of 0.807, indicating that they measure the same construct.

5.4 Analyses

The formula for the multiple regression model with interaction terms is as follows:

$$\begin{aligned} \text{BrandEquity} = & \beta_0 + \beta_1 * \text{EnvironmentalSustainabilityCommunication} + \beta_2 * \text{BrandTrust} \\ & + \beta_3 * (\text{EnvironmentalSustainabilityCommunication} \times \text{BrandTrust}) + \\ & \beta_4 * \text{PerceivedNeedforSustainableSuppliers} + \\ & \beta_5 * (\text{EnvironmentalSustainabilityCommunication} \times \text{PerceivedNeedforSustainableSuppliers}) + \\ & \epsilon_i \end{aligned}$$

The regression analysis retains the main effects of brand trust, even if they are not explicitly discussed in the conceptualization, is a methodologically sound practice that enhances the rigor and validity of the statistical analysis, particularly in the context of moderation analysis. The main effect of brand trust is not of conceptual interest as it is not being manipulated, thus claiming causality based on it would be inadequate. Additionally, the main effect of brand trust is well-established and widely recognized, as evidenced by previous research (Delgado-Ballester & Munuera-Alemán, 2005). The main effect of PNSS does not logically make sense because it reflects internal attitudes and beliefs rather than external perceptions of a brand's equity or reputation.

5.5 Hypothesis testing

The regression model as a whole demonstrates statistical significance, as indicated by the $F(5, 86) = 15.263$, $p < .001$. Consequently, it can be used to forecast the participants' intention to repurchase the product. However, it is important to note that the predictive power of the model is moderate, with 47% of the variability in willingness to repurchase the product being accounted for ($R^2 = .47$). This indicates a meaningful level of explanatory power, suggesting that the model captures a substantial portion of the variability in brand equity. Nevertheless, there is room for improvement.

To test the hypotheses at hand a multiple regression analysis was performed (table 3).

Table 3
Moderator Analysis: a double moderation model

Effect	Estimate	SE	95% CI		p
			LL	UL	
Fixed effects					
Intercept	-.206	.122	-.457	.063	.093
ESC	.277	.162	-.075	.609	.091
BT	.750	.126	.331	1.106	<.001*
ESC x BT	-.154	.164	-.564	.319	.352
PNSS	-.389	.128	-.651	-.108	.003*
ESC x PNSS	.471	.166	.115	.807	.006*

Note. The “x” stand for interaction effects. ESM = environmental sustainability communication; BT = brand trust; PNSS = perceived need for sustainable suppliers; CI = confidence interval; LL = lower limit; UL = upper limit.

This output shows whether the three hypotheses are supported by the results:

H1 states that: “Environmental Sustainability Communication within Heritage brands in the context of the steel industry has no significant effect on Brand Equity.” The analysis revealed that the coefficient for Environmental Sustainability Communication (ESC) was not statistically significant ($p = 0.125$), providing evidence in support of H1. Environmental Sustainability Communication within Heritage brands in the steel industry did not show a significant direct effect on Brand Equity.

H2 states that: “Brand trust moderates the effect of environmental sustainability communication on brand equity, such that the relationship is stronger when brand trust is high.” However, the coefficient for the interaction term between Environmental Sustainability Communication (ESC) and Brand Trust (BT) was not statistically significant ($p = .582$), indicating that there is no significant moderation effect. Moreover, the expectation behind this hypothesis was that when brand trust is high, the positive relationship between environmental sustainability communication (SM) and brand equity would be stronger. However, the negative coefficient ($- .154$) for the interaction term implies that the relationship between sustainability communication and brand equity is weaker when brand trust is high. This contradicts the expected positive moderation effect. Consequently, due to both the non-significant moderation effect and the unexpected negative coefficient, H2 was not supported.

H3 states that: “Perceived need for sustainable suppliers moderates the effect of environmental sustainability communication on brand equity, such that the relationship is stronger when the perceived need is high.” The interaction term between Environmental Sustainability Communication (ESC), Perceived Need for Sustainable Suppliers (PNSS) is significant ($p = .006$). Hence, H3 was supported.

5.6 Control variables

In ensuring the methodological robustness of the study, three key control variables—Environmental Consciousness, Message Credibility, and Perceived Heritage—are incorporated. By deliberately keeping these factors the same across various levels of the independent variable, ensures that any observed differences are likely due to the variable of interest, thus increasing the internal validity (Morling, 2020) .

To include them in the regression the initial formula has been adapted to:

$$\begin{aligned} \text{BrandEquity} = & \beta_0 + \beta_1 * \text{EnvironmentalSustainabilityCommunication} + \beta_2 * \text{BrandTrust} \\ & + \beta_3 * (\text{EnvironmentalSustainabilityCommunication} \times \text{BrandTrust}) + \\ & \beta_4 * \text{PerceivedNeedforSustainableSuppliers} + \\ & \beta_5 * (\text{EnvironmentalSustainabilityCommunication} \times \text{PerceivedNeedforSustainableSuppliers}) + \\ & \beta_6 * \text{MessageCredibility} + \beta_7 * \text{PerceivedHeritage} + \beta_8 * \text{EnvironmentalConscientiousness} \\ & + \epsilon_i \end{aligned}$$

None of the control variables Perceived Heritage ($p=0.876$), Environmental Consciousness ($p=0.355$) and Message Credibility ($p=0.119$), are significant predictors of brand equity at $\alpha=0.05$ (see APPENDIX D). This does not alter the significance of the variables under focus in predicting brand equity at $\alpha=0.05$ (see APPENDIX D). Instead, it serves as evidence of the model's strength and reliability.

In summary, even when controlling for other variables, the findings indicate support for H1 and H3, but not for H2. Environmental Sustainability Communication alone did not directly influence Brand Equity, but was found to be moderated by Perceived Need for Sustainable Suppliers. However, the expected moderating effect of Brand Trust was not observed.

6. Discussion

6.1 Introduction

According to Annesley (2010), the Discussion explains what the study results mean and what contributions the paper makes to the area of study. In this chapter the results of

chapter 4 will be discussed and conclusions will be drawn based on the and the thesis will be concluded. Section 5.2 addresses the main research question along with the two sub questions, followed by the exploration of theoretical contributions in 5.3. Subsequently, managerial implications are examined in 5.4. The chapter concludes by highlighting limitations and offering suggestions for future research in 5.5.

6.2 Main Research question

The interpretation of results in a discussion often relies on the information provided in the introduction and literature review. These sections serve as a foundation for understanding the findings and placing them within the broader context of existing knowledge. (Glasman-Deal,2009). As discussed in the introduction and the literature review the three subjects of brand heritage, environmental sustainability communication and the context of the steel industry all have their outcomes and characteristics in and of itself. However, no studies have previously examined together.

In this study, these subjects were examined together, exemplified by a heritage brand in the steel industry taking part in environmental sustainability communication versus not taking part. Based on the literature three hypotheses were formed and quantitatively tested using the acquired dataset. The results discussed in chapter 4 give an indication on whether this type of communication is fitted for a heritage brand in the steel industry, thereby answering the following question:

“How does environmental sustainability communication impact the brand equity of heritage brands in the steel industry, considering the moderating effects of brand trust and the environmental context?”

Drawing from existing literature, the expectations were that in the first part of the question “*How ... Industry*” environmental sustainability communication does not have an influence on brand equity. The results show that indeed the influence of environmental

sustainability communication is not significant, indicating a lack of influence. This is in line with expected diminishing of the otherwise positive effect of environmental sustainability communication due to the combination of three subjects cancelling each other out. So the answer to the first part of the question, as to how it influences, the answer is: under the circumstances of being a heritage brand in the steel industry, there is no discernible impact or influence of environmental sustainability communication on the brand equity of heritage brands in the steel industry.

The second part on how this is moderated by brand trust it is hypothesized that brand trust restores the otherwise positive effect of environmental sustainability communication. The results from the data analysis contradicts the findings in the literature, as not only was it non significant, it was also hypothesis was that when brand trust is high, the positive relationship between environmental sustainability communication (ESM) and brand equity would be stronger. However, the opposite is true; the relationship between sustainability communication and brand equity is weaker when brand trust is high.

The data collected in this study from the experiment does support the final part about, "*the moderating effects of the environmental context*", and the subsequent hypothesis: Perceived need for sustainable suppliers moderates the effect of environmental sustainability communication on brand equity, such that the relationship is stronger when the perceived need is high. This finding underscores the significance of contextual factors, such as the perceived need for sustainable practices within the industry, in shaping the impact of environmental sustainability communication on brand equity. In the steel industry, where environmental concerns and sustainability practices are increasingly important, the perceived need for sustainable suppliers can amplify the positive effects of environmental sustainability communication on brand equity.

Thus, the findings suggest that while environmental sustainability communication alone may not significantly influence brand equity for heritage brands in the steel industry, the presence of a high perceived need for sustainable suppliers can enhance its impact. This highlights the need to look at the whole picture of environmental communication, brand trust, and the environmental context in shaping perceptions of brand equity within the steel industry.

To summarize, under these circumstances, the how can be answered with the notion that environmental sustainability communication does not seem to significantly affect the brand equity of heritage brands in the steel industry. Moreover, the anticipated moderating effects of brand trust and perceived need for sustainable suppliers were to no significant extent supported by the data, with brand trust exhibiting a different valence than initially expected.

6.3 Theoretical contributions

This thesis contributes to existing literature from an academic standpoint. Firstly, it fills a gap by examining the interplay between environmental sustainability communication, brand heritage, and the steel industry within the B2B market. While other studies look at the isolated effect of: environmental sustainability communication (Esty & Winston, 2009; guaVesal et al., 2021), brand heritage (Urde, 2007; Casidy & Li, 2022) and the steel industry (Birat, 2018; Yellishetty et al., 2011; Sugita, 2008). This research contributes to the understanding of the complex interplay between environmental sustainability communication, brand heritage, and the steel industry within the B2B market.

Secondly, The research challenges the conventional belief that environmental sustainability communication primarily impacts brand equity positively. By examining a heritage brand in the steel industry, the study indicates that under certain circumstances, such communication does not have a discernible impact on brand equity. Admittedly, this could

also be because of other factors, like the possibility that the communication was not convincing, their attention was limited so the message was not processed deeply, or another reason. But looking at the answers to the open questions sheds light on this matter, pointing towards the idea that environmental sustainability communication does not work in this context of the steel industry, but especially not in the B2B area of the steel industry. With answers like:

- “It was a bit too much. Also, I think that not much can be done about sustainability in the steel industry.”
- “It interested me minimally. It hardly matters.”
- “It seems like the ultimate world.”
- “These ... It is important that we all strive to act as environmentally friendly as possible; however, sometimes you can't avoid suppliers who are (still) not so advanced in this area.”
- “I am less interested in history, more in the current offerings.”

These things show that even though the current literature points towards the positives of environmental sustainability communication (Kumar & Christodouloupoulou, 2014; Luo & Bhattacharya, 2006; Hansen, Samuelsen, & Silseth, 2008) context does indeed matter. B2B buyers sometimes don't care about sustainability or don't believe its possible within the steel industry, so it will not have a direct impact on brand equity.

Furthermore, the study raises, based on existing literature and logical reasoning, a potential moderating effect of brand trust and PNSS. Although empirical data indicates that brand trust does not behave as conceptualized, emphasizing the significance of empirical research in validating theoretical assumptions. On the other hand, PNSS demonstrates the expected behavior, indicating the need to consider all aspects when investigating environmental marketing.

Finally, it researches B2B buyers instead of B2C consumers. There is limited research on these types of customers because data is harder to come by. And indeed, and this will be further touched upon in the limitations section, this type of research is not well fitted for B2B buyers.

6.4 Managerial implications

To be able to make this thesis applicable for business purpose, the conclusions must be reformed in to managerial implications. For one managers should be mindful of existing sentiment in the context they work in. In this specific case, the steel industry, people think that efforts might not matter as a whole because the steel industry is seen as inadvertently polluting. Alternatively, for B2B buyers in this sector, the prevailing sentiment is that they prioritize price or service over sustainability efforts. So, managers should tailor their sustainability strategies based on the prevailing sentiments and priorities within the specific industry context. To do so they must Regularly asses industry sentiments, tracking customer feedback, and adapt communication strategies accordingly can help maintain relevance to evolving perceptions. in planning future marketing strategies, might reconsider the allocation of resources away from sustainability communication.

Another business implication of the finding the relationship between sustainability communication and brand equity is weaker when brand trust is high. In the event that high brand trust does not amplify the impact of such communication, the company may need to assess whether the resources invested in sustainability campaigns could be redirected to areas with a more evident influence on brand equity, such as product innovation or customer service.

Finally, the presence of a moderating effect of PNSS has important implications for managers. It highlights the need for companies to prioritize and strategically manage their environmental marketing initiatives. Since PNSS has an impact on consumer perceptions and behaviours, businesses should allocate resources to improve their environmental practices,

communication strategies, and engagement with stakeholders. Especially because the need for environmentally sustainable suppliers is increasing. Partly because the number of regulatory measures is increasing. This surge in regulatory intensity, which refers to the increasing number and stringency of environmental regulations that firms must comply with, is noteworthy (Clemens & Papadakis, 2008). A clear indication of this increase of environmental regulations is the substantial expansion of the section of the Code of Federal Regulations (CFR) dedicated to environmental concerns in the United States. This section expanded from a mere 100 pages in 1991 to a substantial 19,763 pages in 2004 (Clemens & Papadakis, 2008).

6.5 Limitations and Suggestions for Further Research

Due to its cross-sectional nature, this study gathers data at a single point in time, providing a snapshot of the relationships between variables (Morling, 2020). However, when investigating the dynamic construct of brand trust, which changes over time, it underscores the importance of being cautious when generalizing findings to different moments or contexts. Future research could explore brand trust longitudinally to provide a more in-depth understanding of its dynamics and how it evolves. ^

Furthermore, the research focuses on a single company, which poses a challenge in applying the findings to the entire steel industry. Various factors, including geographical location, customer base, and unique company characteristics, may have played a role in influencing the outcomes. Therefore, it is crucial to exercise caution when extending the study's conclusions to a wider industry context, as these factors have the potential to greatly impact and provide context to the observed phenomena. Moreover, the inclusion of a greater number of companies would make the finding more robust as it allows for comparisons and contrasts to be made across diverse organizational contexts. A broader sample of companies would provide a more comprehensive understanding of how the communication of

environmental sustainability and brand heritage interact with brand equity within the steel industry, thereby strengthening the reliability and validity of the study's conclusions.

Another limitation would be the shortcomings of the measurement of Brand Equity. A direct behavioural measure would be more optimal as it could provide a more direct assessment of consumers' actual purchasing behaviours, loyalty, or engagement with the heritage brand. While survey-based measures capture perceived brand equity, they rely on participants' self-reported attitudes and intentions, which may not always align with real-world actions. Incorporating behavioural data, such as purchase history, repeat business, or observed brand interactions, would offer a more objective and potentially insightful perspective on the true impact of environmental sustainability communication on brand equity in the context of heritage brands in the steel industry.

Subsequently, to delve deeper into consumer attitudes and perceptions, incorporating qualitative analysis would be interesting. While this study primarily relied on quantitative data, future research could complement these findings with in-depth qualitative investigations. Conducting interviews and focus group discussions would help to increase the understanding of the underlying reasons of the found consumer responses to environmental sustainability communication and its influence on brand equity. Also, it could add more variables that might be influencing the effectiveness of environmental sustainability communication. Perhaps one that is not immediately apparent.

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APPENDIX A

Heritage + Sustainability text (experimental condition)

Welke passages hebben met environmental sustainability te maken: Al sinds 1937 is Van Rooy & Co een toonaangevende leverancier van hoogwaardige draad- en draadproducten die voldoen aan de behoeften van onze gewaardeerde klanten. Deze lange geschiedenis van bijna een eeuw heeft ons bedrijf diepgewortelde wortels gegeven in de industrie, en het is een erfenis waar we trots op zijn. Onze geschiedenis van bijna een eeuw is een bewijs van onze langdurig bestaan, en we koesteren deze erfenis. Het 'Sinds 1937' in ons logo spreekt boekdelen over onze geschiedenis en betrouwbaarheid. Het symboliseert onze voortdurende toewijding aan kwaliteit en service, en het is een teken van vertrouwen voor onze klanten. Maar onze erfenis gaat verder dan alleen de lange geschiedenis. Het is ook een verhaal van stabiliteit. We handhaven niet alleen onze waarden en beloften aan onze klanten, maar we streven er ook naar om innovatief en toekomstbestendig te zijn. We begrijpen dat stabiliteit stilstand betekent, maar eerder de kunst van verandering beheersen terwijl we onze kernwaarden behouden. Dit is onze manier om een brug te slaan tussen het verleden, het heden en de toekomst. * Bij Van Rooy & Co zien we onze erfenis als een kompas voor de toekomst, maar we proberen ook om tegelijkertijd actief bij te dragen aan een duurzamere toekomst. Rooy & Co heeft duurzaamheid hoog in het vaandel. We onderscheiden ons in de markt door gewasdraad op maat voor onze klanten te spoelen, wat verspilling minimaliseert. We scheiden ons afval en wekken duurzame energie op via 120 zonnepanelen op ons dak. Deze groene initiatieven dragen bij aan het minimaliseren van onze impact op het milieu en we hopen hiermee anderen kunnen inspireren. Op de korte termijn streven we ernaar onze CO₂-uitstoot verder te verminderen door onze huidige bestelwagens te vervangen door een elektrische variant. We blijven toegewijd aan duurzame praktijken en aan het streven naar een groenere toekomst.

*Start of the sustainability section

APPENDIX B

Heritage + Neutral text (control condition)

Al sinds 1937 is Van Rooy & Co een toonaangevende leverancier van hoogwaardige draad- en draadproducten die voldoen aan de behoeften van onze gewaardeerde klanten. Deze lange geschiedenis van bijna een eeuw heeft ons bedrijf diepgewortelde wortels gegeven in de industrie, en het is een erfenis waar we trots op zijn. Onze geschiedenis van bijna een eeuw is een bewijs van onze langdurig bestaan, en we koesteren deze erfenis. Het 'Sinds 1937' in ons logo spreekt boekdelen over onze geschiedenis en betrouwbaarheid. Het symboliseert onze voortdurende toewijding aan kwaliteit en service, en het is een teken van vertrouwen voor onze klanten. Maar onze erfenis gaat verder dan alleen de lange geschiedenis. Het is ook een verhaal van stabiliteit. We handhaven niet alleen onze waarden en beloften aan onze klanten, maar we streven er ook naar om innovatief en toekomstbestendig te zijn. We begrijpen dat stabiliteit stilstand betekent, maar eerder de kunst van verandering beheersen terwijl we onze kernwaarden behouden. Dit is onze manier om een brug te slaan tussen het verleden, het heden en de toekomst. * In het verleden was van Rooy & Co gevestigd aan de Wolstraat in Rotterdam Noord. Het pand werd op den duur te klein in de volksbuurt waardoor een verhuizing noodzaak werd. Sinds 1970 en nu nog steeds zijn wij, bij Van Rooy & Co., zijn gevestigd in de Spaanse Polder, wat een strategische ligging kent dankzij de nabijheid van havenfaciliteiten en de Westlandse kassenbouw. Ons bedrijf bedient een breed scala aan afnemers verspreid over het hele land, en deze klantenkring is even divers als ons productaanbod. Van draad en draadproducten tot gaas, geperforeerde plaat en hekwerken, wij leveren een uitgebreide reeks staalproducten. De diversiteit van onze klanten en ons productaanbod weerspiegelt zich in de veelzijdigheid van onze activiteiten, waarbij we aan de uiteenlopende behoeften van onze afnemers voldoen.

*Start of the neutral section

APPENDIX C
Survey

Informed Consent

Beste,

Heel erg bedankt dat u heeft besloten deel te nemen aan dit onderzoek. U helpt mij hierdoor met het verzamelen van inzichten waardoor ik mijn master scriptie kan schrijven. Deze deelname is vrijwillig en u mag op elk moment besluiten om te stoppen met dit onderzoek.

Voor mijn master scriptie die ik schrijf voor de studie: "Economics and Business Economics" aan de Erasmus Universiteit doe ik onderzoek naar branding. Dit zal ik aan de hand van een online experiment en een aantal vragen meten. Ik vraag u om zo dadelijk aandachtig een tekst te lezen. Daarna zullen een aantal gesloten vragen volgen en 1 open vraag. Antwoord alstublieft zo eerlijk mogelijk, er zijn geen goede of foute antwoorden.

De informatie die u verstrekt in deze vragenlijst zal worden gebruikt voor onderzoeksdoeleinden. Het zal niet worden gebruikt op een manier die identificatie van uw individuele antwoorden mogelijk zou maken.

Door te klikken op de knop "Ik geef toestemming", geeft u aan bovenstaande informatie gelezen te hebben en toestemming te geven voor deelname aan dit onderzoek en het gebruik van uw antwoorden.

Ik geef toestemming

Demographics

Wat is uw leeftijd?

Selecteer alstublieft uw geslacht: Man Vrouw Anders Liever niet
aangeven

Wat is het hoogste opleidingsniveau dat Middelbare MBO HBO Universiteit
je hebt afgerond? school

*Text 1 OR Text 2 (see APPENDIX A/B)

Product Preference

Welke van de volgende 5 producten heeft u het vaakst gekocht in het afgelopen jaar	Draad	Zeef gaas	Horren gaas /volière gaas	Strekmetaal	Geperforeerde plaat	Gepuntlast gaas
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Repurchase Intention

	Helemaal mee oneens				Helemaal mee eens		
Ik zou overwegen om het eerder aangegeven product opnieuw te kopen.	1	2	3	4	5	6	7
Ik heb geen intentie om het eerder aangegeven product opnieuw te kopen.	1	2	3	4	5	6	7
Het is mogelijk dat ik het eerder aangegeven product opnieuw zou kopen.	1	2	3	4	5	6	7
Als ik het nodig heb, zou ik het eerder aangegeven product opnieuw kopen.	1	2	3	4	5	6	7

Brand Trust

	Helemaal mee oneens				Helemaal mee eens		
Ik vertrouw van Rooij en Co	1	2	3	4	5	6	7
Ik kan bouwen op van Rooij en Co	1	2	3	4	5	6	7
Van Rooij en Co is een eerlijk bedrijf	1	2	3	4	5	6	7
Van Rooij en Co is een veilige keuze	1	2	3	4	5	6	7

Message Credibility

	Helemaal mee oneens				Helemaal mee eens		
De inhoud van de tekst lijkt geloofwaardig.	1	2	3	4	5	6	7
De inhoud van de tekst lijkt authentiek.	1	2	3	4	5	6	7
De inhoud van de tekst lijkt accuraat.	1	2	3	4	5	6	7
Wat is de reden dat u de tekst wel of niet geloofwaardig vond?							

Perceived Need For Sustainable Suppliers

	Helemaal oneens			Helemaal eens	
Wij selecteren leveranciers op basis van hun milieubekwaamheid.	1	2	3	4	5

Leveranciers worden geselecteerd op basis van hun vermogen om onze milieudoelstellingen te ondersteunen.	1	2	3	4	5
Wij selecteren leveranciers op basis van hun technische en ecodesigncapaciteit.	1	2	3	4	5
Wij selecteren leveranciers op basis van hun milieuprestaties.	1	2	3	4	5
Wij selecteren leveranciers op basis van hun vermogen om milieuvriendelijke producten te ontwikkelen.	1	2	3	4	5

Control: Perceived Heritage

	Helemaal oneens			Helemaal eens	
Van Rooij & co is een bedrijf met erfgoed	1	2	3	4	5
Van Rooij en co heeft een zeer langdurige en ononderbroken geschiedenis.	1	2	3	4	5

Control: Environmental Conscientiousness

	Helemaal niet		Heel erg	
In hoeverre houdt je je bezig met milieukwesties?	1	2	3	
Hoe belangrijk vind je initiatieven voor maatschappelijk verantwoord ondernemen (MVO) door bedrijven?	1	2	3	

Debrief

Heel erg bedankt voor uw deelname aan dit onderzoek.

Ik waardeer het erg dat u de tijd heeft genomen om mee te doen.
Mocht u nog vragen hebben dan kunt u ze mailen naar: 601050le@eur.nl

Klik hier om het experiment af te sluiten

Ik geef toestemming

APPENDIX D

Table 3
Moderator Analysis: Controlled for covariates

Effect	Estimate	SE	95% CI		p
			LL	UL	
Fixed effects					
Intercept	-.696	.835	-2.357	.965	.407
SM	.314	.177	-.038	.667	.080
BT	.607	.221	.168	1.046	.007
SM x BT	-.101	.227	-.553	.351	.658
PNSS	-.410	.143	-.695	-.125	.005
SM x PNSS	.497	.175	.148	.846	.006
PH	.018	.094	-.218	.258	.876
EC	-.199	.117	-.647	.235	.355
MC	.148	.214	-.041	.344	.119

Note. The “x” stand for interaction effects. ESM = environmental sustainability communication; BT = brand trust; PNSS = perceived need for sustainable suppliers; PH = Perceived Heritage; EC = Environmental Conscientiousness; MC = Message credibility CI = confidence interval; LL = lower limit; UL = upper limit.

Table 2: Factor Analysis and Reliability

Questions	Factor 1	Factor 2	Factor 3	Factor 4	Community
RPI_1: Ik zou overwegen om het eerder aangegeven product opnieuw te kopen.				.666	.468
RPI_2: Ik heb geen intentie om het eerder aangegeven product opnieuw te kopen.				.251	.089
RPI_3: Het is mogelijk dat ik het eerder aangegeven product opnieuw zou kopen.				.825	.665
RPI_4: Als ik het nodig heb, zou ik het eerder aangegeven product opnieuw kopen.				.768	.726
BT_1: Ik vertrouw van Rooij en Co	.805				.773
BT_2: Ik kan bouwen op van Rooij en Co	.847				.832
BT_3: Van Rooij en Co is een eerlijk bedrijf	.951				.896
BT_4: Van Rooij en Co is een veilige keuze	.995				.957

MC_1: De inhoud van de tekst lijkt geloofwaardig.			-,916		,800
MC_2: De inhoud van de tekst lijkt authentiek.			-,804		,793
MC_3: De inhoud van de tekst lijkt accuraat.			-,800		,804
PNSS_1: Wij selecteren leveranciers op basis van hun milieubekwaamheid.		,857			,743
PNSS_2: Leveranciers worden geselecteerd op basis van hun vermogen om onze milieudoelstellingen te ondersteunen.		,987			,926
PNSS_3: Wij selecteren leveranciers op basis van hun technische en ecodesigncapaciteit		,558			,443
PNSS_4: Wij selecteren leveranciers op basis van hun milieuprestaties.		,926			,840
PNSS_5: Wij selecteren leveranciers op basis van hun vermogen om milieuvriendelijke producten te ontwikkelen.		,871			,775
Name Factor	Brand Trust	PNSS	Message Credibility	Repurchase Intention	
Reliability (alpha)	0,951	0,921	0,905	0,747	
% variance explained	39,304	21,474	6,991	4,285	