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Sustainability in the Personal Luxury Goods industry

An analysis of the impact of ESG performance on profitability

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“Be patient toward all that is unsolved in your heart and try to love the questions themselves, like locked rooms and like books that are now written in a very foreign tongue. Do not now seek the answers, which cannot be given you because you would not be able to live them. And the point is, to live everything. Live the questions now. Perhaps you will then gradually, without noticing it, live along some distant day into the answer.”

Rainer Maria Rilke

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Introduction

Resource-based theory suggests that a firm's competitive advantage is based on its internal valuable and inimitable assets and on the company's management abilities to leverage these assets and capabilities to achieve superior performance. Hart (1995) then introduced the concept of natural constraints to the theory by developing a natural-resource-based theory, arguing that capabilities that facilitate environmentally sustainable economic activity will be the root of strategy and competitive advantage in the coming years.

Building on these previous analyses, Russo and Fouts (1997) utilized the resource-based theory to investigate the economic impacts of environmental performance, sustaining it has a strong focus on performance as the key outcome variable and it emphasizes the importance of intangible concepts such as know-how, corporate culture and reputation. Their findings indicate a positive correlation between environmental performance and economic performance.

The study by Russo and Fouts provides a solid foundation for the analysis of the economic impact of sustainability in the personal luxury goods industry.

Sustainability has acquired significance in the last decades. Since the 1970s, there has been an increasing awareness of environmental issues, which has led to a widespread debate about the future of the planet. In fact, it was evident that the conventional development models would eventually lead to the collapse of the Earth's ecosystem.

Consequently, sustainability gained attention and became a topic of discussion and writing.

This debate involved international organizations, opinion movements, governments and scholars landing on the concept of sustainable development.

In 1987, the Brundtland Report, also referred to as "Our Common Future," provided a definition of sustainable development that has since been widely accepted. The report identifies it as ability to meet *"the needs of the present without compromising the ability of future generations to meet their own needs*".

Sustainable development combines economic growth with human and social development, quality of life, and the preservation of the planet from a long-term welfare perspective.

The environmental, economic, and social aspects of sustainable development complement and support each other with the aim of building a more equitable, healthy, and harmonious society for all.

In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development, which provides a shared blueprint for promoting peace and prosperity for people and the planet, both now and in the future. It recognized that ending poverty and other deprivations must be accompanied by strategies that improve health and education, reduce inequality, and stimulate economic growth. This must be done while addressing climate change and working to preserve our oceans and forests.

The 2030 Agenda for Sustainable Development is centered around the 17 Sustainable Development Goals (SDGs). These goals require immediate action from all Nations, regardless of their level of development, in a global partnership. The SDGs build on decades of work by countries and the UN.

Businesses play a crucial role in Sustainable Development. The concept of "Corporate Sustainability" pertains to an approach to business operations that aims to generate sustainable, long-term value for shareholders, employees, consumers, and society at large by adopting responsible environmental, social, and economic (or governance) strategies. Companies implement ESG to reduce their environmental impact or to achieve other socially beneficial goals.

CEOs are prioritizing sustainability by reassessing investment criteria and implementing innovative business models facilitated by technology to effect change. Moreover, they are collaborating with communities, competitors, and governments to accelerate progress on a larger scale (12th United Nation Global Compact - Accenture CEOs study, 2022).

It is important to note that most CEOs believe that they are responsible and accountable also for their company’s sustainability performances.

However, integrating sustainability within a business strategy is not only a moral and social imperative but it can be advantageous. McKinsey (2017) sustained that

the primary reasons to adopt sustainable practices are reputational and linked to growth opportunities.

Moreover, several articles and studies claim that high ESG ratings are linked with better financial performance (lower cost of debt and equity) and that integrating sustainability within its strategy can be a source of competitive advantage. Simply put, engaging in socially responsible efforts can directly enhance a company's ability to succeed.

Starting from these considerations, this work aims to study the interaction between sustainable practices and economic performance within the personal luxury goods industry, considering the specific features of this sector.

Even if luxury as a concept has not been univocally defined by researchers, they all agree that the sector is characterized by craftsmanship based on unique skills, which allows to provide high quality and rewarding business conditions, and a particular relationship with time, as its value is inscribed in the long term (Godart and Seong, 2014). However, this industry has undergone significant changes over the years.

While originally confined to a wealthy, exclusive few, luxury has since branched out and evolved to accommodate a wider audience. Luxury retail remains a prosperous and growing industry, serving a growing customer base (Kapfener and Valette-Florence, 2016).

Luxury brands stop relying on product and ingredient scarcity as a condition for luxury and instead opt for "abundant rarity" strategies (Kapferer, 2012). These strategies are based on the communication of exclusivity rather than actual scarcity, employing artificial scarcity methods such as limited editions and capsule collections. Thus, the company redirected its investment strategy towards establishing distinctive retail experiences, providing personalized services, and bolstering the brand's status through communication maneuvers, social influence, social networks, celebrities, and brand ambassadors. Given that these kinds of strategies are capital intensive, they consolidated their position by affiliating with prominent collectives such as LVMH, Kering, Tapestry and Capri Holding (news outlets announced that, in August 2023, Tapestry Inc. reached a definite agreement to purchase Capri Holdings).

Moreover, despite claims of craftsmanship, handmade items, or the perpetuation of tradition, several luxury brands are expanding their operations to low-cost factories while licensed operators pursue volume and sell fashionable, high-margin accessories. While a few brands still adhere to the stringent principles of luxury strategy, others have abandoned them and aim to increase profits through cost-cutting manufacturing and boosting retail prices. Therefore, as the luxury industry imitates trends of popular mass retailers, sustainability activists are observing their actions more closely.

It is important to note that the industry's customer base is changing. According to Bain and Co. (2022), younger generations are expected to become the largest consumer demographic, accounting for 80% of global purchases. This shift towards a younger clientele implies a shift in customer preferences, and brands should pay attention to this trend in order not to lose market share, but to potentially increase it.

After providing an overview of the sector and its trends, this work examines why sustainable development activists are paying closer attention to the sector, despite its relatively small size. The interest in the sector cannot be solely attributed to mass luxury; activists also criticize the irrationality behind luxury purchases and the intrinsic inequality symbolized by the sector. As a result, the issue of sustainability is becoming more and more relevant for this sector.

Moreover, there is an increasing tendency to support the idea that sustainability can create value: Francois-Henry Pinault, CEO of Kering (world’s number two luxury group), recently affirmed that an approach based on sustainability would generate new revenue and long-term competitive advantage for the group (Kapfener and Michaut, 2015).

The analysis goes further to examine whether sustainability can have a positive impact on business performance by examining customer perceptions, the potential for sustainable value creation, and the market response to sustainability announcements.

In addition, an analysis of industry sustainability trends is presented to provide practical examples and, ultimately, new revenue opportunities.

Based on these considerations, it appears that strong ESG performance can positively impact profitability.

As previously mentioned, to give quantitative relevance to what emerged from the literature review, the Russo and Fouts model was taken as a starting point to build the model used to test the aforementioned hypothesis. Then, two main databases are constructed from an analysis of available ESG scores and ratings.

The application of the model to the available data suggests that strong ESG performance has a positive impact on profitability, providing quantitative evidence to support what emerged from the literature review.

1. Literature review and hypothesis formulation

This chapter provides an overview of the theory underlying this elaboration.

Firstly, it introduces the resource-based theory and the subsequent studies based on it.

Secondly, it provides an overview of sustainability, with a focus on its application by businesses and the advantages that can be derived from it.

The third part discusses the evolution of the concept of luxury and its meaning over time, followed by an analysis of the luxury market and its trends.

The fourth section examines the interaction between luxury and sustainability.

Finally, it concludes with a hypothesis based on these considerations.

1.1 Resource-based view

The identification of the sources of sustained competitive advantage for firms has always been a major area of research in the field of strategic management, to understand how a firm can outperform their competitors and maintain this advantage over time.

A firm has a competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors. This competitive advantage is "sustained" when other firms are unable to duplicate the benefits of this strategy (Barney, 1991).

Even if both internal analyses of organizational strengths and weaknesses and external analyses of opportunities and threats have received some attention in the literature, at the beginning authors focused their efforts on the analysis of a firm's opportunities and threats in its competitive environment, assuming that firms within an industry or strategic group are identical in terms of the strategically relevant resources they control and that resources are highly mobile, eliminating firm resource heterogeneity and immobility as possible sources of competitive advantage.

The resource-based model of the firm is built around the idea that competitive advantage is rooted inside a firm (Wernerfelt, 1984; Dierickx and Cool, 1989; Prahalad and Hamel, 1990, quoted in Russo and Fouts, 1997, p. 536). A company's capabilities or competencies and its management abilities to leverage its assets to

achieve superior performance determine competitive advantage (Grant, 1991; quoted in Russo and Fouts, 1997, p. 536).

The resource-based theory is based on the following assumptions: (a) firms within an industry may be heterogeneous with respect to the strategic resources they control, (b) these resources may not be perfectly mobile across firms and thus heterogeneity can be long lasting.

Barney (1991) considered as firm resources all assets, capabilities, firm attributes, information, knowledge controlled by a firm whose use enable to conceive and implement strategies. In fact, not all resources hold the potential of sustained competitive advantage. He sustained that, to have this potential, a firm resource must have four attributes:

- it must be valuable, exploiting opportunities and neutralizing threats in a firm's environment,
- it must be rare, able to generate value creating strategy which cannot be implemented by others,
- it must be imperfectly imitable for a combination of one or many of the following reasons: in fact, it should be dependent upon historical conditions, causally ambiguous so the link between the resources controlled by a firm and a firm's sustained advantage is not understood or understood very imperfectly and based on complex social phenomena,
- there cannot be strategically equivalent substitutes, implying the absence of similar or very different resources that enable the same strategies.

According to Barney (1991) firms seems to obtain sustained competitive advantages by implementing strategies that exploit their internal strengths, through responding to environmental opportunities while neutralizing external threats and avoiding internal weaknesses. The link in the resource-based theory between the competitive environment and firm capabilities was made more explicit by Conner (1991, quoted in Russo and Fouts, 1997, p. 536) who recognizes the external constraints of demand conditions and public policy on strategy; she thought that resource-based theorists have to discern the appropriate rent-generating inputs given both external (e.g. demand, public policy and competitor action) and internal (e.g. past history, resource endowments and corporate culture) constraints.

Russo and Fouts (1997) said that the resource-based view addresses the fit between what a firm can do and what it has the opportunity to do. In fact, quoting Collis and Montgomery (1995), they sustained that resources shouldn't be evaluated in isolation because their value is determined in the interplay with the market forces and a resource valuable in one industry in a particular moment isn't necessarily valuable in a different industry or chronological context.

1.1.1 Natural-resource-based view

Even if some contributions which attempted to integrate the internal and external perspectives under the banner of the "resource-based" view of the firm were present, the theory systematically ignored the constraints imposed by the biophysical environment. Hart (1995) developed a natural-resource-based theory, including these constraints within the model, sustaining that, in the future, it appears inevitable that businesses (markets) will be constrained by and dependent upon ecosystem (nature). In his opinion, one of the most important drivers of new resources and capabilities development for firms will be the constraints and challenges posed by the natural (biophysical) so it is likely that strategy and competitive advantage in the coming years will be rooted in capabilities that facilitate environmentally sustainable economic activity.

He started his analysis introducing a conceptual framework depicted in the table below (as shown in his article "*A natural-resource-based view of the firm")*. This framework is composed of three interconnected strategies, with their driving forces, key resources and competitive advantage associated.

Moreover, he provided a link between the imperative of capturing a competitive advantage with the goal of securing and enhancing social legitimacy because he viewed external stakeholders as playing a pivotal role in moving corporations toward sustainability.

Table 1: conceptual framework of the natural-resource-based view (Hart, 1995, p. 992)

Strategic Capability	Environmental Driving Force	Key Resource	Competitive Advantage
Pollution Prevention	Minimize emissions, effluents, & waste	Continuous improvement	Lower costs
Product Stewardship	Minimize life-cycle cost of products	Stakeholder integration	Preempt competitors
Sustainable Development	Minimize environmental burden of firm growth and development	Shared vision	Future position

During the past decades there has been tremendous pressure to minimize or eliminate emissions, effluents and waste from their operations and managers now seemed to understand the extent of their firms' impact on the environment. Pollution abatement can be achieved through control or prevention. Through pollution prevention companies can realize significant savings from the reduction of the capital expenditures for pollution control (end-of-pipe control devices) and from the increasing productivity and efficiency which may come from a better utilization of inputs, resulting in a cost advantage relative to competitors.

Considering the increasing importance of openness and transparency of corporate practices regarding pollution, Hart (1995) sustained that pollution prevention strategies will move from being exclusive internal process to external activities which may enhance the image, reputation and legitimacy of the firm.

Product stewardship allows the integration of external stakeholder perspective into product design and development processes. The use of some form of life cycle analysis (LCA) permits the assessment of the environmental burden created by a product system from "cradle to grave", allowing firms to exit environmentally hazardous businesses, redesign existing product systems to reduce liabilities, guide the selection of raw materials and develop new products with lower life cycle costs. Hart sustained that a product stewardship strategy will extend beyond the preemption of firm specific resources and it will become a stakeholder oriented (legitimacy based) process, with the integration of the perspective of key external stakeholders to increase credibility and social legitimacy.

Sustainable development is challenging because it appears to have significant implications for firms, particularly large multinational corporations because it requires the recognition of the link between the consumption in the North and the environmental degradation of the South, implying the construction of a market in the South while reducing the consumption in the North and the environmental burden created by this new economic activity. Even if sustainability strategies may seem counterintuitive, they still hold the potential to confer competitive advantage, enabling firms to establish long term position in the developing world or raise a firm's expectations for future performance relative to competitors.

Hart (1995) added that the adoption of these sustainability strategies will evidence substantial development of new, low impact technologies and competencies but over time, a sustainable development strategy will extend beyond the firm to include collaboration among the public and private organizations needed to bring about substantial technological change.

1.1.2 Resource-based view on corporate environmental performance and profitability

Starting from these previous analyses, Russo and Fouts (1997) used the resource-based perspective to study the economic impacts of environmental performance: they found out that environmental performance and economic performance are positively linked. Their argument highlights the role environmental policy plays in generating broader organizational advantages that allow a firm to capture premium profits because the same policies that internalize negative environmental spillovers can pay off by simultaneously generating greater positive organizational spillovers that accrue internally and privately to the firm.

They sustained that the resource-based view of the firm offers corporate social responsibility a useful tool which has a strong focus on performance as the key outcome variable and which recognizes the importance of intangible concepts such as know-how, corporate culture and reputation. For these reasons, the framework could be useful also for ESG analysis.

Their theory was drawn taking into consideration the two modes of environmental policy advanced by Hart (1995): the compliance strategy (firms rely on pollution abatement through a short-term, end-of-pipe approach) and the prevention strategy (systemic approach that emphasizes source reduction and process innovation). Their position contends that those leaning toward the compliance mode will differ in their resource bases from those leaning toward prevention, and that this policy choice will affect firms' ability to generate profits.

In their analysis, Russo and Fouts considered resources and capabilities in the following combinations: (1) physical assets and the technologies and skills required to use them, (2) human resources and organizational capabilities, which include culture, commitment and skills for integration and communication, and (3) the intangible resources of reputation and political acumen.

1.1.2.1 Physical assets and technology

The authors stressed that resources and capabilities required to implement a company's environmental policy vary greatly depending on whether the company goes beyond compliance to embrace pollution prevention. In fact, they sustained that compliance only affects physical resources while proactive environmental policy requires a redesign of a firm's production or service delivering processes, involving the acquisition and installation of new technologies.

Physical resources can be a source of competitive advantage if they outperform equivalent assets within competitors. If new physical assets are deployed in a way that allows a firm to capitalize on and enhance its internal methods for waste reduction and operational and fuel efficiency, such advantages are less transparent, and they represent the type of causally ambiguous resources. When internal routines and know how accumulate, a firm's knowledge of pollution prevention deepens (Dean and Brown, 1995, quoted in Russo and Fouts, 1997, p. 538).

In conclusion, physical resources seems to be an essential component for improving environmental aspects related to ESG practices.

1.1.2.2 Human resources and organizational capabilities

Embracing the notion of improved environmental performance requires a fundamental shift in a firm's culture and human resources and the organizational capabilities required to manage them.

A strong environmental stance can be expected to become part of an organization's image and identity and to guide the actions of its members (Dutton and Dukerick, 1991, quoted in Russo and Fouts, 1997, p. 539). Such a stance can be expected to influence human resource policies in turn shaping job design, recruitment and selection, training, and development systems (Starik and Rands, 1995, quoted in Russo and Fouts, 1997, p. 539). In general, when a firm adopts a sophisticated human resource and management strategy productivity improvements are captured (Koch and McGrath, 1995, quoted in Russo and Fouts, 1997, p. 539). Moreover, attracting top candidates is easier for firms known for environmental stewardship.

The same reasoning applied to the environment can be applied to the social aspect. In fact, it could be just as important for the brand image: several awards have been

introduced to identify the best companies to work for. Moreover, a higher attention to the social aspects and employers' needs is also a way to attract top candidates.

1.1.2.3 Intangible resources

According to Russo and Fouts (1997) two intangible factors suggest that better environmental performance will augment profits.

The first is that a reputation for leadership in environmental affairs will increase sales among customers who are sensitive to such issues and this acquire relevance considering that social responsibility is gaining steam in purchasing decisions (Economist, 1994, quoted in Russo and Fouts, 1997, p. 539). Furthermore, environmental concerns are gaining significance as time progresses and public awareness increases.

Moreover, an environmental policy is built on top of an overall reputation for quality, a pro-environment reputation can become a valuable inimitable resource. The same argument can be extended to ESG, including also the social component.

The second factor that needs to be considered is an organization's political acumen which can be defined as the ability to influence public policies in a way to confer a competitive advantage. Managers that follow a compliance policy tend to employ legislative and political lobbying aimed at slowing down the pace of environmental legislation (Logsdon, 1985, quoted in Russo and Fouts, 1997, p. 540) and this externally directed approach stands in contrast to the technical and organizational focus of a prevention policy. In fact, prevention-oriented firms develop skills that help them adopt external technologies to meet the demands of society and they even propose to raise the minimum standards in that regard.

1.2 Sustainability

Sustainability has been a crucial concept since the Industrial Revolution, although environmental concerns date back much earlier (Dhanani, 2022).

As far back as 500 BC, ancient writers voiced apprehension about human-caused harm to the environment and recommended practices for reducing it. By the 17th Century, human activity had already begun to alter the natural environment, and in the 1800s, the Industrial Revolution brought the issue of overconsumption of natural resources to the forefront of discussions.

After the Second World War, the world encountered significant environmental issues. This caused a shift in focus from pollution to a global concern for the survival of humanity, future generations and the planet.

In the 1970s, the worldwide sustainability movement gained momentum, and the first UN conference on the subject took place. During this period, the term 'sustainability' began to be used in various contexts.

1.2.1 Sustainable Development (SD)

In 1987, the United Nations established an autonomous commission, the World Commission on Environment and Development, which released the report "Our Common Future" (also referred to as the Brundtland Report, named after the commission's chair). The report defined sustainable development as the meeting the present needs while not jeopardizing future generations' ability to meet their own needs.

All United Nations member states adopted the 2030 Agenda for Sustainable Development in 2015. It presents a collaborative outline for the promotion of peace and affluence amongst humanity and the environment, presently and in future. This encompasses 17 Sustainable Development Goals (SDGs), which constitute a pressing appeal for all Nations (developed and developing) in a worldwide coalition to promote prosperity while protecting the planet.

The goals recognize that eradicating poverty and other forms of deprivation necessitate accompanying initiatives that advance healthcare and education, minimize disparities, promote economic flourishing, address climate change, and safeguard our marine and forest ecosystems.

Figure 1: Sustainable Development Goals (SDGs) (UN Organization)

The sustainable development goals, with the relative explanations (as described by the United Nations website) are:

1. No poverty: economic growth must be inclusive to provide sustainable jobs and promote equality.
2. Zero hunger: investment in the agricultural sector is critical for reducing hunger and poverty improving food security, creating employment and building resilience to disasters and shocks. Moreover, given that hunger limits human development, it is not possible to achieve the other goals concerning education, health and gender equality.
3. Good health and well-being: increasing investments in health systems are needed to support countries in their recovery and build resilience against future health threats.
4. Quality education: it is the key to achieve many other SDGs because it enables to break the cycle of poverty, reduce inequalities and reach gender parity.
5. Gender equality: it is not only a fundamental human right but a necessary foundation for a peaceful, prosperous and sustainable world.
6. Clean water and sanitation: access to safe water, sanitation and hygiene is the most basic human need for health and well-being.
7. Affordable and clean energy: it is the key to the development of agriculture, business, communications, education, healthcare and transportation. The world continues to advance towards sustainable energy target but not fast enough.
8. Decent work and economic growth: it is about promoting inclusive and sustainable economic growth, employment and decent work for all. Globally, labor productivity has increased and the unemployment rate has decreased but

more progress is needed to increase employment opportunities, especially for young people, reduce informal employment and labor market inequality (particularly in terms of the gender pay gap), promote safe and secure working environments and improve access to financial services to ensure sustained and inclusive economic growth.

9. Industry, innovation and infrastructure: it seeks to build resilient infrastructure, promote sustainable industrialization and foster innovation. Economic growth, social development and climate actions are heavily dependent on investments in these areas.
10. Reduce inequalities: this goal concerns the support of the marginalized and disadvantaged. Inequalities threatens long-term social and economic development.
11. Sustainable cities and communities: cities and human settlements need to be inclusive, safe, resilient and sustainable. Sustainable development cannot be achieved without significantly transform the way urban spaces are built and managed.
12. Responsible consumption and production patterns: consumption habits need to be changed, starting with shifting energy supplies to more sustainable ones to reduce the consumption level.
13. Climate action: climate change is caused by human activities and threatens life on earth, with devastating impacts and including extreme and changing weather patterns. The target set is to limit global warming to 1,5°C above pre-industrial level to decrease and cut by almost half the emissions by 2030.
14. Life below water: it is about conserving and sustainably use the oceans, seas and marine resources.
15. Life on land: it is about protecting and restoring terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and stop biodiversity loss.
16. Peace, justice and strong institutions: promote peaceful and inclusive societies, providing access to justice to all and building effective, accountable and inclusive institutions at all levels.

17. Partnerships for the goals: the SDGs can only be realized with a strong commitment to global partnership and cooperation.

In 2021, Accenture conducted a study from which it results that the world is drastically behind where it needs to be to achieve the UN Sustainable Development Goals (SDGs).

1.2.2 Sustainability in business

Harvard Business School Online Business Insights Blog defines sustainable businesses as those that conduct their activities without negatively impacting the environment, community, or society as a whole, to make a positive impact (Spiliakos, 2018). Failure to assume responsibility by companies can lead to issues such as environmental degradation, inequality, and social injustice.

Sustainable businesses consider ecological, economic, and social aspects when making decisions. According to Spiliakos, they evaluate the effects on their operations to prevent short-term gains from becoming future liabilities.

Since sustainable business strategies are tailored to individual organizations and linked to larger business goals and values, they are distinct. Sustainability is also a catalyst for business success. Research shows that companies with high ESG ratings have a lower cost of debt and equity, and that sustainability initiatives can help improve financial performance while fostering public support (Spiliakos, 2018).

Moreover, the author cited a 2017 McKinsey study to support the claim that the strongest motivation for adopting a sustainable mindset is to align a company's goals, mission, or values with the aim of building, maintaining, or improving its reputation, meeting customer expectations, and developing new growth opportunities.

However, even if sustainability seems to be advantageous for business, in the 2021 CEO study reported by Accenture and the UN, business leaders were found severely off track to deliver on their sustainability and climate goals. The actual situation is even more tenuous: facing continuous fallout from the pandemic, the effects of Russia’s war in Ukraine, broader geographical uncertainties, inequality and climate change, CEOs report (Accenture and UN Organization, 2022) highlighted frustration and uncertainty in preparing for what will happen next. Moreover, they result to face a multitude of challenges: firstly, inflation and price volatility along with talent

scarcity and secondly threats to public health and climate change. From these challenges, there has been the rise of social sustainability on CEOs and businesses.

CEOs are prioritizing sustainability by reassessing investment criteria and implementing innovative business models facilitated by technology to effect change. In 2022, 98% of CEOs believe that it is their responsibility to make business more sustainable and 72% of CEOs also think that they are accountable for their firm's sustainability performance (Accenture and UN Organization, 2022). They are additionally collaborating with communities, competitors, and governments to accelerate progress on a larger scale.

Simultaneously, current global challenges, despite their highly disruptive nature, are expediting overall sustainability efforts. Indeed, CEOs acknowledge this period as an unprecedented opportunity. Business leaders are progressively understanding that sustainable actions can bring a "sustainability premium, enhancing operational competitiveness, excellence, and efficiency, paving the way for new growth avenues, fostering innovation and attracting highly skilled professionals (Accenture and UN Organization, 2022).

1.2.3 Corporate Social Responsibility (CSR)

According to the United Nations Industrial Development Organization (UNIDO), Corporate Social Responsibility (CSR) is a management concept in which companies integrate social and environmental concerns into their business operations and interactions with stakeholders. In fact, CSR differs from charity, sponsorship and philanthropy, even if they can also significantly reduce poverty, boost a company's reputation, and reinforce its brand.

UNIDO asserts that a well-executed CSR framework can offer a range of competitive benefits, including increased access to capital and markets, higher sales and profits, reduced operational costs, improved productivity and quality, a more efficient workforce, better brand image and reputation, increased customer loyalty, enhanced decision-making and risk management processes.

Stobierski (2021) defined Corporate Social Responsibility (CSR) as the concept that businesses have a responsibility to society. This responsibility includes considering the impact of their actions on the environment, employees, customers, and the community in which they operate. Firms that adopt CSR are typically structured to

enable socially responsible behavior that can have a beneficial impact on the world. CSR can be implemented through initiatives or strategies that reflect an organization's objectives, typically communicated to external and internal stakeholders through corporate social responsibility reports.

According to the Global Corporate Governance Forum, corporate social responsibility (CSR) has become a prominent aspect in the global business scene. Companies worldwide adhere to the United Nations Global Compact, while several governments have also initiated CSR projects.

The United Nations Global Compact, launched in 1999, is the world largest global corporate sustainability initiative. To date, more than 24,000 businesses from more than 160 countries have taken part. The Compact urges companies to align their operations and strategies with ten widely accepted principles in the areas of human rights, labor, the environment, and anti-corruption. These actions support the United Nations' goals. It is a leadership platform for the development, implementation, and disclosure of responsible corporate policies and practices endorsed by CEOs. This initiative, as others (e.g. the creation of the Dow Jones Sustainability Indexes in 1999, closely followed by FTSE4Good), is premised on the idea that companies can achieve both profit and social good simultaneously.

Early studies of the CSR concept cite several industrialists who, supposedly for ethical reasons rooted in their Christian faith, began including, first in the 1930s and then 1950s, social well-being, equity, and employee happiness in their objectives relating to profit and shareholder satisfaction (Doucin, 2011).

To support this point, Doucin cited Howard R. Bowen, an economist who published the book 'Social Responsibility of the Businessman' in 1953. Bowen argued that large corporations are important centers of power and decision-making whose actions affect citizens' lives, which can create societal tension. So, he defined social responsibility, referring to the obligations of business to pursue policies, make decisions, or take actions that align with the objectives and values of the society.

Doucin posited that the religious beliefs of the founders of CSR were a motivating factor (the book "Social Responsibilities of the Businessman" was commissioned by the Federal Council of the Churches of Christ), alongside the affiliation of CSR to the paternalistic tradition of the 1970s-1980s.

The financialization of the economy has led to the increasing importance of shareholders and the separation of ownership and management. This has facilitated the establishment of a new governance rule based on a structured relationship between salaried management and the new owners. The concept of social expectations transcending shareholders gave rise to the stakeholder theory, which Freeman (1984, quoted in Doucin, 2011) defined as any groups whose collective behavior can impact the organization's future but is not directly under its control. At this point, Doucin claims that a vision for CSR management is slowly being established based on two concepts: minimizing risks associated with an inaccurate assessment of stakeholder expectations and optimizing overall performance through intelligent integration of these expectations. CSR has emerged as a strategic management approach that anticipates changes in consumer preferences and future social and environmental regulations. It promotes workers' creativity and safeguards the company's reputation. This approach provides responsible companies with a competitive edge. In this view, ethics plays a secondary role, marking a departure from the past's paternalistic CSR core, where philanthropy and ethics were fundamental.

However, some studies found discrepancies in the concept of corporate social responsibility. Doane (2005) argues that CSR oversimplifies complex arguments and fails to consider the trade-offs between a company's financial health and ethical outcomes. In reality, profit often takes precedence over principles. Although CSR strategies may be effective in specific contexts, they remain susceptible to market failures like imperfect information, externalities, and free riders. The author contends that there is often a significant divide between what benefits a company and what benefits society. According to her, this division can be explained by the four main misconceptions of CSR.

1. *"The market can deliver both short-term financial returns and long-term social benefits":* the assumption behind CSR is that business outcomes and social objectives can become aligned because of the basic assumptions of market capitalism (people are rational actors, motivated to maximize their self-interest) and market will ultimately balance itself. However, at the end, it seems that CSR can hardly be expected to deliver when the short term

demands of the stock market provide disincentives for doing so. When shareholder interests dominate the corporate machine, outcomes may become even less aligned to the public good.

2. *"The ethical consumer will drive change":* though there is a small market that is proactively rewarding ethical business, for most consumers ethics is a relative thing. In fact, consumers seem to be more concerned about things like price, taste or sell-by date.
3. *"There will be a competitive <<race to the top>> over ethics amongst businesses":* pressure amongst companies will lead to more companies competing over ethics, as highlighted by an increasing number of awards schemes for good companies (Business Ethics Awards or the Fortune's annual "Best Companies to Work For" competitions). Companies are naturally keen to be aligned to CSR schemes because they offer good PR. It is important to underline, on the other hand, that businesses may be able to capitalize on well-intentioned efforts, as signing the U.N. Global Compact, without necessarily having to change their behavior. Meanwhile, companies fight to get a coveted place on the SRI indexes such as the Dow Jones Sustainability Indexes but such schemes to reward good corporate behavior leave us carrying a new risk that, by promoting the "race to the top" idea, there is a tendency to reward the" best of the baddies".
4. *"In the global economy, countries will compete to have the best ethical practices":* it is generally assumed that market liberalization of these economies will lead to better protection of human and environmental rights through greater integration of oppressive regimes in the global economy and with the watchful eye of multinational corporations that are actively implementing CSR programs and policies. Nonetheless, companies often fail to uphold voluntary standards in developing countries arguing instead that they operate within the law of the countries in which they are working.

1.2.4 ESG

ESG, an abbreviation for Environmental, Social, and Governance, encompasses the sustainability concerns that a company must address. It considers the company's impact on the surrounding ecosystem and the challenges it faces in terms of ESG

dimensions. This framework provides companies with a way to assess their impact on a range of socially desirable outcomes and factors that measure the non-financial impacts of investments and companies. Additionally, ESG offers business and investment opportunities for companies seeking to align with these values (Bergman et al., 2020).

The Environmental component encompasses various aspects, such as energy efficiency, carbon footprint, greenhouse gas emissions, deforestation, biodiversity, climate change and pollution mitigation, waste management, and water usage.

When analyzing the environmental aspect, it is important to consider greenwashing. De Freitas Netto et al. (2020) conducted a systematic review of this concept. Reporting a definition of Delmas and Burbano (2011), they defined greenwashing as the act of misleading consumers about an organization's environmental practices (firm-level) or the environmental benefits of a product or service (product/service-level). They identified selective disclosure of environmental information and decoupling symbolic environmental protection behaviors from actual environmental protection behaviors as its main features.

The Social aspect, on the other hand, includes labor standards, wages and benefits, workplace and board diversity, racial justice, pay equity, human rights, talent management, community relations, privacy, and data protection.

Finally, the Governance component entails the governing of both the "Environmental" and the "Social" categories. In fact, it concerns corporate board composition and structure, strategic sustainability oversight and compliance, executive compensation, political contribution and lobbying, bribery and corruption.

The acronym ESG was first introduced in 2004 in the publication 'Who Care Wins - Connecting Financial Markets to a Changing World' (Adonopoulos and Napoletano, 2023). The research resulted from a joint initiative by multiple financial institutions (e.g. BNP Paribas, Credit Suisse Group, Deutsche Bank, Goldman Sachs, Morgan Stanley and other financial institutions) invited by former U.N. Secretary-General Kofi Annan to develop guidelines and recommendations for integrating environmental, social, and corporate governance issues into asset management, securities brokerage services, and associated advisory functions.

The report's underwriters believed that in a more globalized, interconnected, and competitive world, the management of environmental, social, and corporate governance issues is integral to a company's overall management quality and a necessary factor in successful competition.

Moreover, the report's authors highlighted that companies that perform well in these areas can increase shareholder value by managing risks effectively, anticipating regulatory actions, or accessing new markets. In addition, good management of ESG issues can contribute to shareholder value creation through new business opportunities, customer satisfaction and loyalty, reputation as an attractive employer, enhanced reputation and brand, cost savings and access to capital at a lower cost. This can also contribute to the sustainable development of the societies in which they operate. The report includes a survey that shows how most fund managers and analysts believe that managing environmental and social risks has a positive impact on long-term market value.

The concept of ESG has developed from investment philosophies centered around sustainability and subsequently, socially responsible investing. Bergman et al. (2020) noted that ESG is increasingly valued by both consumers and investors, and companies have responded with various measures such as issuing comprehensive sustainability reports, expanding ESG disclosures in annual reports, providing information to ESG rating agencies, and communicating ESG commitments publicly. The authors analyze the evolving ESG regulatory landscape with regards to disclosure. It is widely recognized that consistent and decision-critical information is valuable, but many companies are still working towards achieving that level of consistency. Multiple frameworks and indexes have emerged to assist companies in their disclosure efforts and to provide information to investors.

According to a 2017 global survey conducted by McKinsey, companies are formalizing their governance over sustainability programs while improving their commitment to diversity and inclusion.

The survey shows that respondents cited alignment with their organization's goals, mission, and values as the most common reasons for addressing sustainability.

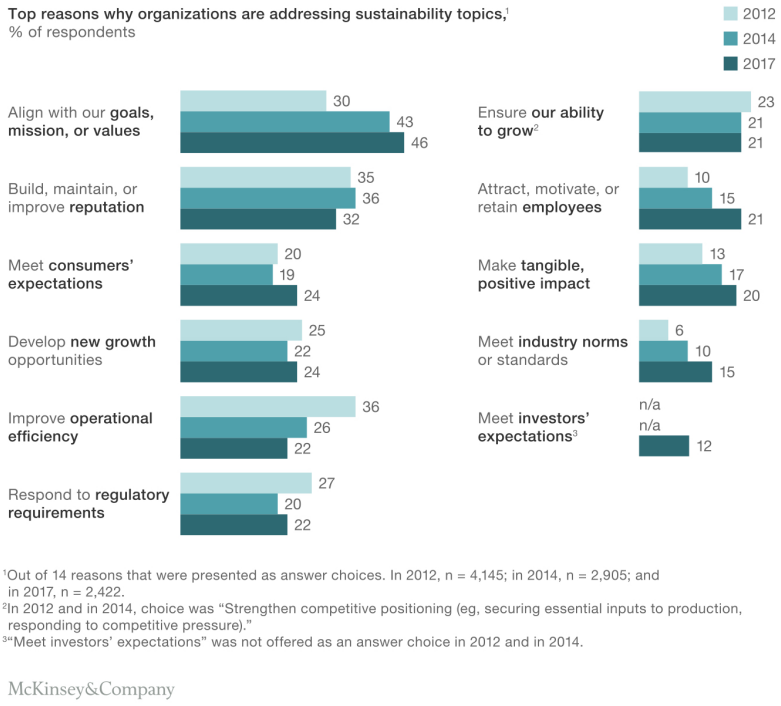


Figure 2: Top reasons why organizations are addressing sustainability topics (McKinsey&Company, 2017)

Sustainability subjects that are most relevant to corporations vary across industries. Respondents identify diversity and inclusion as one of the top five important subjects.

Notably in the retail sector, the important sustainability topics are economic development (45%), product and/or service design (58%), and waste management (48%).

Fewer organizations are pursuing sustainability activities related to growth than in previous years. Moreover, there is variation across industries in the perception of the most valuable sustainability opportunities over the next five years. In the retail sector, over 80% of respondents acknowledge the potential for modest or significant value in sustainably managing their supply chain.

McKinsey's study concludes that companies struggle to accurately measure the financial implications of their sustainability initiatives. Respondents whose companies have measured the financial impact report an equal likelihood of sustainability being a cost or creating value.

Conversely, those respondents who state that sustainability is formally integrated into one or more functions (such as R&D, strategic planning, or finance) seem to realize the greatest value.

Additionally, ESG is shaped by public opinion, and ESG issues are primarily associated with reputation.

1.2.5 ISO

ISO (International Organization for Standardization) is an independent, non-governmental international organization with a membership of 170 national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus based, market relevant International Standards that support innovation and provide solutions to global challenges.

ISO standards are internationally agreed by experts with expertise in a specific subject matter and they offer guidelines about the best practice regarding specific activities or organizations' needs.

This organization introduced also standards concerning social responsibility and sustainability, given the increasing relevance of these aspects.

ISO 26000:2010 offers guidance to all organizations, regardless of their size or location, on social responsibility concepts, terms, and definitions, trends, and characteristics. It also presents principles and practices that relate to social responsibility. In addition, it covers the core subjects and issues of social responsibility, integration, implementation, and promotion of socially responsible behavior throughout the organization and within its sphere of influence, identification, and engagement of stakeholders, and communication of commitments, performance, and other associated information concerning social responsibility. It strives to motivate them to exceed legal compliance, understanding that compliance is an essential obligation for any organization and a crucial aspect of their social responsibility. Additionally, it aims to enhance shared comprehension in social responsibility and supplement other social responsibility instruments and initiatives, rather than replace them.

In applying ISO 26000:2010, it is recommended that an organization consider societal, environmental, legal, cultural, political, and organizational diversity, along with economic disparities, while maintaining conformity with global standards of conduct.

ISO 14001:2015 outlines the necessary criteria to establish an environmental management system for organizations to enhance their environmental

performance. This standard is intended for systematic management of environmental responsibilities contributing to the sustainability of the environment.

ISO 14001:2015 assists organizations in achieving their intended environmental management system outcomes, which provide benefits for the environment, the organization, and interested parties. The environmental management system's intended outcomes entail improving environmental performance, fulfilling compliance obligations, and achieving environmental objectives, in accordance with the organization's environmental policy.

1.3 Luxury

Although there is no consensus on the definition of luxury, Godart and Seong (2014) collected some definitions given by scholars from various disciplines since the concept have widely discussed given its complex nature.

In economics, luxury goods are defined as items with an income elasticity of demand greater than one (Kemp, 1998, quoted in Godart and Seong, 2014, p. 13). This means that their demand increases proportionally more than income. However, they claimed that this definition alone does not account for the fundamental characteristics of luxury goods.

So, they cited Veblen (1899), which was among the first to examine luxury through a comprehensive theory of social class dynamics, and then Allérès (1997), who, with renewed interest in the subject matter, proposed a three-tier hierarchy for luxury based on accessibility, with relative examples referred to the luxury fashion industry:

- "Inaccessible luxury" includes the exclusive models such as haute couture,
- "Intermediary luxury" refers to expensive replicas of individual models, such as specially tailored dresses that are fully or partial duplicates of haute couture models,
- "Accessible luxury" includes products made in larger series, such as luxury brands' ready-to-wear lines.

The discussion surrounding the notion of luxury also involves philosophers from the outset. Plato (ca. 380 BCE) discussed luxury as a scarce, highly desirable item indicative of individual social success. He argued that its scarcity is the root cause of wars and conflicts, thus calling for its ban. This theory of luxury set the tone for subsequent debates on luxury and its intellectual development within the European philosophical tradition (Godart, 2011, quoted in Godart and Seong, 2014, p. 14).

Godart and Seong (2014) underlined that luxury arises from the desire of affluent, high-status consumers to demonstrate their status, thereby making scarcity essential to luxury.

Many years later, Berry (1994, quoted in Godart and Seong, 2014, p. 14) took a philosophical approach to conceptualize luxury based on the needs/wants

distinction. He emphasized that luxury involves spending money on items or experiences that go beyond what is necessary.

Since luxury is connected to power and status, it has frequently been the topic of moral disputes. Godart and Seong (2014) continued their analysis signaling two opposing views on luxury. On one hand, scholars like Voltaire (1736) see luxury as a source of earthly pleasure and economic development; on the other hand, philosophers and moralists like Rousseau (1750-1755) see luxury as morally reprehensible because it leads to conflicts over the acquisition of scarce resources and because it is an activity that diverts people from more valuable endeavors. In fact, luxury is not entirely immune to criticism that individuals' desire for luxury creates conflicts. Nevertheless, the luxury industry can introduce numerous ways to create positive changes in the luxury creation process.

Two key features distinguish luxury from other market segments or industries: craftsmanship based on unique skills, which allows luxury to provide high quality and rewarding business conditions, and a particular relationship with time, as its value is inscribed in the long term (Godart and Seong, 2014).

However, the concept of luxury has evolved throughout the years. While luxury began as a niche limited to the wealthy few who could afford it, modern luxury has evolved significantly. Luxury retail is a thriving, expanding sector that serves a growing customer base (Kapfener and Valette-Florence, 2016). High-end stores can be found in all major global capital cities, and their presence is a sign of the economic growth and emergence of a middle class seeking the best that society has to offer.

The concept of luxury remains elusive, but its reality is evident to all consumers. In the marketplace, luxury is embodied not as an abstract idea but through remarkable brands and their opulent stores located in prime areas. Scholars may continue to debate luxury's definition; however, the prevalence of these luxurious brands provides a remarkably uniform consumer experience and vision (Kapfener and Valette-Florence, 2016).

In order to grow, luxury brands must forego reliance on product and ingredient rarity as a prerequisite for luxury and instead embrace "abundant rarity" strategies (Kapferer, 2012) that are defined by the expression of exclusivity rather than actual

exclusivity and employ artificial scarcity tactics (limited editions, capsule collections). Thus, they shifted their investment focus towards creating memorable retail experiences, offering individualized services, and enhancing the brand's prestige through communication tactics, social influence, social networks, celebrities, and brand ambassadors. These investments are very demanding so many brands joined concentrated groups like LVMH, Kering, Tapestry and Capri Holding (in August 2023, Tapestry announced a definitive agreement to acquire Capri Holdings).

The expansion to a wider market beyond the exclusive group of high net-worth individuals has presented a challenge: elitism lies at the heart of most luxury definitions, and nowadays it is more of a perception than a genuine reality due to the loss of rarity. Luxury brands offer more than just superior product or service performance or quality; they generate value beyond mere satisfaction. Luxury prices stem from unique qualities (Karpik and Scott, 2010, quoted in Kapfener and Valette-Florence, 2016, p. 122) created by intangible factors such as heritage, tradition, history, country of origin, association with famous clients, and an imaginary lifestyle.

Wiedmann et al. (2009, quoted in Kapfener and Valette-Florence, 2016, p. 122) introduced an interrelated three-part framework of these essential luxury values. They differentiate between functional, individual, and social values when it comes to luxury products.

Functional values consist of the need for luxury items to perform exceptionally well. Individual values include self-identity values, hedonistic benefits, and enjoying materialism.

Social values pertain to luxury items being used to impress others or for conspicuousness.

However, luxury executives partially utilize the aforementioned tripartite value creation model (Godart and Seong, 2014). According to Godart and Seong, modern luxury brands have accrued symbolic capital that depends not only on the uniqueness and preciousness of their products but also on the overall desirability of the brand. Social statements are communicated through the display of recognized brand logos. The authors assert that luxury enterprises focus on brand marketing to

establish trust, reputation, and desirability, ultimately allowing for product diversification and expansion. The importance of brand recognition is evident, even to those who do not purchase the product.

Brand evaluation experts report that the luxury industry boasts the highest representation of brands' financial worth within their market value.

Additionally, Kapfener and Valette-Florence (2016) cited another prominent luxury rating system which identifies three essential components to luxury: distinction, elitism, and hedonism (Dubois et al., 2001).

In order to profile the brand luxury experience, Kapfener and Valette-Florence analyzed the following key factors:

- Product superiority factor: the unicity of the product is a mix of tangibles and intangibles. It is a mix of rare and noble ingredients and it has to embody tradition and heritage.

  "They are a bridge between the past and the present; quality is inspired by history" (Kapfener and Valette-Florence, 2016)

- Selective distribution: luxury brands must be selective in everything they do. The stores must be perceived as not numerous as well as their atmosphere expressing refinement.
- Class and status factor: powerful brands stand above the others and endows the buyer with class and status.
- Remain very actual, unique: generate excitement by being alive and active, original through time (Growth and McDaniel, 1999). Unlike fashion which captures the spirit of time, luxury brands resist the effect of time.
- Not for everybody: the clientele of the brand is not so large (luxury exists because everybody cannot access it)
- Glamour factor: brands must manage their "reflected customer" image.
- Elitism: combine the great history of the brands and being known with expensive products.
- Creativity: being fashionable. During the fashion weeks, Haute Couture brands compete and some of them become real "must have" brands.

As depicted in the figure below, the authors then combined these eight dimensions in macro variables, up to the luxury desire and dream, organizing them according to an axis from tangible (on top) to intangible (at the bottom), from physical to felt, from physical experience to symbolic image.

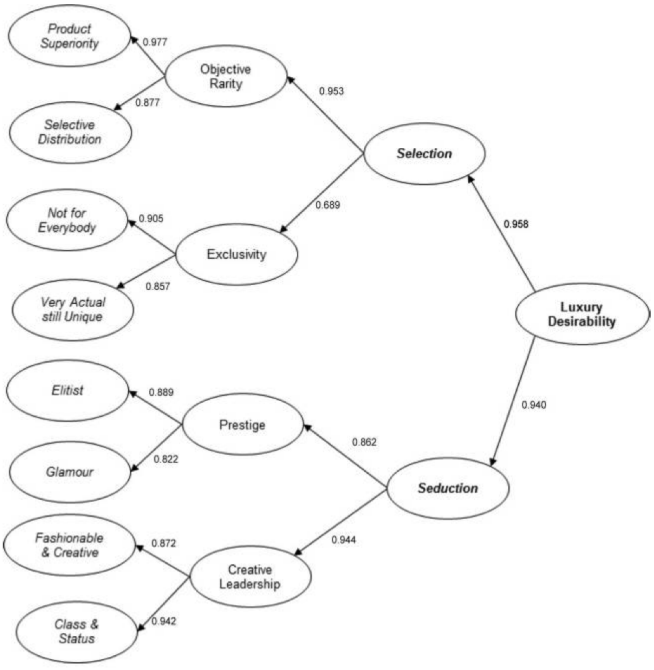


Figure 3: factors of luxury desirability (Kapfener and Valette-Florence, 2016, p. 127)

Instead of conceptualizing luxury, Chevalier and Mazzalovo (2008, quoted in Godart and Seong, 2014, p. 15) begin by dividing luxury into segments to provide a definition true to its nature. These segments incorporate exclusive ready-to-wear and fashion accessories, luxury watches and jewelry, selective perfumes and cosmetics, certain wines and spirits, luxury cars, hotels, tourism, and private banking.

Considering fashion luxury, one can argue that the connection between luxury and fashion is not always clear. Both fashion and luxury have a shared need for social differentiation, but they differ in two major ways. Firstly, luxury products are timeless whereas fashion is ephemeral and related to time. Secondly, luxury products are meant to represent self-reward while fashion is not (Kapfener, 2012). As a result, luxury fashion seems like a contradiction in terms because luxury is supposed to last while fashion changes frequently. However, luxury fashion

provides unparalleled access to enforced change due to its constant evolution, which is regarded as the epitome of recurring change (Godart and Seong, 2014).

1.3.1 Luxury market

Based on a 2022 analysis by Bain & Company, the global luxury goods market has experienced significant growth. Following a severe contraction in 2020 due to the Covid-19 pandemic, the market rebounded to €1.15 trillion in 2021 and continued to grow in 2022. Moreover, the industry demonstrates greater strength, resilience, and innovation than before.

Bain & Company tracks the luxury market, which comprises nine segments: luxury cars, personal luxury goods, luxury hospitality, fine wines and spirits, gourmet foods and fine dining, high-end furniture and housewares, fine art, private jets and yachts, and luxury cruises. Luxury cars, luxury hospitality, and personal luxury goods account for 80% of the total market.

Luxury hospitality and cruises have not yet caught up to with pre-Covid levels while gourmet food and fine dining have already completed their recovery to pre-pandemic levels. Moreover, the pandemic-fueled interest in consuming gourmet food at home continued, boosting retailers and fostering demand for culinary education.

The growth of the high-end furniture and housewares market can be attributed to the increased emphasis consumers have placed on their home life since the pandemic.

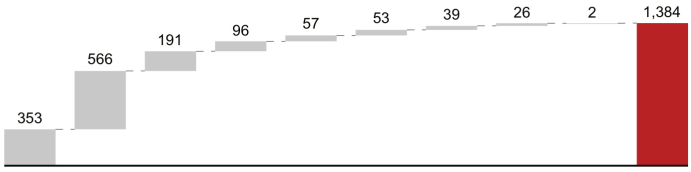
Similarly, the fine art market has experienced growth due to the perception of art as an alternative asset that can hedge against volatility in financial markets. Although the nonfungible token (NFT) market experienced a wave of speculative interest from investors, it has since stabilized. However, art-based NFTs still represent a limited, yet expanding, portion of the overall market.

Moreover, taking more into consideration diversity, equity and inclusion, galleries and collectors focused more on areas such as women artists and African art.

Sales of private yachts and jets have increased. Orders for luxury yachts have reached a record high due to the growing desire for a deeper connection with nature and the comfort it provides for high-net-worth individuals. The design of yachts has started to reflect this trend. In 2022, wealthy individuals have turned to

private jets more due to the perceived safety and efficiency compared to commercial travel. Sustainability is a key focus: yachts are now equipped with greener propulsion systems and more recyclable materials and the customer base for jets has been narrowed down and the utilization rate of airplanes has been restricted.

Luxury cars represent the largest segment of the overall market, as shown in Figure 4. The issue of supply chain disruptions was exacerbated by the Russia-Ukraine war. Consumer interest in environmentally friendly vehicles is increasing, and governments are encouraging this trend. As a result, manufacturers are focusing on larger models to reduce the costs of electrical components.

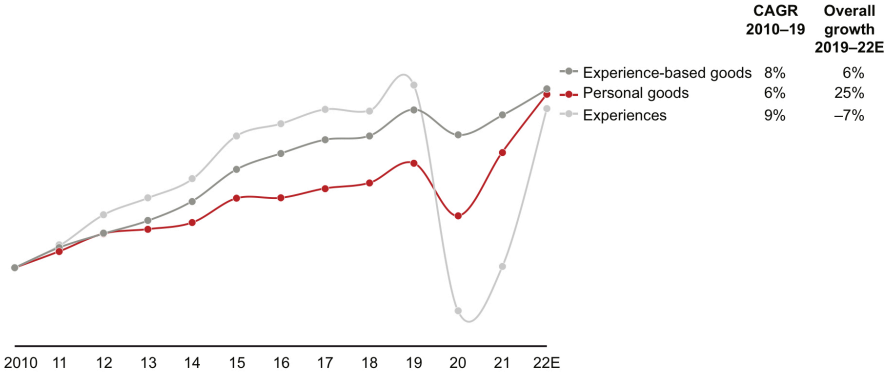


2019–22E overall growth at current exchange rates	26%	3%	–7%	26%	8%	24%	7%	12%	–25%	**8%–10%**
2021–22E growth										
at current exchange rates	22%	6%	110%	16%	12%	13%	13%	18%	355%	**19%–21%**
at constant exchange rates	15%	–1%	95%	9%	11%	9%	5%	10%	325%	**11%–13%**

Note: E indicates estimated growth
Source: Bain & Company

Figure 4: worldwide luxury market by sector (€ billions) (Bain&Co., 2022)

In the picture below, the sector is segmented into goods vs. experiences, highlighting that spending is growing at a more skewed rate. It is important to highlight that personal goods are about to reach the same turnover of experience-based goods.



Notes: Growth shown at current exchange rates; experience-based goods include fine art, luxury cars, private jets and yachts, fine wines and spirits, and gourmet food; personal goods include high-end furniture/housewares and personal luxury goods; experiences include luxury hospitality, cruises, and fine dining
Source: Bain & Company

Figure 5: global growth of luxury goods segments (Bain&Co., 2022)

The sector of personal luxury goods (the focus of this study), which encompasses luxury apparel, cosmetics, watches, eyewear, jewelry, perfumes, bags, and suitcases, has experienced a significant growth rate and it is considered the core of the entire luxury industry. Despite broader turbulence and uncertainty, 2022 set a new record for sales of personal luxury goods following a V-shaped rebound in 2021. Brands in this sector are increasingly seeking greater control over their distribution channels, with a shift towards owned retail stores. It was expected that mono-brand store sales reach parity with the wholesale channel in 2022. Additionally, the secondhand market has grown, with the US and Europe accounting for the largest share, while Asia, especially China, is experiencing accelerated growth due to increasing consumer acceptance.

In 2022, the global ranking of luxury sales by region shifted. The Americas regained the top position, thanks to solid growth in the United States and Latin America, particularly in Mexico and Brazil, for personal luxury goods sales. Asia (excluding Japan) moved to the second position, followed by Europe. Considering 2023, the growth forecasts have been adjusted upwards particularly because the Chinese rebound and Europe continuing to perform well, despite a slowdown of the US market.

All personal luxury goods performed well in 2022, with double-digit growth rates. Accessories remained the most relevant category, with leather goods showing the highest growth rate, equal to that of jewelry. Watches and apparel also registered

significant growth, followed by shoes. The beauty sector experienced the least growth. In the following picture the value for 2022 are preclosing values; in reality, the sector closed with a turnover of €345 billions and the global personal luxury goods market saw an excellent first quarter in 2023.

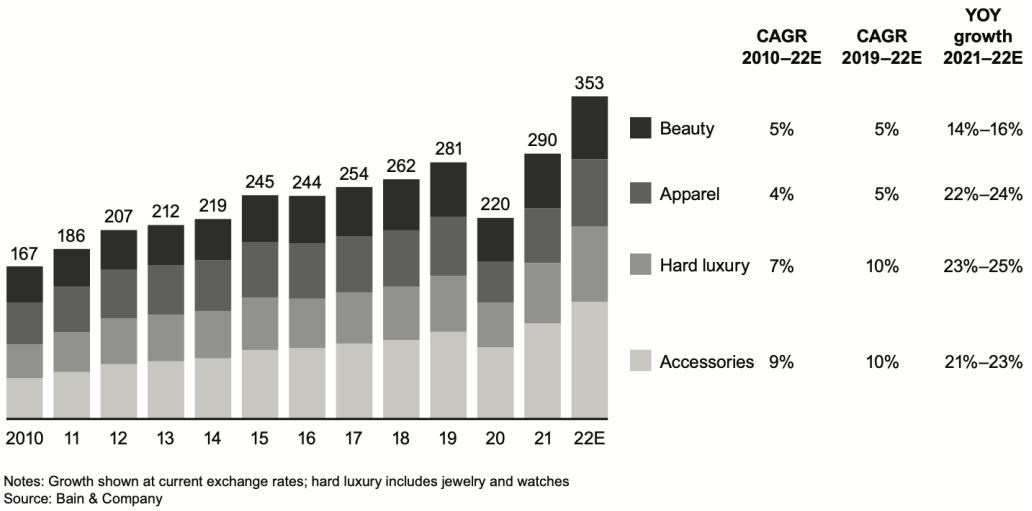


Figure 6: global personal luxury goods market by category (€ billions) (Bain&Co., 2022)

Although there has been a recovery from the effects of Covid in 2021, profits have slightly decreased in 2022 due to rising marketing expenses, ambitious transformation programs, higher energy prices, and increased labor costs. Nevertheless, brands have continued to invest in modernizing their operations and reconfiguring their store networks through renovation and relocation projects.

Regarding the future of the sector, based on the performance in 2022, the personal luxury goods market is expected to have strong market fundamentals resulting in annual growth rates between 5% and 7% until 2030. This will lead to an increase of more than 50% in the market value of personal luxury goods by the end of the decade.

Moreover, Bain & Company forecasted that four growth engines will profoundly reshape the luxury market by 2030:

- By the end of the decade, Chinese consumers are expected to once again become the dominant nationality for luxury purchases, representing 38%-40% of global sales.
- China will become the biggest luxury market globally (25%-27% of global purchases).

- Younger generations (Generations Y, Z and Alpha) are projected to become the largest consumer demographic, representing 80% of global purchases. It is important to note that Generation Y (millennials) and Generations Z already accounted for all of the market growth in 2022.
- Online should be the primary channel for luxury purchases.

By 2030, luxury should also expand beyond its traditional business model. This expansion will be driven by new types of activities, mainly powered by technology. This could include revenues generated by the metaverse and NFTs, the monetization of communities (e.g. virtual events and data monetization), brand-related media contents (such as movies, music and art), secondhand luxury goods (e.g. by bringing more secondhand sales in-house) and “3.0 experiences” (virtual stores, digital shopping assistants, ultra-luxury travel and hospitality).

1.4 Sustainability and luxury

Kapfener (2010) argues that sustainability and luxury were both originally focused on rarity and beauty, rather than being diverging concepts. At the outset, luxury was about selling high-quality, creative, and rare objects that were associated with good taste and elegance. The value of luxury was based on its objective rarity, which was resource-dependent, and high prices were necessary to protect the future of these resources.

Bain & Co. (2022) reported that luxury brands are doing well with a predicted growth of between 8%-10% between 2019 and 2022. As a result of this performance luxury brands become a focus of attention: the downside of this growth and high visibility increased exposure to criticism. As luxury brands become more visible and promote themselves to wider audiences, the most recognized luxury brands also turn into more attractive targets for sustainable development activists and watchgroups (such as Greenpeace) (Kapfener and Michaut-Denizeau, 2013).

Despite claims of craftsmanship, handmade items, or the perpetuation of tradition, several luxury brands are expanding their operations to low-cost factories while licensed operators pursue volume and sell fashionable, high-margin accessories. While some brands adhere to the stringent principles of luxury strategy, others have abandoned them and aim to increase profits through cost-cutting manufacturing and boosting retail prices. At this point, as part of the luxury industry is acting like any fashionable mass retailer, it is logical that sustainability advocates would pay more attention to its practices.

Moreover, the era of mass luxury also evokes the idea that happiness is a by-product of owning things, which creates a clear ethical issue in sustainable development terms. If the luxury sector targets more consumers, it may go too far, enticing people to invest significant amounts of their disposable income in unnecessary objects or experiences (Kapfener, 2012).

Nonetheless, luxury is still a relatively small sector (the overall luxury market is slightly more than twice the size of Walmart while the market for personal luxury goods had a turnover that was 3/5 that of Walmart's.). However, it is a highly visible industry, with public appeal linked to its high-profile consumers (Kapfener, 2010).

In addition, advocates of sustainable development also prioritize global social equity, and no industry exposes social inequalities worldwide as much as luxury. Luxury is considered a source of social tension, as economic growth in many developing countries is driven by the middle class's desire to emulate the wealthy. So, due to its conspicuousness, luxury motivates consumers to purchase beyond their means for the sake of aspiration.

As Kapfener (2010) notes, the purchase of luxury goods is inherently irrational. Godin (2009, quoted in Kapfener and Valette-Florence, 2016, p. 121) defined luxury as “needlessly expensive”: in fact, the high price of luxury cannot be fully justified by a gap in product quality or performance alone. According to Kapfener and Valette-Florence, “luxury redefines what quality means” because the high prices are not fully explained by functional qualities, but they are built by the intangibles such as heritage, tradition, history, country of origin, association to famous clients, to an imaginary lifestyle. By conveying the message through preeminent logos, the consumer is transformed into someone exceptional and matchless; brands don’t sell only luxurious products but also the dreams attached to their own name and the world they symbolize. Moreover, beyond wealth and status signaling, Amaldoss and Jain (2005, quoted in Kapfener and Valette-Florence, 2016, p. 122) signaled that the price is high enough to make followers unable to follow, keeping the brand exclusive.

One element in which the core of luxury lies is singularity, which encompasses every element that renders the piece extraordinary. This includes objective, unparalleled quality, skilled handcraftsmanship, dedicated service in exclusive retail establishments, and time.

Another element by which luxury is characterized is excess, as seen from its Latin root word "luxus". Compared to standard industrial products or services, luxury items embody extravagance. The luxury industry generates the highest gross margins of all sectors (Tabatoni et al., 2010). The organizations prioritized value creation over cost reduction by using top-quality raw materials, carefully crafting its products with expertise and precision, providing retail experiences in attractive settings, and offering distinguished branding and exceptional service. The organization's excess, although admirable to some, is subject to criticism from a

sustainable development standpoint as it goes against the principles of frugality and self-restraint necessary to ensure future generations' happiness.

Furthermore, we are currently in an era where resources are limited, and this is not due to luxury, but rather due to the expansion of mass consumption. As Kapfener (2010) highlighted, economic growth is based on internal demand and, even if imitation is a potent lever of consumer behavior, giving an example concerning air travels (a really polluting activity), he claimed that low-cost airline companies have boosted global demand, not private jets. As previously mentioned, the luxury market, particularly personal luxury goods, remains a relatively small industry. While it is experiencing growth and this expansion is accompanied by sustainability concerns, it is not the root cause of the problem.

Mass consumption is characterized by high production volume and low prices, which can lead to unsustainable practices such as high levels of carbon emissions, poor labor conditions, excessive waste, and chemical usage. Although the luxury personal goods sector, particularly fashion, is expanding and some companies may adopt practices that are harmful to society and the planet, it is crucial to recognize that this occurs on a much smaller scale. The customer base for mass luxury is wider, but not everyone can afford it, and the frequency of purchase is significantly lower. Given all of this, criticism of luxury primarily centers on its symbolic significance.

Considering these aspects, Kapfener and Michaut (2015), citing Gardetti and Torres (2014), claimed that sustainable development has become a pervasive problem for luxury brands. In fact, the luxury sector is highly aware of the risks of brand reputation, crucial for their pricing power and monetary value (Kapfener and Bastien, 2012). Moreover, there is an increasing tendency to support the idea that sustainability can create value: Francois-Henry Pinault, CEO of Kering (world's number two luxury group), recently affirmed that an approach based on sustainability would generate new revenue and long-term competitive advantage for the group (Kapfener and Michaut, 2015).

So, it seems that sustainable development is not only an altruistic opportunity but also a business imperative for luxury. In fact, as discussed also in the following parts of this elaboration, consumers demand more and more for sustainable production,

even though they don't seem concerned with sustainability when they purchase luxury goods (Cuomo et al., 2019)

Firms increased their efforts in communicating luxury's true value – rarity, exclusivity, artisanship and respect toward society and environment - to customers (Cuomo et al., 2019).

Cuomo et al. (2019) sustained that celebrity endorsement (i.e. the appearance in advertisement of individuals who enjoys public recognition and use this on behalf of the consumers' goods) constitutes a relevant marketing tool in building up sustainable firm value, especially in the luxury sector, enhancing purchase intention, brand awareness and luxury brand value, if properly managed. Moreover, celebrities are aware that they are opinion leaders and they generally act responsibly as such. Cautious of not endorsing brands that are insufficiently "eco clean" or sustainable that would hurt their own reputation, they stimulate fast change (Kapfener, 2010).

It is crucial to emphasize that luxury is synonymous with excellence, and luxury brands guarantee zero risk more than others.

Luxury products must be safe for use without animal testing, and there are greater pressures from animal defense groups and lobbies to ban testing new molecules and skincare products on animals.

Sustainability poses challenges in maintaining the superior quality of premium brands. While the use of sustainable trade cotton is a commendable ethical accomplishment that would positively impact the economic standing of local producers in emerging countries, it falls short in terms of quality and performance (sustainable cotton would not achieve the same level of quality and performance, and no individual source could generate enough of it).

In the end, all luxury brands are quickly adapting to meet the demands of sustainable development to maintain leadership (Kapfener, 2010). Kapfener sustains that luxury groups will push their providers and distributors to adopt more sustainable practices and align with sustainable development standards. He stated also that, in the future, wealthy individuals will not only display their taste and wealth but also their discernment and altruism through their choices of luxury brands. This point is stressed also by Godart and Seong (2014) in their analysis about

whether sustainable fashion is possible; however, they claimed that luxury serves the need of customers to signal their luxury affiliation not only by purchasing the "right" luxury good but also by following constant changes in fashion style driven by the industry's fashion cycles.

Godart and Seong (2014) underlined that pursuing eco-sustainability in luxury fashion is faced with additional challenges because in this case change itself embodies a form of luxury.

Porter and Kramer (2006) argue that firms should be able to identify opportunities where they can pursue corporate social responsibility (CSR), not in generic ways but in ways that are most appropriate for their business strategies to create values both for the society and for their own competitiveness.

Godart (2012) looked at six principles of fashion and the unique opportunities associated with each of them:

- Affirmation: driven by the desire to assert one's identity, individuals use fashion as identity signals to express their individuality and social affiliation.

  Sustainability can be seen as a limitation to the desire to assert individuality and social affiliation through "being in fashion", which prompts regular changes of clothing and reinforce inflated production cycles. On the other hand, the institutionalization of sustainable fashion practices (e.g. secondhand) presents opportunities for sustainability by altering consumers' perceptions of buying sustainable fashion items as an accepted social practice.

- Convergence: fashion is characterized by global trends in today's world. Styles may have multiple origins but the production of styles in the form of design takes place in big fashion capitals such as Paris, New York, Milan and London. There, design trends are formulated and then updated regularly and then they spread out to the rest of the world.

  The convergence principle can be seen as complementary to the affirmation principle because it can help enable key industry stakeholders to converge around consumers' interest in purchasing eco-sustainable fashion items.

- Autonomy: it concerns the creative dynamics of the fashion industry, where the creative choice for styles and designs maintains its autonomy against external factors. Several high-end fashion houses have already started to mobilize exceptional creativity across the fashion industry in order to develop sustainable and aesthetically appealing designs.
- Personalization: this principle captures the market audience's shared belief that individual designers possess creative autonomy. This belief can be used by designers to influence a pro-sustainability trend.
- Symbolization: it is about the power of brands and the importance of meanings in fashion. If each brand's symbolic power is aggregated, a industry-wide dialogue concerning the inclusion of sustainability in fashion. Moreover, the consumer perception about sustainable fashion could be enhanced leveraging the symbolic power of brands.
- Imperialization: this principle is about the major role played by business groups in the fashion industry and about how fashion has come to stand at the core of many other industries. The size and power of these business groups can be leveraged to influence affiliated individual fashion brands to adopt and implement large scale sustainable agenda.

1.4.1 Consumer perceptions

Though slow to engage, DeBeers (2009) claimed luxury companies have begun to share their sustainability efforts (quoted in Kapfener and Michaut-Denizeau, 2013). As a result, most luxury brand websites feature specialized sections focused on social and environmental responsibility.

Today, many luxury brands have highlighted the integration of sustainability issues as part of their business practices, and they produce comprehensive reports detailing their efforts.

Since 2000, major luxury groups have established dedicated positions or task forces. However, these luxury groups operate differently than others, lacking integration and a top-down decision-making culture. Moreover, at least at the beginning, these brands communicated minimally, striving to preserve their idealized image by limiting the dissemination of any other information. Additionally, they believed that sustainability has been excessively exploited through greenwashing, prompting

them to remain silent in order to prevent potential backlash (Kapfener, Michaut-Denizeau, 2013).

Kapfener and Michaut-Denizeau (2013) studied the consumer's perception of a contradiction between luxury and sustainability conducting exploratory research. The first thing that emerged from the study was that, even if luxury brands create an ideal image, luxury as a concept or industry provokes a different perception (one third of the buyers hold mixed feelings towards luxury as a concept).

All respondents (luxury brands buyers) were provided with the meaning of sustainable development at the beginning of the analysis and 36% of the sample declared themselves sustainable development sensible but only 22% of the respondents are also active in this direction. On the other hand, 27% declared themselves insensitive but active. 37% of the respondents declared themselves indifferent or hostile to the matter and at the same time they do nothing regarding the matter. What emerged is that, for most consumers, sustainability is not a part of their decision-making agenda. Moreover, most of the respondents believed that luxury should not be a priority for sustainable development activism because they regard it as far cleaner that many other sectors in which sustainability efforts could have a much higher and more immediate impact.

They also included several news items that evoke emotional resonance. These items reflected classic activist struggles and are divided into two major dimensions: human welfare (labor conditions, waste-related issues, high carbon emissions) and animal welfare (killing animals). The most noteworthy finding from this section of the study is that consumers expect brands to return to their core luxury principles, such as craftsmanship and localization of production. Maintaining local production proves to be a crucial factor in upholding the desired luxury image for consumers, as Kapfener (2012) suggests.

Regarding the contradiction between luxury and sustainability, 33.8% of respondents perceived the two concepts to be contradictory, while a slightly higher number (36.1%) considered them non-contradictory.

Interestingly, the analysis shows that individuals involved in sustainable development practices experience less conflict between luxury and sustainability.

Meanwhile, critiques of mass luxury take an ethical stance against targeting non-wealthy individuals for future growth.

Moreover, the sample's responses do not support the idea that luxury consumers' perception of the contradiction between luxury and sustainability decreases with the perception of luxury promoting true values. At the same time, the perception of the contradiction grows with the superficial value and social unrest factors.

So, this study identifies potential negative impacts on luxury brands, including issues surrounding animal welfare and concerns about production being outsourced. Three categories of luxury buyers were identified based on their perception of the contradiction between luxury and sustainability: those who perceive a contradiction, those who do not, and those who have no opinion.

Consumers' perception that luxury is superficial or creates social unrest enhances the perceived contradiction with sustainability. This could be a significant risk for luxury brands in a rapidly changing environment where inequalities are increasingly apparent and conspicuous consumption is a status symbol. To avoid creating social turmoil, luxury brands must manage this risk with sensitivity. It is especially important because luxury brands rely on social recognition to promote their products. So, although the interest of luxury buyers remains relatively minimal, the benefits of compliance outweigh the negative effects. Such observance offers compelling avenues for further efforts by the luxury sectors.

Subsequently, Kapfener and Michaut (2015) studied the involvement of sustainability in the luxury purchases, the consumers’ expectation regarding the compliance of luxury brands with sustainability and the contradiction between luxury and sustainability.

Kapfener and Michaut (2015) mainly argued that, because of their high visibility and their commitment to quality, luxury brands are particularly affected by sustainability issues. They claimed that consumers seems to be particularly interested in sustainability when they perceive that their choice has an immediate impact. However, as they specified citing Davies et al. (2012), this is the case for consumer products, characterized by highly repeated purchases, but not for the very few purchases of extraordinary luxury goods. Moreover, they added that, in luxury, everything is done for the client to feel unique and special and this tends to

maximize the feeling of privilege and rarity, minimize the feeling of volume and, therefore, of the potential impact of this rare purchase on sustainable development.

However, quoting Gardetti and Torres (2014), Kapfener and Michaut (2015) sustained that, although luxury consumers do not appear to be explicitly interested in the sustainability criterion to purchase luxury brands, they implicitly hold the belief that luxury brands have the duty of being sustainable, a mission of exemplarity based on their proved and promised exceptional quality.

Based on these premises, they conducted interviews with luxury consumers (recruited by a research company) and found that, on average, respondents reported not being interested in sustainability when purchasing luxury products. The study also confirmed that while luxury is not yet considered an explicit requirement for consumers when buying luxury goods, it is certainly part of their latent expectations. According to Berger et al. (1993, quoted in Kapfener and Michaut, 2015), sustainability has become a necessary consideration, even if it was not explicitly stated before. Ignoring these requirements poses a significant risk for brands.

This survey highlighted that luxury is often viewed as a symbol of social inequality (40%), encouraging consumers to overspend (62%), and associated with a superficial lifestyle (37%). Therefore, the social dimension of luxury is critical. Luxury brands must still convince the majority of their customers that their practices align with sustainability principles.

Moreover, on the basis of the results, the perception of contradiction between luxury and sustainability seems to depend on consumers' definition of luxury.

For what concerns the age of the customers, it seems that younger customers are more likely to perceive a contradiction between luxury and sustainability. This statement emphasizes the importance of adapting to the generational shift in the luxury personal goods market. Young consumers are becoming a significant share of this market and are more influenced by sustainability and second-hand luxury goods. Therefore, brands should adjust their strategies accordingly.

Vock (2022) studied the consumer perception of corporate social responsibility efforts of luxury versus mass-market brands.

She emphasized that corporate social responsibility has become prevalent across multiple industries, citing Mishra and Modi (2006), and that there is a rising trend in ethical and sustainable consumer behavior. While the luxury segment has been slow to adopt responsible practices, the turn of the twenty-first century witnessed a growing interest in CSR by luxury brands (Carrigan et al., 2013; Dekhili and Achabou, 2016; Kapfener and Michaut-Denizeau, 2013).

Vock (2022) sustained that, while some traditional luxury brands are still reluctant to introduce sustainable products (Adiguzel and Donato, 2021) and generally avoid discussing CSR to maintain a "dream image" (Kapfener and Michaut-Denizeau, 2013), new luxury brands are taking a different approach. They are creating separate sections on their websites to highlight their CSR initiatives, launching sustainable product lines, contributing to charities, or going further by fully embracing sustainability and becoming a sustainable luxury brand (e.g. Stella McCartney) (Adiguzel and Donato, 2021; Dekhili and Achabou, 2016; Hepner et al., 2020; Kapfener and Michaut, 2015).

However, as said before, not all luxury characteristics contradict the notion of CSR. In fact, rarity, scarcity, timelessness and tradition and craftmanship are luxury markers well aligned with the idea of sustainability (Kapfener and Michaut-Denizeau, 2013).

Existing research on CSR has drawn on a wide variety of different CSR practices (Vock, 2022). Aguinis and Glava (2013) categorized CSR as either peripheral or embedded: peripheral CSR “focuses on activities that are not integrated into an organization’s strategy, routines and operations” while embedded CSR “relies on organizations’ core competencies and integrates CSR within a firm’s strategy, routines and operations’ that is, business practices and product-related CSR”. Consumers are sensitive to CSR activities that distract a company from its core business related corporate activities (CAs). Perceptions that CSR may be a drain on a company’s resources – termed “CSR CA trade-off” – negatively impact consumers’ evaluation of the brand and its products (Sen and Bhattacharya, 2001).

Focusing on luxury brands, it emerged that CSR did not significantly impact consumers' attitudes toward the luxury brand compared to not participating in CSR at all. Vock's research findings indicate that luxury brands engaging in either

peripheral or embedded CSR do not face any disadvantages compared to those who do not engage in CSR. Therefore, it is misleading to assume the existence of a backfire effect or a paradox.

From a managerial perspective, Vock's research suggests that luxury managers should not avoid engaging in externally visible philanthropic donations or product-related CSR for fear of potential backfire effects. Despite this, many traditional luxury brands continue to hesitate in communicating their CSR engagement externally, resulting in low consumer awareness. Such hesitance can result in missed opportunities for conventional luxury brands. In fact, luxury consumers, especially younger ones, have greater expectations for luxury brands to integrate more sustainability practices. Moreover, brands that have established themselves as sustainable, like Stella McCartney, have acquired a competitive advantage (Hepner et al., 2020). Previous research has suggested that luxury brands should focus their corporate social responsibility efforts on internal business processes. However, the present study's results may encourage them to also invest in externally visible CSR initiatives, without having to preserve their idealized image by limiting the dissemination of information. This conclusion can also be applied to ESG practices.

1.4.2 Sustainable value creation

Many studies have indicated that sustainability in luxury fashion (as in personal luxury goods) can enhance brand image; luxury product manufacturers consider not only the quality and uniqueness of their products but also the ethical factors necessary to meet consumers' expectations. However, this alone may not be sufficient to achieve sustainability, and there appears to be a persistent lack of motivation.

Based on De Brito et al. (2008) and Caniato et al. (2012), the main drivers stimulating the luxury industry to implement sustainable practices can be divided into three categories: operational-level cost and risk, market-level benefit and law and regulations. At the moment, the influence of law and government pressure results not to be a significant positive factor for effectively promoting sustainable practices among luxury companies as the current law and regulations seem only to include general practices.

Yang et al. (2017) studied the mechanism of sustainable value creation in the luxury fashion industry. However, this reasoning seems to be applicable to all segments of the luxury personal goods industry. The authors defined sustainable value from a supply chain perspective and stated that value is created only when business activities benefit each party of the supply chain, the environment, and society.

The literature on value creation can be divided into three classifications, depicted in the figure below (Yang et al., 2017): a provided value model (applied to companies which clearly specify customer demands and the marketing environment), the adaptive value model (applied to companies which clearly define customers' demand) and value co-creation model (applied to companies with complicated environments and ambiguous customer demands).

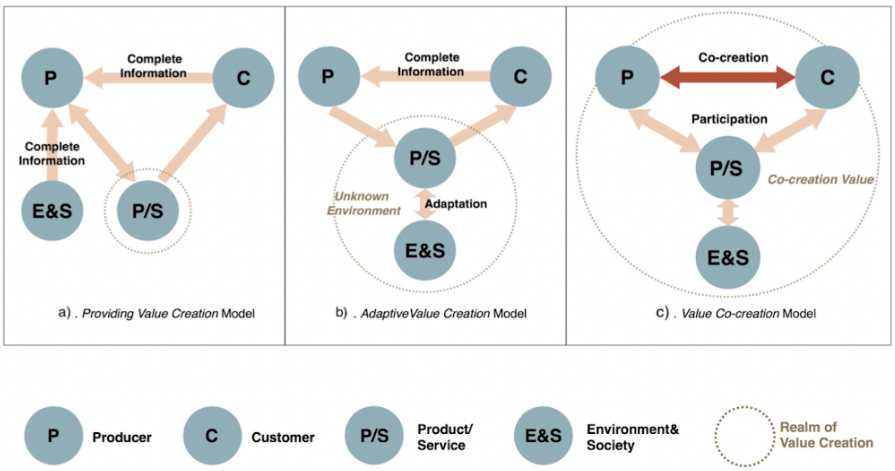


Figure 7: value creation classification (Yang et al., 2017, p. 5)

Yang, Han and Lee (2017) thought that the most appropriate model for luxury companies, according to its specific features, is the value co-creation model.

Although luxury companies wish to take into consideration sustainability, they sustained that it is difficult to keep the whole supply chain under control. Moreover, the costs seem to be higher than the benefits and there is the problem of incomplete information from the market (e.g. consumer preference). Sustained value creation in these cases is based on constructive stakeholder relationships in the supply chain.

The co-creative value model engages producers, customers, and products/services in interaction activities that create value through environmental information and ambiguous objectives (Yang, Han and Lee; 2017). Focal brands/companies co-create

value with the suppliers, producers, distributors, consumers, environment, and society.

In this model, suppliers regularly provide up-to-date information on sustainable raw materials and alternative materials research to targeted brands/companies.

Consumers play a crucial role in product design by expressing purchase preferences and demanding sustainable options such as reduced packaging and avoidance of fur products.

Producers use comprehensive information about raw materials and consumers' preferences to conduct production activities that prioritize resource reduction and environmental protection.

Finally, retailers deliver environmentally and economically responsible products to end-consumers.

Co-creation experiences and processes that incorporate comprehensive information and product specifications can effectively address issues of inadequate market information, increase transparency in material acquisition, improve partnership collaboration, and facilitate the calculation of environmental impact-related costs and benefits across the entire supply chain.

It is important to underline that these kind of interactions within the supply chain can create a competitive advantage over the competitors.

The picture below (Yang et al., 2017) is a representation of the sustainable value co-creation model.

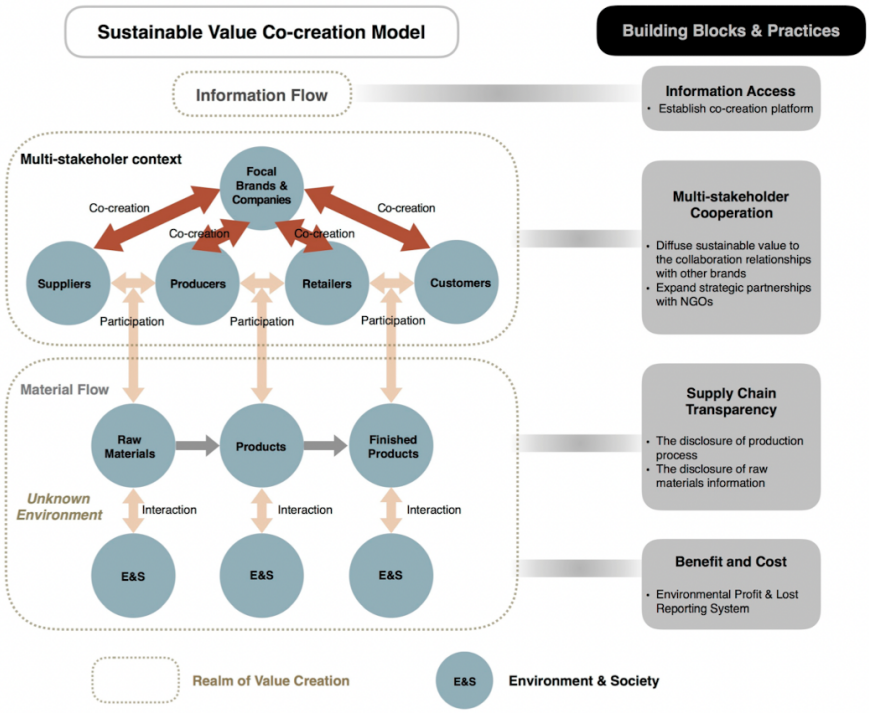


Figure 8: value co-creation model (Yang et al., 2017, p. 7)

The study analyzes also the application of the model to two different case studies (Stella McCartney and Kering). The two companies considered were different: one company born with sustainability as a key value and a driver of the business model and its strategy from the beginning and the other where sustainability became relevant in a second time.

1.4.3 Market value of sustainable practices

Feng, Tong, and Zhu (2020) examined the market value of sustainable practice in the luxury industry from an institutional theoretical lens and taking into account an identity mismatch perspective.

From the identity mismatch perspective, firms with higher inertia in maintaining luxury identity are less likely to perform sustainable practices; otherwise, it would result in a higher degree of identity mismatch. The authors considered this mismatch considering that multiple researchers pointed out that there is a contradiction between the values of luxury firms and sustainability.

However, despite the identity mismatch, the necessity of managing sustainability has been institutionalized over the past decades because of the evolving external pressure toward sustainability from various stakeholders on luxury firms. This external pressure has been a consequence of the increasing media attention on

firms' sustainability, the growing number of NGOs on sustainability and of their tools to promote sustainable development over the past years and consumers attention (recent studies found that younger luxury consumers, have higher purchase intention for sustainable products).

The results of their study showed a negative reaction of the stock market to sustainable practice adoption in the luxury industry. However, as the institutional norm of sustainability amplifies over time, the negative market reaction to luxury firms' sustainable practices significantly decreases and the marginal stock return of announcing sustainable practice adoption increases over time. In the future, there might be a positive stock market reaction to the luxury firms' sustainable practices if the norm of implementing sustainable practices continuously permeates into the industry.

These results implied that a firm that pursues the maximization of market value is not suggested to pass its news on the engagement in sustainable practices to the stock market due to the mismatched identity of being sustainable and luxurious. However, the institutional norm eventually would prevail and the identity mismatch appear to attenuate. At some point the norm would become an essential requirement for luxury firms and the mismatch eventually disappear.

1.4.4 Green transition and social sustainability in the luxury industry

As previously mentioned, luxury companies are already making efforts towards sustainability. This section describes the main trend regarding sustainability in the luxury personal goods industry.

According to the report "Global Powers of Luxury Goods 2022" by Deloitte, the green transition and progress toward a circular economic model and responsible business is an opportunity for companies to be innovative and disruptive.

Deloitte's report recognizes the following ESG transformation drivers:

- The increasing demand for sustainable products: consumers demand more sustainable products in their production, use and end-of-life, valuing positively products made from recycled and/or recyclable materials and products made under fair conditions

- Cleaner and more circular chains: fostering circular economy can be the way to achieve climate goals; the sector must advance in decarbonization and in the management of pre and post-consumer waste
- Promoting fair equal labor standards: working to ensure respect for human rights throughout its value chain
- Transparency and traceability: ensuring traceability of processes throughout all stages of the production cycle becomes key to promote transparency over environmental and social performance.

As already stated in the previous versions of the report, Deloitte emphasized that sustainability has become a top priority for luxury goods companies. Increasingly more companies are including sustainability principles in their core strategies, aligning themselves to the United Nations Sustainable Development Goals (SDGs) and to the Fashion Pact. Pursuing sustainability is a crucial aspect of combating climate change and promoting equitable economic growth.

1.4.4.1 Circularity

The foundation of circularity is to create products that are safe, innovative and durable in order to reduce waste, carbon emission and pollution to adopt a circular economy model. According to the Ellen MacArthur Foundation a circular economy could reduce Greenhouse Gas emissions by 22% to 44% in 2050 compared to the current linear model. Transitioning to a circular economy supports the achievement of 12 of the 17 SDGs.

In the picture below, it is possible to see Deloitte's elaboration of different value chain models, based on World Economic Forum graph.

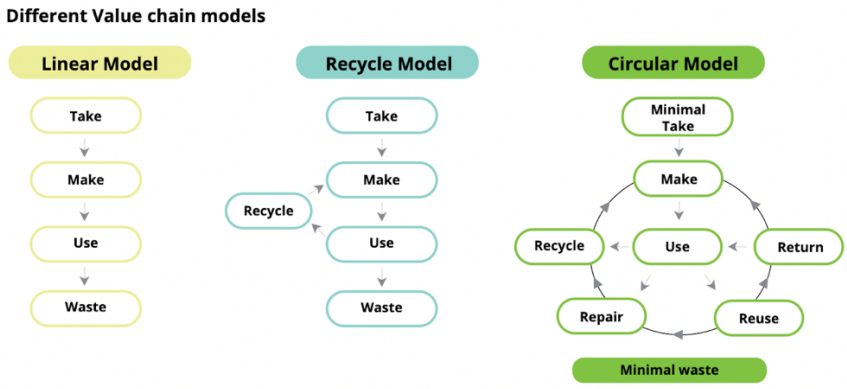


Figure 9: different value chain models (Deloitte, 2022)

Luxury companies would need to depart from their conventional linear approach of 'take-make-use-waste' and develop measures to encourage alternative business models that enhance product utilization (such as secondhand, resale, and rental), establish safe and renewable resources, and implement solutions that enable used products to be transformed into new ones. In these stages, innovation and digital technologies introduce new and fast elements to support the development towards circularity.

To achieve circularity, Deloitte claims that it is necessary to make the actors of the value chain collaborate and cooperate. An example of this was the inauguration of Re.Crea consortium in October 2022, coordinated by Camera Nazionale della Moda Italiana, by brands as Dolce & Gabbana, the Prada Group, Max Mara Fashion Group, Moncler and Ermenegildo Zegna. This consortium had the aim of promoting research and development in the field of recycling solution for textile-fashion products.

Kering has its own Circularity Ambition program aimed at transforming the company into a full cycle organization, starting many collaborations within and between sectors (e.g. with Microfiber Consortium, the Apparel Impact Institute,…). LVMH's vision of new luxury is embodied by the LIFE 360 strategy launched in April 2021, including targets also about creative circularity.

Deloitte identifies as benefits of the circularity model for the luxury sector the cost reduction and efficiency gains, the externality reduction (pollution and emissions, resource preservation), the risk reduction (both reputational and third-party risk), compliance (increasing regulatory initiative and increasing contribution to global governance), financing, competitive advantage and new market potential (first mover advantage, sustainable income flow, customer retention and loyalty).

Therefore, consumers are changing the way in which they buy, use and sell luxury products and are increasingly showing interest in the second-hand market. Benefits of second-hand purchases are affordability, collectability and its representation of a responsible alternative for new affluent generations to acquire items without contributing to the negative impact on the environment.

Due to the growing demand of this market segment, luxury goods companies are discovering how the pre-owned category can help extend the lifetime of their

products and to increase the relevance of brands among new, and mostly young, woke consumers. Some companies are already investing and joining forces with resale platforms as alternative distribution channels.

Resale can adopt peer-to-peer sale of secondhand items (Vestiaire Collective), third party marketplaces (RealReal or Farfetch) and own-brand re-commerce and take-back. Other business models that can be adopted are rental, repair and remaking.

Following this trend, luxury companies are now investing in the resale market.

Stella McCartney started working with the RealReal (a virtual reselling platform that fosters circular economy) on the Circular Economy Program; in exchange of the RealReal's first consignment of a Stella McCartney item, the customer will receive a personal promo code for their next purchase at a Stella McCartney store. Also Burberry and Gucci joined this program and they offer personal shopping experience (Burberry) and a charitable donation to One Tree Planted (Gucci) in return.

Kering acquired a 5% stake in the French Vestiaire Collective in 2021. Sales by this e-tailer grew by more than 100% during the pandemic because of the growing awareness of climate change and its growing Gen-Z clientele.

LVMH has launched its own online resell platform Nova Source for "re-sourcing" materials from the group's fashion and leather goods maisons.

In 2018 Richemont acquired Watchfinder, an established platform to research, buy and sell premium secondhand watches online and through physical stores.

Upcycled by Miu Miu (a brand by Prada Group) is a collection of vintage dresses sourced by vintage stores, reworked and transformed by the brand itself; the pieces are then sold in selected Miu Miu stores. The project started at the end of 2020.

On the other hand, with the second market growing, the risk of counterfeited goods increases (counterfeiting is one of the most severe problems of the luxury sector according to Deloitte). Companies are seeking solutions to this problem, and one potential solution is a digital passport. This tool can verify the origin of luxury goods, such as designer items or works of art.

1.4.4.2 Social responsibility

According to the United Nations, social sustainability is about defining and managing business impact, both positive and negative, on people.

Luxury companies are working hard on promoting diversity, equity and inclusion at all levels in the industry (Deloitte) making structural and behavioral changes to become more purposeful and inclusive.

Considering social sustainability, educating and empowering people to make more sustainable choices is a crucial aspect, engaging in activities such as the support of local artisanship through training programs or charitable initiatives.

For example, Brunello Cuccinelli established the School of Contemporary High Craftmanship and Art in Solomeo to pass on to the young generation the value of manual creativity and the skills which are at the heart of craftmanship. Bottega Veneta promotes artisanship with its initiative “Bottega for Bottega’s”, selecting and showcasing the work of twelve selected lifestyle businesses across Italy.

Considering education, the Prada Group started an educational program for ocean preservation.

1.4.5 The Fashion Pact

The Fashion Pact is a non-profit organization, born out of the recognition that only collective action can change the environmentally harmful impact of the highly fragmented fashion industry.

it was launched as an initiative by the French president Emmanuel Macron and it began as a call to action to fashion CEOs to address the industry environmental impact. The pact was then presented to the Heads of State at the G7 Summit in Biarritz in 2019 and connected to One Planet Summit, a multi-stakeholder platform committed to address environmental issues.

The initiative has become the largest CEO-led initiative for sustainability in the fashion industry. Its goal is to contribute to a nature-positive, net-zero future for the fashion industry, working towards mitigating climate change and restoring biodiversity through strategies aligned with Science Based Targets for Nature, protecting oceans and freshwater from the industry’s negative impact through solutions that address pollution from upstream textile production and plastic packaging. In order to achieve results of this scale the industry’s entire system must be transformed.

The Fashion Pact was co-founded by Francois-Henry Pinault (Chairman and CEO of Kering) and the CEOs of Tapestry, Capri Holdings, Burberry, Ferragamo, Ralph

Lauren, Chanel, Ermenegildo Zegna Group and many other CEOs of other luxury firms signed the membership agree.

1.5 Corporate ESG performance and profitability

As previously mentioned, the world is falling behind in achieving the UN Sustainable Development Goals. Business leaders have been found to be severely off track in delivering on their sustainability and climate goals. However, sustainability appears to have become a priority for CEOs across all industries.

Studies have shown that sustainability can be a catalyst for business. Companies with high ESG ratings have lower costs of debt and equity: in fact, sustainability initiatives can improve financial performance while fostering public support (Spiliakos, 2018).

Additionally, adopting sustainable initiatives not only enhances financial returns but it also creates shareholder value, leading to long-term profits.

In the luxury sector, sustainable development activists have focused on several features, including the significant growth of the industry in recent years, the emergence of mass luxury, and the perception that the industry is associated with social unrest and irrational consumption.

Although sustainability may not always be a primary consideration in purchasing decisions, customers implicitly believe that luxury brands have a duty to be sustainable. Therefore, it is becoming increasingly important for luxury brands to prioritize sustainability to enhance their brand image. Moreover, linking sustainability to their brands can result in engaging the appropriate secondary source (i.e. celebrity endorsement) which can boost purchase intention, brand awareness, and luxury brand value.

Moreover, the rules of the luxury sector are evolving as the customer base expands to include younger generations who prioritize sustainability. Circularity has become increasingly relevant, and consumers are changing their purchasing, usage, and selling habits, showing a growing interest in the secondhand market. In response to this trend, luxury brands are already investing in reselling.

It appears that sustainability can add value to the luxury industry, as demonstrated by specific models studied. These models apply a value creation strategy that considers a greater interaction among all parties involved in the supply chain, both in new and established businesses.

Although luxury and sustainability may initially seem like opposing concepts, the negative impact on market value of sustainability dissipates as sustainability becomes the norm.

Based on the information presented, it seems that strong ESG performance may lead to increased profitability.

To test this hypothesis, a model similar to the one used by Russo and Fouts to demonstrate the positive correlation between environmental performance and profitability will be employed, as previously mentioned.

2. Methodology and data

This chapter presents the model used to test the aforementioned hypothesis and explains how the data are collected for the testing phase.

The second section provides an explanation of the independent variable used and an overview of the companies included in the database.

2.1 Model

The methodology used is based on the Russo and Fouts' article "A resource-based perspective on corporate environmental performance and profitability" from 1997. This article has already been used by Cherrie and Tyborgnes in their 2017 master's thesis to study the relationship between environmental and social responsibility performance and profitability in the luxury fashion industry. Therefore, it seems to be a good starting point to study the relationship between ESG performance and profitability in the personal luxury good industry.

Russo and Fouts used the resource-based theory to study the economic impacts of environmental performance, highlighting the role environmental policy plays in generating broader organizational advantages that allow a firm to capture premium profits.

The resource-based view places a strong emphasis on performance as a key outcome variable and acknowledges the significance of intangible concepts such as know-how, corporate culture, and reputation. Russo and Fouts (1997) stressed that, when an environmental policy is built on top of an overall reputation for quality, a pro-environment reputation can become a valuable inimitable resource, even if customers doesn't seem to prioritize sustainability in their purchases decisions.

The analysis of the luxury sector shows that sustainability affects brand image as well as quality, so it seems that the same reasoning that applies to environmental policy in companies that focus on quality can be extended to sustainability in luxury companies. Thus, resource-based theory appears to be a valuable tool for examining the impact of ESG performance on profitability in the luxury industry.

Russo and Fouts used the environmental rating assigned by the Franklin Research and Development Corporation (FRDC) as an independent variable and the company's return on assets (ROA) as a dependent variable. ROA is a generally

accepted measure of firm performance that indicates a company's profitability in relation to its total assets.

The process of selecting control variables began with a list of seven causal variables that were most prevalent in previous studies of performance (Capon, Farley, and Hoenig, 1990). These variables include industry concentration, firm growth rate, firm size, capital intensity, research and development intensity, advertising intensity, and market share.

Market share was excluded from consideration due to a lack of data, and research and development was also dropped due to missing data and its apparent insignificance in the trial regression.

Drawing on Capon and colleagues' findings (1990), Russo and Fouts expected these control variables to be positive, except for firms' size, which had no consistent effect in that study, and capital intensity, which weighted in negatively when measured at the firm level.

They defined the control variables as follows:

- industry concentration was measured as the four-firm concentration ratio (which corresponds to the total market share of the four largest firm within an industry);
- firms' growth rate was a firm's annual change in sales, expressed as a percentage;
- firms' size used the natural logarithm of sales volume as a proxy;
- capital intensity was defined as the ratio of assets to sales;
- advertising intensity was measured as annual expenses for that function divided by firm size and, for firms lacking data, they used the industry averages.

This study uses as independent variable the S&P ESG score and the same dependent variable as the one used by Russo and Fouts. For what concerns ROA, the gross value is considered, using for the calculation the profit before taxes and before extraordinary income and expenses of other nature.

Regarding the control variables, it is important to consider certain aspects. Since the study focuses on the personal luxury goods market, industry concentration is not a relevant variable as it is constant for all companies.

In addition, data on advertising intensity are not available for all industries in the financial reports, and this information is missing from Orbis, the platform used to obtain the financial data for this study. However, advertising may be relevant for these types of brands as it can enhance brand image and affect sales. Furthermore, advertising can have an intangible capital aspect and positively affect market value by increasing the level of goodwill. Therefore, intangible asset intensity should be considered as an alternative variable.

As explained in the following paragraph, the databases analyzed both include multiple companies analyzed over a period of more than one year, so the model is constructed to take this into account.

It should also be noted that the years included in the analysis are subject to a particular variability related to Covid-19. The pandemic had a negative impact on the profitability of this industry, since sales decreased and the cost of goods sold followed, but generally fixed costs were still maintained. Therefore, another variable is introduced to model the behavior of the total operating costs in relation to the sales volumes, in order to take this into account in the model.

Considering these aspects, the control variables used are:

- the firm growth rate, measured as a firm's annual change in sales, expressed as a percentage;

$$firm\ growth\ rate(year) = \frac{sales(year)}{sales(year-1)} - 1$$

- the firm size, which uses the natural logarithm of sales volume in the considered year as a proxy;

$$firm\ size(year) = \ln\left[sales(year)\right]$$

- the capital intensity (or asset intensity), defined as the ratio of assets to sales;

$$capital\ intensity(year) = \frac{total\ assets(year)}{sales(year)}$$

- the intangible asset intensity, measured as the ratio of intangible assets to sales;

$$intangible\ asset\ intensity(year) = \frac{intangible\ assets(year)}{sales(year)}$$

- the operating costs over sales (oc/sales), equal to the ratio between the total operating costs and sales;

$$oc/sales(year) = \frac{total\ operating\ costs\ (year)}{sales(year)}$$

- the year, expressed as a dummy variable which is equal to 1 it the coefficient is equal to the year to which the observation belongs.

From all these considerations, the following multiple regression model is obtained:

$$Y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} + \beta_4 x_{i4} + \beta_5 x_{i5} + \beta_6 x_{i6} + year_t \delta + \epsilon$$

Dependent variable (Y_i) – Profitability

Independent variable (x_{i1}) – ESG score

Control variable (x_{i2}) – Firm growth rate

Control variable (x_{i3}) – Firm size

Control variable (x_{i4}) – Capital intensity

Control variable (x_{i5}) – Intangible assets intensity

Control variable (x_{i6}) – Operating costs over sales

Control variable (δ) – Dummy variable

Coefficient of the dummy variable ($year_t$) – Year of the observations considered

2.2 Data

2.2.1 Selection

The Deloitte report 'Global Powers of Luxury Goods 2022' was used to select the luxury groups for this analysis.

This selection method is similar to the one used by Cherrie and Tyborgnes in their thesis. However, they focused only on fashion companies.

The Deloitte report contains an analysis of the sector and a ranking of the brands based on their luxury goods sales in US dollars (US$) for FY 2021. Changes in the ranking are primarily driven by increases or decreases in company sales, but currency conversion may also have an impact.

Like many other industries, the luxury industry has also followed the trend of consolidation, with larger groups benefiting from economies of scale. Luxury brands have shifted their investment focus from production to the creation of memorable retail experiences, personalized services, and attaching symbolic capital and prestige to the brand name through communication, social influence, social networks, celebrities, and brand ambassadors. Due to the demanding nature of these investments, numerous luxury brands have now joined concentrated luxury groups (Kapfener and Tabatoni, 2011). Therefore, including large groups in the analysis aligns with this trend.

Many of these groups, following this trend, include luxury companies that may be without the scope of the analysis (e.g. LVMH has a wines and spirits division) or they have brands inside their portfolio which cannot be strictly considered as luxury brands. Isolating these brands from the ones of interest for the analysis conducted is difficult because, even if some pieces of information about the income statement can be recovered, information about assets cannot be easily estimated. So, only groups which are predominantly focused on personal luxury goods and which has the majority of the sales in the sectors of interest are considered, without making assumptions or approximation on economic or financial data.

Moreover, only the companies which have S&P ESG Score available are included in the analysis.

The table below lists the companies ranked in Deloitte’s top 100, along with their corresponding ESG scores updated using the 2023 methodology, as well as their

ranking according to Deloitte's report. The table also includes the company's sub-industry as classified by S&P, the ESG score, and the score relative to the Environmental, Social, and Governance aspects.

Four additional companies have S&P ESG Scores associated with them, but these scores have not been updated yet (last check: 9 January 2024). The updating process lasts until the end of April of the following year.

Table 2: Companies included in Deloitte's analysis with the relative ESG score computed considering the 2023 methodology

		2023				
n.	Company	Industry	ESG score	Environmental	Social	Governance&Economic
1	LVMH	TEX	68	82	66	59
2	Kering	TEX	84	95	86	73
3	The Estée Lauder Companies	COS	58	69	48	59
5	L'Oréal	COS	57	59	61	50
6	Compagnie Financière Richemont	TEX	46	50	42	46
7	Hermès International	TEX	58	71	55	50
8	Chow Tai Fook Jewellery Group	RTS	53	63	51	49
10	China National Gold Group Gold Jewellery Co.	TEX	17	12	17	21
11	The Swatch Group	TEX	35	43	30	33
13	PVH Corp.	TEX	42	49	39	40
14	Tapestry	TEX	36	43	28	39
15	Shiseido	COS	81	89	79	76
16	Ralph Lauren Corporation	TEX	52	60	45	53
17	Capri Holdings Limited	TEX	43	47	35	47
18	Prada Group	TEX	34	40	32	31
19	Amorepacific	COS	68	65	75	64
20	Pandora	TEX	46	46	45	48
21	Hugo Boss	TEX	88	91	90	83
22	Burberry	TEX	61	73	58	56
24	Coty	COS	37	42	30	39
27	Moncler SpA	TEX	89	94	88	85
29	Kosé	COS	43	48	37	46
38	Ermenegildo Zegna	TEX	33	29	28	42
46	Unilever	COS	65	78	67	54
58	Brunello Cuccinelli	TEX	35	37	36	31
63	Aritzia	RTS	30	41	19	32
69	Samsonite (Tumi brand only)	TEX	30	34	25	33

The use of this index presents a problem because the methodology was updated for 2023, resulting in the deletion of all previously updated scores.

However, it is important to note that the database may not be up-to-date for all companies. Furthermore, the S&P Sustainability Yearbooks from 2019 to 2022 provide additional data on some companies.

The Sustainability Yearbook for 2019 was obtained from RobecoSAM's website. It is worth noting that on November 21, 2019, S&P acquired RobecoSAM, with its Corporate Sustainability Assessment, an annual evaluation of companies' sustainability practices.

The Sustainability Yearbook features the world's top companies based on their sustainable business practices. It includes general information about sustainability

trends, industry-specific trends and information, and a list of the best-performing companies based on the previous year's ESG score.

Taking into consideration these additional sources ensure the inclusion of companies such as LVMH, Kering, Shiseido, Moncler, and Hugo Boss in the dataset once again.

This permits to recover the exact data for these companies for the years 2022, 2021 and 2019. For what concerns the year 2020 and 2018, the exact values of the ESG scores weren't specified so the data was estimated taking into consideration their position with respect to the one of the competitors and the value of the ESG score attributed to the other companies which earned the same recognition.

The companies cited in these documents fall within one of the following categories:

- Gold class: companies achieving a score within 1% of the industry's top-performing company's score and a minimum score of 60.
- Silver class: companies achieving a score within a range of 1% to 5% of the top-performing company's score in their industry and a minimum score of 57.
- Bronze class: companies achieving a score within a range of 5% to 10% of the top performing companies.
- Industry mover: companies within the top 15% of their industry that participated to the CSA the considered year and the previous one and had the improvement of the sector (this improvement of the ESG score should be of at least 5%).
- Sustainability Yearbook member: companies within the top 15% of their industry and within the top 30% of the top performing companies.

Research focused on the missing data were made also on each company's website, focusing on the ESG or sustainability reports and presentations available.

LVMH was not included into the sustainability yearbook members for 2019 and 2018 and there wasn't any data available on sustainability reports or presentations on the company's website. The same happened for Shiseido for the year 2018.

In both cases the value was estimated to be just below the ones of the companies included in the top 15%. In the first case the variation of the index considered is estimated in order not to be so big that it is higher than the one of the sustainability mover of the industry. In the second case, the variation of the index was

hypothesized in order to obtain a variation high enough to make Shiseido "Industry Mover" in 2020 sustainability yearbook.

An hypothesis was also made for year 2019 for Farfetch because data was not provided by the platform for this year.

The company included in the analysis are depicted in the following table and the corresponding dataset include the period that goes from 2018 to 2022. The first column of the table includes the ranking of the company in Deloitte's report.

Table 3: S&P ESG scores between 2023 and 2018

n.	Company	2023	2022	2021	2020	2019	2018
1	LVMH	68	70	71	71	63	63
2	Kering	84	84	85	84	81	80
13	PVH	42	30	49	49	36	39
15	Shiseido	81	81	80	78	77	73
16	Ralph Lauren	52	41	20	17	17	19
18	Prada	34	25	25	19	19	19
21	Hugo Boss	88	87	85	84	77	77
22	Burberry	61	83	80	87	85	82
27	Moncler	89	90	89	87	85	76
33	L'Occitane		37	22	16	19	29
41	Salvatore Ferragamo		41	40	36	25	21
54	Farfetch		23	9	9	7	7
55	Tod's		41	30	25	19	21

To obtain a larger database, other ESG rankings were considered. A possible alternative was the MSCI ESG rating, which measures a company's management of financially relevant ESG risks and opportunities for the specific sub-industry or sector.

However, this dataset presents some challenges due to the presence of brands which have luxury divisions alongside consumer products and the luxury divisions seems to be a marginal part of the business (e.g. l'Oréal, Unilever), making it difficult to isolate only the part of the business which is included in the analysis. Sales data can be estimated in some cases, based on annual reports or financial statements that specify sales by division, but information on assets is not available. So, even if data about sustainability performance is available for these companies, they are excluded from the analysis.

Additionally, the rating must be converted to a numerical value to be included in the model.

The MSCI database provides data for the years covered by this index, which in this case would be between 2019 and 2022.

The following table displays the companies that would be included in the dataset (excluding L'Oréal and Unilever) if this index was used. The first column of the table includes the ranking of the company in Deloitte's report.

Table 4: MSCI ESG ratings between 2023 and 2019

n.	Company	Industry	2023	2022	2021	2020	2019
1	LVMH	TEX	AA	AA	A	A	A
2	Kering	TEX	AAA	AAA	AAA	AA	
3	The Estee Lauder Companies	COS	A	A		BBB	A
5	L'Oréal	COS	AA	AAA	AAA	AAA	AAA
6	Richemont	TEX	AA	AA	AAA	AA	
7	Hermès	TEX	AA	AA	A	BBB	BBB
8	Chow Tai Fook Jewellery group	Retail	A	A	BBB		
11	The Swatch Group	TEX	BB	BB	BB	BB	BB
15	Shiseido	COS	AA	A	BBB	BBB	BBB
19	Amore Pacific Corp.	COS	A	A	A	A	A
20	Pandora	TEX	AAA	AAA	AAA	AAA	AAA
22	Burberry	TEX	AAA	AAA	AAA	AAA	AAA
25	Titan Company Limited	TEX	BBB	BBB	BBB	A	A
27	Moncler	TEX	AAA	AA	A	BBB	BBB
29	Kosé Corporation	COS	BBB	BB	BB	BB	
46	Unilever	COS	AAA	AAA	AA	A	A

Considering all of this, the database which come from the S&P index is more adapt and wider because it includes 65 observations rather than 56 (assuming to make hypothesis for the missing score of the companies cited in the table above). Moreover, S&P's index is more elaborated because it does not consist only in a comparison among the performances of all the companies within a certain industry, but it gives an evaluation focused on the main points of interest of a specific sector, providing an absolute evaluation which is not only the result of a comparison with others. However, since this second database is also available, the model is applied to it, even if the first database is more relevant.

Since this index has a low variation between two years for the missing data, the same score of the previous or following year is attributed to the missing value. If the previous year and the following year have different scores, the lowest of the two is used.

For what concerns the data regarding the companies included in the analysis the source used is the Orbis database.

It is important to note that not all these companies use the same reporting standards.

While most companies use the standard year to year reporting (January 1 - December 31), other companies considered a 52–53-week fiscal year, not considering the standard end date.

In this case, LVMH, Kering, Shiseido, Prada, Hugo Boss, Moncler, Salvatore Ferragamo, Farfetch and Tod's use the standard fiscal year and PVH, Ralph Lauren, Burberry and L'Occitane use different fiscal years.

PVH's fiscal year ends in January, whereas Ralph Lauren, Burberry and L'Occitane's fiscal year ends in March.

However, no reconciliation is performed for these entities to keep the data from the same database.

The following table includes the companies included in the analysis (considering the first database), with their ranking in the Deloitte report, and the main luxury brands associated.

Table 5: companies included in the database and their relative ranking on the basis of their sales

FY2021 Luxury Goods Sales ranking	Company	Selection of luxury brands
1	LVMH	Louis Vuitton, Christian Dior, Fendi, Tiffani & Co., Bvlgari, Loro Piana, Emilio Pucci, Off-White, Acqua di Parma, Loewe, Marc Jacobs, TAG Heuer, Benefit Cosmetics
2	Kering SA	Gucci, Saint Laurent, Bottega Veneta, Balenciaga, Alexander McQueen, Brioni, Boucheron, Qeelin
13	PVH	Calvin Klein, Tommy Hilfiger
15	Shiseido	Shiseido, Clé de peau BEAUTE, IPSA, Drunk Elephant, NARS, Benefique, Licensed fragrance brands
16	Ralph Lauren Corporation	Ralph Lauren, Polo Ralph Lauren, Lauren Ralph Lauren
18	Prada	Prada, Miu Miu, Church's, Car Shoe
21	Hugo Boss	BOSS, HUGO
22	Burberry Group	Burberry
27	Moncler	Moncler, Stone Island
33	L'Occitane	L'Occitane en Provence, Elemis, Limelife, Melvita, erborian, L'Occitane au Brésil
41	Salvatore Ferragamo	Salvatore Ferragamo
54	Farfetch	Off-White, Palm Angels, Stadium Goods, Heron Preston, Marcelo Burlon County of Milan, Browns, Ambush
55	TOD'S	Tod's, Roger Vivier, Hogan, Fay

2.2.2 S&P ESG score

S&P Global ESG Scores are a “sophisticated measure of corporate sustainability performance designed for companies, investors and other stakeholders to address critical ESG risks and opportunities” (S&P ESG score brochure, 2022). They result from a combination of verified company disclosures, a review of potential controversies and in-depth company engagement via the S&P Global Corporate Sustainability Assessment (CSA).

ESG scores are available for over 10,000 companies across 61 sub-industries, representing 99% of the global market capitalization.

This score is based on a comprehensive database that includes up to 1,000 data points per company, providing a higher level of detail. Participation in CSA ensures exclusive disclosure and eliminates transparency bias (companies that disclose more information can receive inflated scores, regardless of how well they manage ESG issues).

In addition, S&P monitors companies daily through a Media & Stakeholder Analysis (MSA) to inform stakeholders of any potential involvement a company may have in material controversies that could have a damaging and lasting effect on its reputation.

This index prioritizes sustainability factors based on their magnitude and likelihood of impact, while also considering their overall impact and importance to stakeholders and the natural environment. The criteria weighting process results in industry-specific outcomes.

The CSA enhances the score by incorporating non-public data, avoiding time lags and ensuring that the dataset always reflects the most current sustainability information.

The score creation process is multi-step. It begins with an invitation to the company to participate in the process. Next, data is collected, verified, and analyzed along with any CSA responses that may be present. Question-level scores are then assigned based on a rules-based scoring framework. Finally, materiality weighting is applied.

This results in the development of the S&P Global ESG Score, which can be updated as necessary by monitoring controversies on a daily basis.

During these steps, S&P Global collects up to 1,000 data points per company. These data points are then grouped into approximately 130 question-level scores, providing greater insight into a company's performance on themes and criteria. These scores are further grouped into over 30 criteria scores, which assess a company's performance on high-level sustainability themes within each dimension, considering both general criteria that apply to all industries and industry-specific criteria. Criteria scores are aggregated into dimension scores to evaluate a

company's sustainability performance compared to its peers on Environmental, Social, and Governance themes. The ESG score is then calculated by weighting the Environmental (E), Social (S), and Governance (G) dimension scores according to their importance within a specific sub-industry.

After the announcement of the CSA results from the previous year's assessment, S&P reviews the CSA annually to capture emerging sustainability trends or issues that are expected to impact the competitive landscape of companies. They also remove questions that are no longer material and introduce new general and industry-specific criteria.

As of 2023, an additional overlay has been introduced to integrate modeling into the S&P Global ESG Score. This is to address gaps in disclosure and move from disclosure-based scoring to performance-based scoring.

As far as the luxury goods sector is concerned, an analysis of the changes in the criteria and dimension weights over the years has revealed an increase in the importance of the social dimension in the sector (the weight has increased from 38% in 2018 to 42% in 2022). The focus on issues related to human rights and occupational health and safety has remained constant throughout the years, but in recent years indicators related to labor practices have also gained importance.

On the other hand, the economic and governance indicator loses importance, decreasing from 41% in 2018 to 32% in 2022. The most important criteria concerning these matter regards supply chain, risk and crisis management.

The environmental division acquires importance, increasing from 21% to 26% and last trends highlighted the focus on product stewardship, circular fashion and climate strategy.

Luxury goods companies focused on beauty and cosmetics prioritized the governance and economic dimension, with particular attention to innovation and supply chain management. However, there has been a partial shift from this dimension to the others (from 53% to 39% of relevance for the governance and economic dimension).

In fact, the social dimension has increased in importance (from 26% to 37%), particularly in relation to health and safety, customer relations, sustainable marketing and brand perception.

The environmental dimension focuses on criteria such as operational eco-efficiency, product stewardship and biodiversity.

2.2.3 MSCI ESG Rating

The MSCI ESG Rating uses a rule-based methodology designed to measure a company's resilience to long-term, industry-specific material environmental, social and governance (ESG) risks. This index assigns a rate to companies on a "AAA" to "CCC" scale, according to their ability to manage those risks relative to their peers.

It is designed to help investors make decisions by identifying risks and opportunities that are not considered in financial analysis.

It covers a total of 8,500 companies and forms the basis of many of MSCI's ESG indices.

The data collected to estimate this rating does not include questionnaires. The index is calculated using only publicly available data that has undergone a standardization process.

The data includes company disclosure documents, media sources and company filings.

The assessments of the risk exposure and the risk management relative to industry peers are based on standardized methodologies and the process of data verification involves the engagement of the company considered.

At this point industry-specific key issues are scored (0-10) using a rule-based methodology and key ESG issue scores and weights are combined to produce an overall ESG rating (AAA-CCC) relative to industry peers. Once calculated, the ratings are subject to industry and market-driven reviews and formal committee review.

A process of daily monitoring and updating of controversies and events is carried out.

The MSCI ESG rating can range from:

- leader (with a rating of AAA or AA) if the company is leading its industry in managing the most significant ESG risks and opportunities;
- average (A, BBB, BB) if the company has a mixed performance in managing the most significant ESG risks and opportunities relative to industry peers;
- laggard (B, CCC) if the company has a high exposure to ESG risks and fails to manage them.

These ratings are translated into a score from 1 (the lowest) to 7 (the highest) for modeling purposes.

2.2.4 Companies

As mentioned above, the companies that are the focus of the study are those that have personal luxury goods as their main business activity. This section provides an overview of these companies.

2.2.4.1 The first database

LVMH is a leader in the luxury goods industry. It comprises 75 companies operating in six main sectors: wines and spirits, fashion and leather goods, perfumes and cosmetics, watches and jewelry, selective retailing and other activities.

Its fashion and leather goods division includes 14 houses, including both historical and young ones. The main ones are Loewe, Louis Vuitton, Loro Piana, Fendi, Celine, Christian Dior, Givenchy, Kenzo and Marc Jacobs.

Its perfume and cosmetics division combines also historic brands and young ones, striving for excellence, creativity and innovation. The main brands included are Guerlain, Acqua di Parma, Parfums Christian Dior, Givenchy parfums, Loewe Parfums. Stella by Stella McCartney and Fenty Beauty by Rihanna figure among the latest acquisitions within this sector.

Watches and Jewelry sector operates in both watch making and high jewelry, including 8 houses, among which Tiffany and Co. and Bulgari for what concerns jewelry and Tag Heuer and Hublot for what concerns watches.

Kering is a large group that encompasses fashion and leather goods, jewelry, and other industries.

Its fashion and leather goods houses include Gucci, Saint Laurent, Bottega Veneta, Balenciaga, Alexander McQueen, and Brioni.

Its jewelry houses include Boucheron, Pomellato, DoDo, and Queelin.

Kering Eyewear and Kering Beauté are also included in the analysis.

Shiseido is a global beauty company that primarily focuses on prestige brands, including Shiseido itself, Narciso Rodriguez, and Nars.

PVH, Ralph Lauren Corporation, and Prada Group are all companies that primarily focus on fashion and luxury goods.

PVH owns brands such as Tommy Hilfiger and Calvin Klein, while Ralph Lauren Corporation has a luxury line in addition to Polo, Lauren, and Chap collections, and it has also invested in hospitality.

Prada Group owns fashion and leather goods houses such as Prada, Miu Miu, Church, and Car Shoe.

Hugo Boss primarily focuses on fashion, with brands such as Hugo and Boss.

Similarly, Burberry has made fashion its core business, with its iconic trench coat, scarves, and the Burberry check.

Moncler was born as a brand focused on sportswear for the mountains and acquired Stone Island, which specializes in luxury casual clothing, in 2020.

L'Occitane Group, with its eight brands, mainly focuses on beauty.

Salvatore Ferragamo primarily focuses on shoemaking, leather goods, clothing, and other accessories.

Farfetch is a large e-commerce company that specializes in the sale of luxury goods.

Tod's is a company that operates in the luxury footwear, leather goods, and clothing sectors, with brands including Tod's, Roger Vivier, Hogan, and Fay.

2.2.4.2 The second database

This database includes, as the previous, LVMH, Kering, Shiseido, Burberry and Moncler.

Other companies included are The Estee Lauder Companies (which is then excluded because of reporting reasons given that the fiscal year ends in June of the following year, making the company results difficultly comparable with the ones of the other companies), Amorepacific Corporation and Kosé, which operate in the beauty sector.

Other groups included are Richemont (which includes brands in jewelry, watchmaking, accessories and fashion), Hermés (jewelry, accessories, shoemaking and perfume brand), Chow Tai Fook (jewelry brand), the Swatch Group (specialized in watchmaking), Pandora (jewelry brand) and Titan Company Limited (which includes jewelry, watchmaking, eyewear, fashion and accessories brands).

3. Results

The final chapter is a presentation of the results of the application of the model to the two available databases.

The analysis primarily focuses on the results obtained from the first database, with a brief discussion of the results from the second database.

The regression analysis was conducted using the statistical software 'Stata'.

The discussion concludes by outlining the implications of the results and their limitations.

3.1 First database

The initial analysis pertains to the database acquired through the S&P ESG score.

As illustrated in the figure below, further examination of the dependent variable identified a potential outlier, which may affect the analysis results and introduce additional variation into the model. This observation pertains to Farfetch Limited, a leading luxury e-commerce player that has also invested in luxury brands.

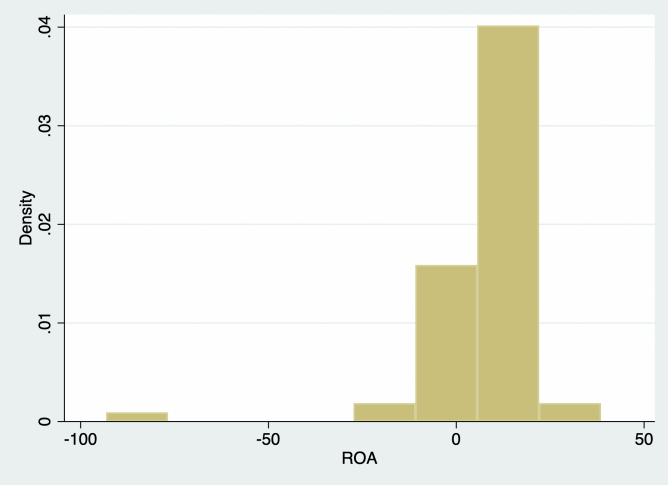


Figure 10: ROA results from the first database (including Farfetch)

Although Deloitte listed it as the fastest-growing luxury goods company based on its sales growth and sales CAGR for luxury goods considering the 2022 results, the company appears to be in a troubled situation.

An article written by Elizabeth Paton for the New York Times in December 2023 highlighted the challenges faced by the corporation.

Founded in 2007, Farfetch is as an e-commerce marketplace for brick-and-mortar fashion boutiques. In the following years, the company expanded its services to include building websites and back-end operations for luxury brands.

In just a few years, the company has become the leading reference in the luxury retail market for e-commerce.

However, its investments in luxury brands were considered a costly deviation from the original strategy of the company. The investment in New Guard Group, in particular, caused a drop in market value of over 2 billion dollars, as investors felt blindsided by the decision.

Although the company achieved profitability in 2021, overhead costs have continued to increase, and the New Guard division has not met the expected profitability. In recent months, major investors have declared that they will not provide fresh capital.

Moreover, luxury brands are increasingly seeking greater control over their e-commerce and distribution operations to prevent third-party partners from offering discounts. This would enable them to have more control over their operations and reduce reliance on platforms like Farfetch.

By the end of 2023, the company appeared to be on the brink of bankruptcy. News outlets reported on the possibility of delisting and the company going private once again. Currently, it appears that Coupang will acquire the company in a white knight acquisition.

The exclusion of this company, given its troubled situation, allowed for a more precise analysis. As shown in the picture below, the variance of the dependent variable significantly decreased.

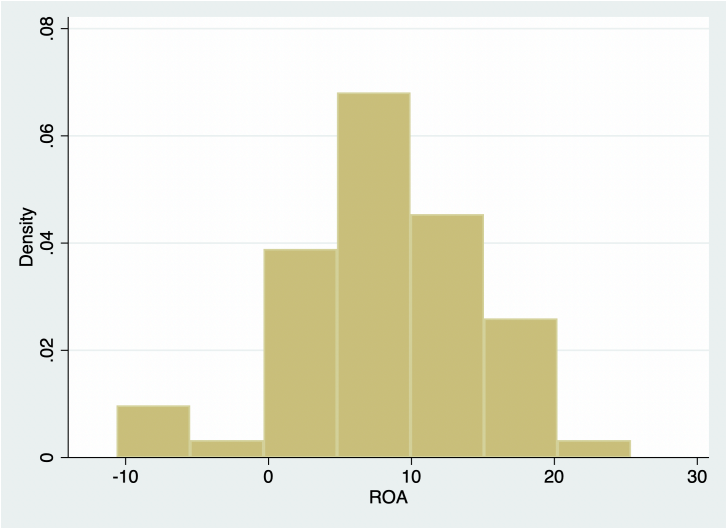


Figure 11: ROA results from the first database (excluding Farfetch)

The correlation matrix below displays the correlation factors between each pair of the independent variables. Each factor measures the tendency of the variables to vary as a function of each other, without implying a cause-and-effect relationship. A factor of +1 or -1 indicates perfect correlation, while factors higher than 0.5 indicate imperfect correlation.

The analysis involves the independent and control variables previously disclosed when describing the model: the ESG score, firm growth rate, firm size, asset intensity, intangible asset intensity and operating costs divided by sales.

None of the correlation factors indicate very high correlation. However, there appears to be a slight correlation between the firm's growth rate and the ratio of operating costs to sales and between the asset intensity and the intangible asset intensity.

Focusing on the ESG score, the variable does not seem so correlated with any of the variables included in the model. It has the highest correlation factors (in absolute values) with the ratio between operating costs and firm size.

Table 6: correlation matrix including the independent variables from the first database

```
. corr esg firmgrowthrate firmsize assetintensity intassetintensity ocsales
(obs=60)
```

	esg	firmgr~e	firmsize	asseti~y	intass~y	ocsales
esg	1.0000					
firmgrowth~e	0.1031	1.0000				
firmsize	0.3583	0.1474	1.0000			
assetinten~y	-0.2341	-0.1504	-0.0452	1.0000		
intassetin~y	-0.1409	0.0671	0.2550	0.5506	1.0000	
ocsales	-0.4088	-0.5625	-0.3766	0.1273	-0.1157	1.0000

The correlation between the dependent and independent variables can be determined by including the dependent variable in the correlation analysis.

The factors show that the ROA has the highest correlation (in absolute values) with the ratio between operating costs and sales, and a moderate correlation with the ESG score and the firm growth rate (factors close to 0.5).

The correlation between the ESG score and the dependent variable seems to support the hypothesis that ESG performance affects profitability.

Table 7: correlation matrix including the dependent variable from the first database

```
. corr roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales
(obs=60)
```

	roa	esg	firmgr~e	firmsize	asseti~y	intass~y	ocsales
roa	1.0000						
esg	0.4671	1.0000					
firmgrowth~e	0.4963	0.1031	1.0000				
firmsize	0.2736	0.3583	0.1474	1.0000			
assetinten~y	-0.3738	-0.2341	-0.1504	-0.0452	1.0000		
intassetin~y	-0.0960	-0.1409	0.0671	0.2550	0.5506	1.0000	
ocsales	-0.8818	-0.4088	-0.5625	-0.3766	0.1273	-0.1157	1.0000

The tables below display the regression analysis results from Stata.

They depict the gradual addition of variables to the model. Initially, only the years are considered, with two different baselines being used.

The initial baseline year for the first table is 2019. Analysis of the variation in ROA from the pre-pandemic situation indicates that the sector has not yet fully recovered. The data shows that the ROA is still slightly below the 2019 values. Additionally, it is important to note that the ongoing pandemic has already had an impact on the fiscal year of some companies included in the analysis. While some

companies end their fiscal year with the calendar year, others end it in the first few months of the following year. Therefore, the effects of the pandemic have already partially affected the 2019 fiscal year for some companies.

Table 8: regression from the first database considering only the year (2019 as a baseline year)

```
. reg roa ib2019.year
```

Source	SS	df	MS	Number of obs	=	60
				F(4, 55)	=	5.18
Model	770.033019	4	192.508255	Prob > F	=	0.0013
Residual	2042.83475	55	37.14245	R-squared	=	0.2738
				Adj R-squared	=	0.2209
Total	2812.86777	59	47.6757249	Root MSE	=	6.0945

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
year						
2018	4.146583	2.488053	1.67	0.101	-.8395867	9.132753
2020	-6.656167	2.488053	-2.68	0.010	-11.64234	-1.669997
2021	1.01825	2.488053	0.41	0.684	-3.96792	6.00442
2022	1.281667	2.488053	0.52	0.609	-3.704503	6.267836
_cons	8.147333	1.759319	4.63	0.000	4.621579	11.67309

When using 2020 as the baseline year, it becomes evident that the companies in the database experienced significant growth in 2021 and 2022, despite the most favorable ROA situation remaining in 2018.

Table 9: regression from the first database considering only the year (2020 as a baseline year)

```
. reg roa ib2020.year
```

Source	SS	df	MS	Number of obs	=	60
				F(4, 55)	=	5.18
Model	770.033019	4	192.508255	Prob > F	=	0.0013
Residual	2042.83475	55	37.14245	R-squared	=	0.2738
				Adj R-squared	=	0.2209
Total	2812.86777	59	47.6757249	Root MSE	=	6.0945

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
year						
2018	10.80275	2.488053	4.34	0.000	5.81658	15.78892
2019	6.656167	2.488053	2.68	0.010	1.669997	11.64234
2021	7.674417	2.488053	3.08	0.003	2.688247	12.66059
2022	7.937833	2.488053	3.19	0.002	2.951663	12.924
_cons	1.491167	1.759319	0.85	0.400	-2.034588	5.016921

The first variable included in the model is the ESG score. Adding variables to the model generally increases the fraction of the dependent variable explained by the model, as measured by R^2.

The ESG score seems relevant and has a positive coefficient, sustaining the hypothesis of this thesis.

Additionally, the null hypothesis has been rejected, indicating that the variable being considered has an effect on the dependent variable. This is because the probability of the coefficient of this variable being equal to zero is null.

Table 10: regression model from the first database including the year variables and the ESG score

```
. reg roa esg ib2019.year
```

Source	SS	df	MS	Number of obs	=	60
				F(5, 54)	=	11.10
Model	1425.41457	5	285.082915	Prob > F	=	0.0000
Residual	1387.45319	54	25.6935777	R-squared	=	0.5067
				Adj R-squared	=	0.4611
Total	2812.86777	59	47.6757249	Root MSE	=	5.0689

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.1225526	.0242654	5.05	0.000	.0739034	.1712018
year						
2018	4.187434	2.069379	2.02	0.048	.0385795	8.336289
2020	-7.166803	2.071831	-3.46	0.001	-11.32057	-3.013031
2021	.2727215	2.074621	0.13	0.896	-3.886644	4.432087
2022	.1889058	2.080644	0.09	0.928	-3.982533	4.360345
_cons	1.989065	1.904709	1.04	0.301	-1.829646	5.807775

The second variable added to the model is the firm's growth rate. It has a higher positive coefficient than the ESG score, indicating a greater impact on the ROA. This variable also appears to be significant, as the null hypothesis is rejected. Moreover, the R^2 value increases with the addition of this variable.

Table 11: regression model from the first database including the year, the ESG score and the firm growth rate

```
. reg roa esg firmgrowthrate ib2019.year
```

Source	SS	df	MS	Number of obs	=	60
				F(6, 53)	=	14.03
Model	1725.88786	6	287.647977	Prob > F	=	0.0000
Residual	1086.9799	53	20.5090548	R-squared	=	0.6136
				Adj R-squared	=	0.5698
Total	2812.86777	59	47.6757249	Root MSE	=	4.5287

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.1128971	.0218257	5.17	0.000	.0691203	.156674
firmgrowthrate	.2457564	.0642059	3.83	0.000	.1169757	.374537
year						
2018	4.413158	1.849785	2.39	0.021	.702959	8.123358
2020	-2.624508	2.198777	-1.19	0.238	-7.034696	1.78568
2021	-4.932913	2.298958	-2.15	0.036	-9.54404	-.3217872
2022	-1.247	1.896385	-0.66	0.514	-5.050666	2.556667
_cons	1.832432	1.702216	1.08	0.287	-1.58178	5.246645

The addition of the firm size to the model doesn't increase a lot the R^2 value.

The variable has a positive coefficient which is higher than the one of the ROA but lower than the one of the firm growth rate. However, the null hypothesis cannot be rejected in this case.

Table 12: regression model from the first database including the year, the SG score, the firm growth rate and the firm size

```
. reg roa esg firmgrowthrate firmsize ib2019.year
```

Source	SS	df	MS	Number of obs	=	60
				F(7, 52)	=	11.85
Model	1728.72223	7	246.960318	Prob > F	=	0.0000
Residual	1084.14554	52	20.8489527	R-squared	=	0.6146
				Adj R-squared	=	0.5627
Total	2812.86777	59	47.6757249	Root MSE	=	4.5661

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.1099016	.0234577	4.69	0.000	.0628303	.1569729
firmgrowthrate	.2426159	.0652936	3.72	0.000	.1115946	.3736372
firmsize	.2063795	.5597333	0.37	0.714	-.9168076	1.329567
year						
2018	4.414136	1.865053	2.37	0.022	.6716343	8.156638
2020	-2.632696	2.217034	-1.19	0.240	-7.081499	1.816108
2021	-4.854135	2.327757	-2.09	0.042	-9.525121	-.1831496
2022	-1.224167	1.913037	-0.64	0.525	-5.062957	2.614623
_cons	-2.607846	12.16441	-0.21	0.831	-27.01751	21.80182

Adding the variable asset intensity (or capital intensity) does not seem to explain a higher fraction of variation of the ROA. Moreover, the adjusted R^2 decreases. This variable is a measure of the fraction of the dependent variable explained by the dependent variables but penalizing the addition of other variables to the model.
As anticipated, the coefficient has a negative sign (although small in absolute value). The variable does not appear to be significant.

Table 13: regression model from the first database including the years, the ESG score, the firm growth rate, the firm size and the asset intensity

```
. reg roa esg firmgrowthrate firmsize assetintensity ib2019.year
```

Source	SS	df	MS	Number of obs	=	60
				F(8, 51)	=	10.17
Model	1728.74272	8	216.09284	Prob > F	=	0.0000
Residual	1084.12505	51	21.2573538	R-squared	=	0.6146
				Adj R-squared	=	0.5541
Total	2812.86777	59	47.6757249	Root MSE	=	4.6106

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.1096483	.0250515	4.38	0.000	.0593553	.1599413
firmgrowthrate	.2427541	.0660802	3.67	0.001	.1100927	.3754156
firmsize	.2079998	.5675924	0.37	0.716	-.9314895	1.347489
assetintensity	-.0004911	.0158155	-0.03	0.975	-.0322421	.0312599
year						
2018	4.398007	1.953551	2.25	0.029	.4760904	8.319923
2020	-2.606312	2.394456	-1.09	0.282	-7.413383	2.200758
2021	-4.84993	2.354344	-2.06	0.045	-9.576471	-.1233877
2022	-1.226481	1.93312	-0.63	0.529	-5.107381	2.654419
_cons	-2.557341	12.39019	-0.21	0.837	-27.43169	22.31701

The inclusion of the intangible asset intensity slightly increases the R^2 but decreases the adjusted R^2.

With the addition of this variable, the sign of the coefficient of the asset intensity changes and its significance increases.

The intangible asset intensity has a negative coefficient and it appears to be more significant than the asset intensity.

It was expected that the intensity of intangible assets would have a positive impact on profitability, as they serve as a proxy for brand image and advertising expenses (if capitalized), which have a positive impact on profitability. However, this variable also includes other elements that can have a different influence on profitability and it is a fraction of the assets, which are at the denominator of the dependent variable. Therefore, the negative sign can be explained by these reasons.

Table 14: regression model from the first database with all the variables, excluding the operating costs

```
. reg roa esg firmgrowthrate firmsize assetintensity intassetintensity ib2019.year
```

Source	SS	df	MS	Number of obs	=	60
				F(9, 50)	=	9.03
Model	1741.1371	9	193.459677	Prob > F	=	0.0000
Residual	1071.73067	50	21.4346134	R-squared	=	0.6190
				Adj R-squared	=	0.5504
Total	2812.86777	59	47.6757249	Root MSE	=	4.6298

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.1077421	.0252803	4.26	0.000	.0569651	.1585191
firmgrowthrate	.249325	.0669154	3.73	0.000	.1149215	.3837284
firmsize	.3644159	.6059361	0.60	0.550	-.8526427	1.581474
assetintensity	.0083624	.0196919	0.42	0.673	-.03119	.0479148
intassetintensity	-.0216993	.0285359	-0.76	0.451	-.0790152	.0356167
year						
2018	4.726983	2.008817	2.35	0.023	.6921548	8.761811
2020	-2.682013	2.406478	-1.11	0.270	-7.515567	2.151541
2021	-4.966792	2.369129	-2.10	0.041	-9.725328	-.2082566
2022	-1.207075	1.941331	-0.62	0.537	-5.106352	2.692203
_cons	-6.509385	13.4836	-0.48	0.631	-33.592	20.57323

The inclusion of the ratio between operating costs and sales significantly increases both the R^2 and the adjusted R^2. Currently, the R^2 value is quite high and close to one. This is likely due to the strong correlation between operating costs and sales, which has the strongest correlation with ROA.

The variable is statistically significant with a negative coefficient, as expected.

Additionally, its inclusion affects other variables: the ESG score remains significant but with a decreased coefficient. So, the analysis of the results shows that the ESG score has a positive impact on the dependent variable, leading to the rejection of the null hypothesis at a 5% significance level. This statement supports the hypothesis formulated based on the literature review.

However, the coefficients for firm growth rate, firm size, and asset intensity all become negative and their significance changes.

The firm growth rate no longer appears significant, while the firm size has become more significant.

The asset intensity and intangible asset intensity still do not appear significant, but their significance has increased.

Table 15: regression from the first database, including all the variables of the model

```
. reg roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales ib2019.year
```

Source	SS	df	MS	Number of obs	=	60
				F(10, 49)	=	39.32
Model	2501.16627	10	250.116627	Prob > F	=	0.0000
Residual	311.701498	49	6.36125505	R-squared	=	0.8892
				Adj R-squared	=	0.8666
Total	2812.86777	59	47.6757249	Root MSE	=	2.5222

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.0362782	.0152451	2.38	0.021	.0056421	.0669143
firmgrowthrate	-.0256147	.0442893	-0.58	0.566	-.1146175	.063388
firmsize	-.38865	.3372091	-1.15	0.255	-1.066297	.2889971
assetintensity	-.0121907	.0108911	-1.12	0.268	-.0340773	.0096958
intassetintensity	-.021414	.0155455	-1.38	0.175	-.0526539	.0098259
ocsales	-.5101499	.0466717	-10.93	0.000	-.6039403	-.4163595
year						
2018	2.935832	1.106545	2.65	0.011	.7121471	5.159517
2020	-2.018518	1.312383	-1.54	0.130	-4.65585	.6188141
2021	.6990255	1.390831	0.50	0.618	-2.095954	3.494006
2022	.0045795	1.063373	0.00	0.997	-2.132349	2.141508
_cons	62.25588	9.67128	6.44	0.000	42.82072	81.69105

While the firm growth rate and size were originally expected to have a positive impact on earnings, the results suggest that firm size and growth are detrimental. Additionally, the analyses did not provide sufficient evidence to reject the null hypothesis, suggesting that the coefficients associated with these values may be zero.

The coefficients indicate that firm size could have a significant negative impact on ROA, while the firm growth rate appears to have a negative impact, albeit less significant.

However, a deeper analysis of the data can explain this behavior. All companies in this database, except for PVH, Shiseido and Salvatore Ferragamo, have achieved at least pre-pandemic sales levels.

Furthermore, many of them have also increased their sales, which appears to be a consequence of the significant investments these companies are making. In fact, their assets are also increasing.

Considering the return on assets (ROA) as a measure of profitability ensures that profit variations are evaluated in relation to changes in assets.

Many of the companies in the database have increased their sales through strategic investments, which have had a considerable impact on their assets. This could neutralize (or even worsen) the effects of the increase in sales on the ROA.

The following tables report the variation of the sales and the assets throughout the years considered in the study. Both tables report also the Compound Annual Growth Rate (CAGR) among the years included in the analysis and the CAGR among the year which preceded the pandemic and the last year of the analysis.

There is also the inclusion of a table with the asset intensity, in order to have an idea of the relevance of assets with respect to sales.

Table 16: Sales volumes of the companies included in the database in the years considered in the analysis

	SALES						
	2022	2021	2020	2019	2018	CAGR (2022-2019)	CAGR (2022-2018)
LVMH	84,457,613,878	72,729,928,744	54,791,210,819	60,292,870,148	53,615,797,017	9%	10%
Kering	21,706,366,186	19,984,958,945	16,075,246,242	17,843,521,576	17,878,840,509	5%	4%
PVH	9,024,200,000	9,154,700,000	7,132,600,000	9,909,000,000	9,656,800,000	-2%	-1%
Shiseido	8,046,400,063	8,843,060,620	8,886,307,103	10,369,748,495	9,878,417,875	-6%	-4%
Ralph Lauren	6,443,600,000	6,218,500,000	4,400,800,000	6,159,800,000	6,313,000,000	1%	0%
Prada	4,480,436,739	3,811,955,479	2,972,941,330	3,623,631,828	3,597,761,273	5%	4%
Hugo Boss	3,894,557,906	3,155,549,043	2,387,742,582	3,239,948,088	3,201,379,248	5%	4%
Burberry	3,828,980,500	3,709,265,144	3,226,143,946	3,254,642,339	3,564,959,986	4%	1%
Moncler	2,776,241,142	2,317,415,754	1,767,524,875	1,828,562,435	1,625,985,549	11%	11%
L'Occitane	2,321,474,746	1,977,484,934	1,803,123,101	1,801,257,154	1,603,092,244	7%	8%
Salvatore Ferragamo	1,335,177,772	1,321,552,017	1,123,808,216	1,547,214,806	1,542,134,867	-4%	-3%
Tod's	1,074,043,286	1,019,749,145	793,986,012	1,029,015,168	1,076,871,898	1%	0%

Table 17: assets at the end of each of the fiscal years considered in the analysis of the companies considered

	ASSETS						
	2022	2021	2020	2019	2018	CAGR (2022-2019)	CAGR (2022-2018)
LVMH	143,613,354,696	141,927,277,129	133,350,107,968	108,415,949,682	85,073,542,869	7%	11%
Kering	36,201,453,231	35,187,173,312	34,365,406,720	30,498,283,908	24,465,799,828	4%	8%
PVH	11,768,300,000	12,396,800,000	13,293,500,000	13,631,000,000	11,863,700,000	-4%	0%
Shiseido	9,857,979,354	11,391,112,337	11,620,467,110	11,169,308,582	9,109,609,753	-3%	2%
Ralph Lauren	6,789,500,000	7,724,700,000	7,887,500,000	7,279,900,000	5,942,800,000	-2%	3%
Prada	7,868,920,919	7,881,777,998	8,010,414,648	7,906,981,343	5,357,242,440	0%	8%
Hugo Boss	3,334,832,093	3,098,253,058	3,154,248,932	3,232,543,760	2,128,048,837	1%	9%
Burberry	4,561,610,253	4,852,495,838	4,820,428,059	4,069,322,665	3,056,466,319	3%	8%
Moncler	4,948,287,805	4,833,925,654	3,382,636,654	2,881,995,823	1,861,362,173	14%	22%
L'Occitane	3,062,866,054	3,340,372,064	2,918,984,216	2,638,597,855	2,206,565,401	4%	7%
Salvatore Ferragamo	1,834,860,434	2,094,240,262	2,103,195,434	2,071,412,275	1,359,265,680	-3%	6%
Tod's	2,198,865,000	2,258,720,000	2,534,259,000	2,253,313,000	1,851,378,000	-1%	4%

Table 18: asset intensity for all the companies considered in the analysis

	ASSET INTENSITY				
	2022	2021	2020	2019	2018
LVMH	1.70	1.95	2.43	1.80	1.59
Kering	1.67	1.76	2.14	1.71	1.37
PVH	1.30	1.35	1.86	1.38	1.23
Shiseido	1.23	1.29	1.31	1.08	0.92
Ralph Lauren	1.05	1.24	1.79	1.18	0.94
Prada	1.76	2.07	2.69	2.18	1.49
Hugo Boss	0.86	0.98	1.32	1.00	0.66
Burberry	1.19	1.31	1.49	1.25	0.86
Moncler	1.78	2.09	1.91	1.58	1.14
L'Occitane	1.32	1.69	1.62	1.46	1.38
Salvatore Ferragamo	1.37	1.58	1.87	1.34	0.88
Tod's	2.05	2.21	3.19	2.19	1.72

To visually illustrate the differing impact of sales and assets, a graph displaying the average values for both dimensions over the years included in the dataset is presented below. The graph shows that assets have a greater impact and that the difference between the two dimensions has increased over time.

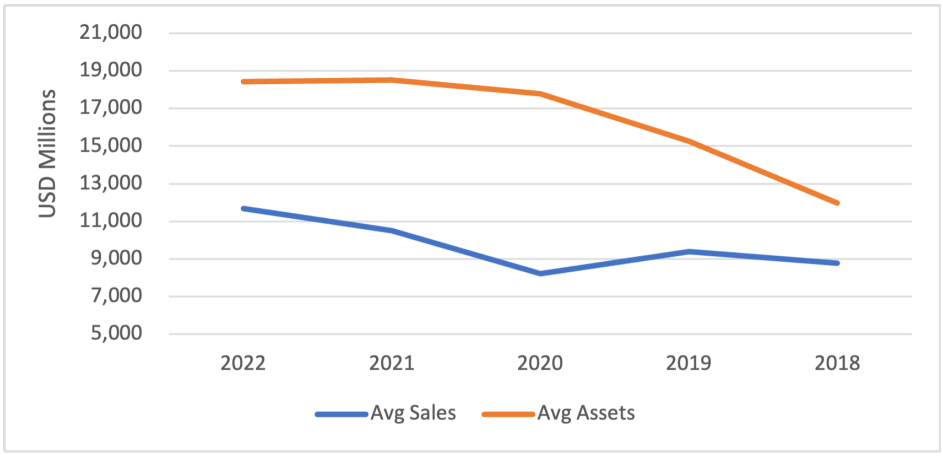


Figure 12: average assets and average sales throughout the years considering the companies included in the first database.

In order to isolate this effect of the variation of the asset on the ROA, other variables are included in the model. The first variable included is asset growth; this variable is expressed as the percentual change in assets between two consecutive years for each company.

$$asset\ growth\ rate(year) = \frac{assets(year)}{assets(year-1)} - 1$$

The correlation matrix, including the dependent variable, is presented in the table below. It appears that the new variable has little impact on the dependent variable.

Table 19: correlation matrix from the first database, including the variable asset growth rate

```
. corr roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales assetgrowth
(obs=60)
```

	roa	esg	firmgr~e	firmsize	asseti~y	intass~y	ocsales	assetg~h
roa	1.0000							
esg	0.4671	1.0000						
firmgrowth~e	0.4963	0.1031	1.0000					
firmsize	0.2736	0.3583	0.1474	1.0000				
assetinten~y	-0.3738	-0.2341	-0.1504	-0.0452	1.0000			
intassetin~y	-0.0960	-0.1409	0.0671	0.2550	0.5506	1.0000		
ocsales	-0.8818	-0.4088	-0.5625	-0.3766	0.1273	-0.1157	1.0000	
assetgrowth	0.1122	0.0741	-0.0339	-0.0918	0.1403	0.0362	-0.1854	1.0000

Looking at the coefficients, this variable doesn't seem to be so relevant and significant, but the sign is negative, as expected. Moreover, the firm size coefficient is still negative.

Table 20: regression model from the first database, including the variable asset growth

```
. reg roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales assetgrowth ib2019.year // baseline 2019
```

Source	SS	df	MS	Number of obs	=	60
				F(11, 48)	=	35.02
Model	2501.213	11	227.383	Prob > F	=	0.0000
Residual	311.654763	48	6.49280756	R-squared	=	0.8892
				Adj R-squared	=	0.8638
Total	2812.86777	59	47.6757249	Root MSE	=	2.5481

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.0365304	.015686	2.33	0.024	.0049914	.0680693
firmgrowthrate	-.0253318	.044869	-0.56	0.575	-.1155471	.0648835
firmsize	-.3985428	.3600808	-1.11	0.274	-1.122534	.3254483
assetintensity	-.0120684	.0110973	-1.09	0.282	-.034381	.0102442
intassetintensity	-.0213713	.0157135	-1.36	0.180	-.0529654	.0102227
ocsales	-.5113136	.0491064	-10.41	0.000	-.6100487	-.4125785
assetgrowth	-.0028383	.0334545	-0.08	0.933	-.0701031	.0644265
year						
2018	2.850911	1.500555	1.90	0.063	-.1661575	5.86798
2020	-2.079808	1.509919	-1.38	0.175	-5.115704	.9560873
2021	.604777	1.791228	0.34	0.737	-2.996727	4.206281
2022	-.1037561	1.668744	-0.06	0.951	-3.458991	3.251479
_cons	62.63757	10.75676	5.82	0.000	41.00966	84.26548

Assuming a behavior like that of the sales, where the size of the company seems to be more relevant and significant than the growth of the company, the size of the assets was included. This variable is obtained calculating the natural logarithm of the assets.

$$asset\ size(year) = \ln\left[assets(year)\right]$$

Examining the correlation between the independent variables in the table below, it is evident that firm size and the firm variable are highly correlated. This supports

the hypothesis that the two variables are related and that changes in assets result in changes in sales.

Given the high correlation between the two variables and the fact that both assets and sales are increasing over time, with assets increasing at a faster rate and being higher than sales, it is reasonable to assume that firm size and growth rate have negative coefficients, resulting in a negative effect on return on assets.

Moreover, asset size appears to have a higher correlation with the dependent variable than asset growth.

Table 21: correlation matrix from the first database, including the variables asset growth and asset size

```
. corr roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales assetgrowth assetsize
(obs=60)
```

	roa	esg	firmgr~e	firmsize	asseti~y	intass~y	ocsales	assetg~h	assets~e
roa	1.0000								
esg	0.4671	1.0000							
firmgrowth~e	0.4963	0.1031	1.0000						
firmsize	0.2736	0.3583	0.1474	1.0000					
assetinten~y	-0.3738	-0.2341	-0.1504	-0.0452	1.0000				
intassetin~y	-0.0960	-0.1409	0.0671	0.2550	0.5506	1.0000			
ocsales	-0.8818	-0.4088	-0.5625	-0.3766	0.1273	-0.1157	1.0000		
assetgrowth	0.1122	0.0741	-0.0339	-0.0918	0.1403	0.0362	-0.1854	1.0000	
assetsize	0.1728	0.2874	0.1146	0.9661	0.2087	0.3955	-0.3489	-0.0520	1.0000

It is important to note that this high correlation may lead to imprecise estimation of one or more of the regressors. For this reason, the results from the application or regression model are not reported.

However, in conducting a trial, the coefficient for firm size became positive while the coefficient for asset size was negative, as expected, and both variables appeared to be significant.

3.2 Second Database

The hypothesis was also tested using the second database, but there are some limitations.

In fact, this database covers a shorter timeframe with respect to the other previously analyzed and two out of four years are affected (in different measures) by the Covid-19 pandemic, which adds variability to the model, decreasing the relevance of the results. Additionally, the number of companies included in the analysis is the same, so the number of observations is lower.

Firstly, it is important to note that this database includes different companies than the first one.

The following picture delineates the distribution of the dependent variable ROA for this sample. It is possible to see that the minimum and the maximum values delimitate a smaller interval than the previous sample.

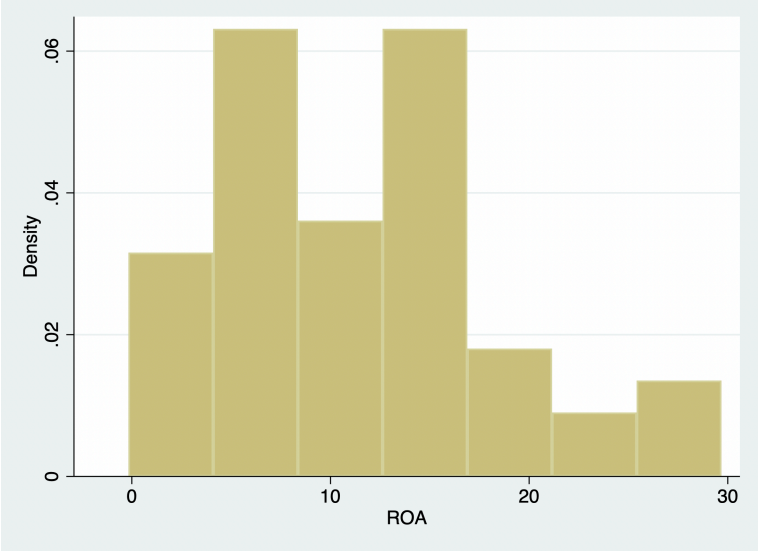


Figure 13: ROA distribution for the second database

The table below presents a correlation matrix that includes the dependent variable. None of the independent variables appear to be highly correlated with each other. As previously noted, the ratio of operating costs to sales has the highest correlation (in absolute values) with the dependent variable. As previously stated, the expectation is that this variable will be the most relevant in explaining the variation of the ROA.

It is worth noting that the ESG rating does not appear to be highly correlated with the dependent variable.

Table 22: correlation matrix considering the second database

```
. corr roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales
(obs=52)
```

	roa	esg	firmgr~e	firmsize	asseti~y	intass~y	ocsales
roa	1.0000						
esg	0.3198	1.0000					
firmgrowth~e	0.4470	0.1383	1.0000				
firmsize	-0.0868	0.1718	0.2624	1.0000			
assetinten~y	-0.2608	0.0550	-0.0084	0.4765	1.0000		
intassetin~y	0.1151	0.4185	0.1508	0.4715	0.5508	1.0000	
ocsales	-0.7684	-0.3625	-0.4425	-0.2074	-0.2877	-0.4518	1.0000

The regression results show a high R^2 value, mainly due to the correlation between the operating cost ratio and the ROA.

It is noteworthy that the ROA variation throughout the years in the sample, with 2019 as the baseline, suggests that these companies have recovered to pre-pandemic levels in terms of ROA. However, as previously mentioned, some of these companies have fiscal years that end at the beginning of the following year. Therefore, some companies seem to have already experienced consequences related to Covid-19 within their 2019 results.

Upon examining the coefficients, it is evident that almost all coefficients have the same signs as in the previous case (the firm growth rate has a positive sign but a high probability of rejection of the null hypothesis), indicating that the variables are acting in the same way.

Table 23: results from the application of the model to the second database

```
. reg roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales ib2019.year // baseline 2019
```

Source	SS	df	MS	Number of obs	=	52
				F(9, 42)	=	27.12
Model	2127.30118	9	236.366798	Prob > F	=	0.0000
Residual	366.048327	42	8.71543635	R-squared	=	0.8532
				Adj R-squared	=	0.8217
Total	2493.3495	51	48.889206	Root MSE	=	2.9522

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.1004183	.358099	0.28	0.781	-.6222549	.8230914
firmgrowthrate	.0120805	.0381585	0.32	0.753	-.0649266	.0890876
firmsize	-.3150506	.5455735	-0.58	0.567	-1.416062	.7859613
assetintensity	-.0731827	.0120609	-6.07	0.000	-.0975226	-.0488428
intassetintensity	-.0034328	.0237329	-0.14	0.886	-.0513277	.0444621
ocsales	-.5804193	.0511978	-11.34	0.000	-.6837407	-.4770978
year						
2020	1.042231	1.232351	0.85	0.402	-1.444753	3.529216
2021	1.403665	1.380156	1.02	0.315	-1.381603	4.188933
2022	1.236808	1.201996	1.03	0.309	-1.188918	3.662534
_cons	77.04963	11.90033	6.47	0.000	53.03379	101.0655

However, focusing on the ESG rating, the null hypothesis cannot be rejected in this case. A closer examination of the sample can explain this behavior since a company's ratings tend not to vary a lot over time, with some remaining constant throughout the four-year period. As a result, a new variable was introduced based on the assumption of low variability in this particular variable. This variable coincides with the minimum of the ESG rating over the years, so as not to confuse the variability over time for the same company with the cross-sectional variability.

The following images include the correlation matrices.

In the first matrix both the ESG rating and the minimum ESG rating are kept. Looking at the correlation with the dependent variable, the ESG rating alone has a higher correlation than the minimum of the ESG rating for a company throughout the years.

As expected, the ESG rating and the minimum ESG rating have a really high correlation. So, at this point the ESG rating is excluded from the analysis and substituted by the minimum of the ESG rating of a given company in the considered time interval to focus on the cross-sectional variability.

Looking at the correlation factors (excluding ESG rating) among the independent variables, we can see that the variables don't seem so correlated.

The highest correlation with the dependent variable is the one between the ROA and the operating cost ratio.

Table 24: correlation matrix for the second database including the minimum ESG rating

```
. corr roa esg minesg firmgrowthrate firmsize assetintensity intassetintensity ocsales
(obs=52)
```

	roa	esg	minesg	firmgr~e	firmsize	asseti~y	intass~y	ocsales
roa	1.0000							
esg	0.3198	1.0000						
minesg	0.2271	0.9237	1.0000					
firmgrowth~e	0.4470	0.1383	0.0198	1.0000				
firmsize	-0.0868	0.1718	0.1346	0.2624	1.0000			
assetinten~y	-0.2608	0.0550	0.0354	-0.0084	0.4765	1.0000		
intassetin~y	0.1151	0.4185	0.3566	0.1508	0.4715	0.5508	1.0000	
ocsales	-0.7684	-0.3625	-0.2247	-0.4425	-0.2074	-0.2877	-0.4518	1.0000

Analyzing the results of the application of the regression model it is possible to see that the coefficient associated to the ESG rating stays positive. It is worth mentioning that this coefficient also increases, signaling that in a cross-sectional analysis better ESG performances have higher importance, and that the variable is more significant (the probability of rejection of the null hypothesis decreases).

Furthermore, the coefficients in this database have the same signs as those in the previous one, confirming the industry trend. However, due to the smaller sample size and shorter observation period, this database exhibits greater variability.

Table 25: regression results from the second database substituting the variable ESG rating with the minimum ESG rating

```
. reg roa minesg firmgrowthrate firmsize assetintensity intassetintensity ocsales ib2019.year // baseline 2019
```

Source	SS	df	MS	Number of obs	=	52
				F(9, 42)	=	28.53
Model	2142.85788	9	238.09532	Prob > F	=	0.0000
Residual	350.491625	42	8.34503869	R-squared	=	0.8594
				Adj R-squared	=	0.8293
Total	2493.3495	51	48.889206	Root MSE	=	2.8888

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
minesg	.4320496	.3380095	1.28	0.208	-.2500812	1.11418
firmgrowthrate	-.0054529	.0383195	-0.14	0.888	-.0827848	.071879
firmsize	-.2235284	.5364528	-0.42	0.679	-1.306134	.8590771
assetintensity	-.0612108	.0115589	-5.30	0.000	-.0845377	-.0378839
intassetintensity	-.0141108	.0230148	-0.61	0.543	-.0605565	.0323349
ocsales	-.5972764	.0506366	-11.80	0.000	-.6994651	-.4950877
year						
2020	.4881726	1.197558	0.41	0.686	-1.928597	2.904942
2021	1.781397	1.355134	1.31	0.196	-.9533739	4.516169
2022	1.536951	1.158106	1.33	0.192	-.8002008	3.874103
_cons	73.09658	11.48976	6.36	0.000	49.9093	96.28386

This database seems to include a company which is not fully compliant to the accounting standards they declare to follow (source: Orbis): this company is Titan Company Limited.

If a company is not compliant to the accounting standards, there is the risk of errors or omissions in reporting. Even if these companies do not adhere to the same accounting principles, the compliance is necessary to grant the credibility of the results. For this reason, a trial is done, excluding this company from the analysis.

The first tables include the correlation matrix and the results from the application of the regression model considering the ESG rating.

These results show a situation more in line with the one of the first database, with the coefficients which have the same signs as in the first database. The ESG rating seems to be more significant in this case.

Table 26: correlation matrix from the second database (excluding Titan Company Limited)

```
. corr roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales
(obs=48)
```

	roa	esg	firmgr~e	firmsize	asseti~y	intass~y	ocsales
roa	1.0000						
esg	0.3439	1.0000					
firmgrowth~e	0.4469	0.1959	1.0000				
firmsize	-0.0763	0.1579	0.3058	1.0000			
assetinten~y	-0.2492	0.0064	0.0656	0.4323	1.0000		
intassetin~y	0.1406	0.4071	0.2048	0.4421	0.5106	1.0000	
ocsales	-0.8275	-0.3513	-0.5316	-0.1538	-0.1962	-0.4141	1.0000

Table 27: regression model from the second database (excluding Titan Company Limited)

```
. reg roa esg firmgrowthrate firmsize assetintensity intassetintensity ocsales ib2019.year // baseline 2019
```

Source	SS	df	MS	Number of obs	=	48
				F(9, 38)	=	28.72
Model	2122.62346	9	235.847051	Prob > F	=	0.0000
Residual	312.103265	38	8.2132438	R-squared	=	0.8718
				Adj R-squared	=	0.8415
Total	2434.72673	47	51.8026963	Root MSE	=	2.8659

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
esg	.186672	.351997	0.53	0.599	-.5259087	.8992526
firmgrowthrate	-.0306964	.0414731	-0.74	0.464	-.1146543	.0532615
firmsize	-.1168439	.5362362	-0.22	0.829	-1.202397	.9687095
assetintensity	-.0654095	.012227	-5.35	0.000	-.0901619	-.0406572
intassetintensity	-.011167	.0232585	-0.48	0.634	-.0582514	.0359174
ocsales	-.6238795	.0532605	-11.71	0.000	-.7316998	-.5160592
year						
2020	.841522	1.250131	0.67	0.505	-1.689236	3.37228
2021	2.071795	1.381449	1.50	0.142	-.7248018	4.868392
2022	1.072117	1.206794	0.89	0.380	-1.370909	3.515143
_cons	74.68741	11.59876	6.44	0.000	51.20694	98.16788

Applying the model with the minimum ESG rating the coefficients keep the same signs as in the first database. As in the previous analysis, focusing on the cross-sectional variability of the ESG rating increases the significance of the ESG rating and the coefficient of this variable increases.

Table 28: correlation matrix from the second database (excluding Titan Company Limited)

	roa	esg	minesg	firmgr~e	firmsize	asseti~y	intass~y	ocsales
roa	1.0000							
esg	0.3439	1.0000						
minesg	0.2473	0.9286	1.0000					
firmgrowth~e	0.4469	0.1959	0.0487	1.0000				
firmsize	-0.0763	0.1579	0.1003	0.3058	1.0000			
assetinten~y	-0.2492	0.0064	-0.0427	0.0656	0.4323	1.0000		
intassetin~y	0.1406	0.4071	0.3300	0.2048	0.4421	0.5106	1.0000	
ocsales	-0.8275	-0.3513	-0.1880	-0.5316	-0.1538	-0.1962	-0.4141	1.0000

Table 29: regression model from the second database, considering the minimum ESG rating as variable (excluding Titan Company Limited)

```
. reg roa minesg firmgrowthrate firmsize assetintensity intassetintensity ocsales ib2019.year // baseline 2019
```

Source	SS	df	MS	Number of obs	=	48
				F(9, 38)	=	29.74
Model	2132.02838	9	236.892042	Prob > F	=	0.0000
Residual	302.69835	38	7.96574606	R-squared	=	0.8757
				Adj R-squared	=	0.8462
Total	2434.72673	47	51.8026963	Root MSE	=	2.8224

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
minesg	.4063373	.3350672	1.21	0.233	-.2719709	1.084645
firmgrowthrate	-.0279207	.0409228	-0.68	0.499	-.1107646	.0549232
firmsize	-.1383181	.5282731	-0.26	0.795	-1.207751	.9311149
assetintensity	-.0631119	.0120886	-5.22	0.000	-.0875841	-.0386398
intassetintensity	-.0159113	.0225979	-0.70	0.486	-.0616583	.0298357
ocsales	-.6231532	.0516931	-12.05	0.000	-.7278005	-.518506
year						
2020	.8048784	1.229711	0.65	0.517	-1.68454	3.294297
2021	2.076966	1.355039	1.53	0.134	-.6661679	4.8201
2022	1.176271	1.1637	1.01	0.319	-1.179517	3.53206
_cons	73.83558	11.33527	6.51	0.000	50.88853	96.78263

3.3 Implications and limitations

The available evidence supports the hypothesis that good ESG performance, as measured by higher ESG scores and ratings, has a positive impact on profitability.

The results from the first database are particularly relevant because they provide an absolute measure of ESG performance within a given industry, rather than a relative measure compared to other companies in the same industry. Furthermore, as previously mentioned, this database includes an additional year of observations. This is particularly relevant because the Covid-19 pandemic has affected two years of data, and adding a year of observations that are not impacted by this variability increases the significance of the results obtained from the model.

This model gives evidence to the dynamics previously cited. In fact, the luxury industry is changing and it is giving higher relevance to the experience which luxury purchases provide and luxury brands are sustaining relevant investments. These relevant investments in some cases lead to the acquisitions of luxury brands by big luxury groups, in order to have the ability to sustain these investments, or to the mergers of luxury brands, to join forces. These dynamics are highlighted by the behavior of the variables in the model (i.e. the strange relationship between the ROA and the firm size). In fact, even if the expectation was that the firm size coefficient would have a positive sign and a positive relation with the ROA, the coefficient was negative. This was explained by the high correlation of this variable with the asset size.

However, some limitations to this study need to be considered. The main limitation consists in the small dimension of the databases considered due to the low availability of ESG performance scores and ratings. In fact, larger databases could reduce the chances of coincidence and increase the validity of the study. The same study can be repeated when a larger database can be constructed, in order to analyze more relevant results, with lower probability of coincidence.

This analysis can be a start to subsequent studies. Further qualitative analysis can be conducted to examine the impact of ESG performance on brand image for individual brands. The current model does not establish a clear relationship between these variables. The first database, in fact, highlights a low negative correlation between the intangible asset intensity while the second database

highlights a moderate positive correlation between the two variables. However, these results do not give information to establish some kind of relation between the two variables because intangible assets include a lot of other elements which differs from brand image so any consideration from these results cannot be particularly relevant.

Different studies which can follow can be based on different sustainability measures which can be derived from the ISO certifications which concerns sustainability.

Moreover, different models can be built, considering different measures of sustainability and different independent variables.

Conclusions

The concept of sustainability has gained significant importance in recent decades. Initially, the focus was solely on the environment, emphasizing that traditional development models would lead to the collapse of the Earth's ecosystem due to irreversible alterations caused by the interaction of the anthropogenic system with the ecosystem.

The concept of sustainability has then evolved over time to include dimensions beyond just the ecological, such as the economic and social dimensions. It is important to consider all three dimensions to define progress and wealth, with the goal of leaving future generations a world and society that can guarantee a quality of life at least equal to the present.

As previously noted, businesses have a significant role in sustainable development. Studies have shown that integrating sustainability into a business strategy can also be advantageous.

The purpose of this study is to examine the impact of ESG performance and ESG ratings on the profitability of the personal luxury goods industry.

Although some sustainability activists may have reservations about luxury brands due to their customer base and what they represent, studies have shown that luxury and sustainability are not necessarily conflicting concepts. However, some brands may be implementing strategies that are not sustainable.

An analysis of luxury strategy and industry characteristics suggests that luxury brands should prioritize sustainability.

One reason is the changing customer base, which is expected to include a greater proportion of young people in the coming years, for whom sustainability is important. Moreover, an analysis of consumer preferences suggests that sustainability is a latent expectation for these brands, even if it is not a primary driver of consumer decisions.

In addition, it appears that integrating sustainability into their strategy can create value for these brands and lead to new revenue opportunities.

Finally, sustainability is important from a risk management perspective to protect reputation, given the importance of brand image in this industry. In addition, luxury

brands sell a lifestyle as well as products. Therefore, sustainability can be a way to attract the best brand ambassadors.

To provide quantitative relevance to this analysis, a model based on the resource-based theory was constructed and then used to test how ESG performances affect sustainability. To test this hypothesis, two databases were constructed. However, one was prioritized because it provided a more relevant ESG performance indicator, covered a wider timeframe (which gained relevance since the samples comprehends the years affected by Covid-19), and contained a higher number of observations. The model was also applied to the second database since both were available.

The study indicates that strong ESG performance in the personal luxury goods industry can have a positive impact on profitability, suggesting that sustainable practices could provide a competitive advantage.

However, it is important to note that the study has some limitations due to the small sample size of the databases used to prove the hypothesis. Furthermore, the Covid-19 pandemic has added more variability to the results.

These findings can serve as a foundation for further analysis on individual brands and the impact of sustainability on brand image. They can also provide additional insights, considering other variables or sustainability indices in the model.

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Appendix

Table 30: first database

Company	ROA	ESG	firm growth	firm size	Asset intensity	Int Asset Intensity	OC/sales	2022	2021	2020	2019	2018
LVMH	14.937	70	16.1249782	25.1595156	170.0419277	63.41432613	73.7775308	1	0	0	0	0
LVMH	13.732	71	32.7401378	25.0100188	195.1428794	78.57198474	73.4843884	0	1	0	0	0
LVMH	6.776	71	-9.1248921	24.7267956	243.3786477	74.02969698	82.1459766	0	0	1	0	0
LVMH	11.102	63	12.4535557	24.8224797	179.8155394	61.94708403	78.9957146	0	0	0	1	0
LVMH	12.771	63	4.85487658	24.7051096	158.6725324	66.1619613	78.909153	0	0	0	0	1
Kering	15.129	84	8.61351402	23.8008714	166.7780453	56.07095474	73.6229178	1	0	0	0	0
Kering	14.562	85	24.3213239	23.7182458	176.0682792	56.23795706	72.8390724	0	1	0	0	0
Kering	10.557	84	-9.9099011	23.5005464	213.7784156	72.04470161	80.056793	0	0	1	0	0
Kering	15.84	81	-0.197546	23.6049063	170.9207668	61.6136242	70.9490981	0	0	0	1	0
Kering	16.193	80	-3.6824901	23.6068838	136.8422064	62.7152619	76.064862	0	0	0	0	1
PVH	3.299	30	-1.4254973	22.9231757	130.4082356	62.15398595	94.9136766	1	0	0	0	0
PVH	7.846	49	28.3501108	22.9375332	135.4145958	67.02458846	88.0564082	0	1	0	0	0
PVH	-8.974	49	-28.018973	22.6879417	186.3766369	90.74531027	113.954238	0	0	1	0	0
PVH	3.257	36	2.61163118	23.0167093	137.5618125	72.24038753	94.1487537	0	0	0	1	0
PVH	6.538	39	8.32323776	22.9909282	122.8533262	74.96996935	90.9711292	0	0	0	0	1
Shiseido	3.856	81	-9.0088782	22.8084906	122.5141588	16.96670742	98.2198987	1	0	0	0	0
Shiseido	7.618	80	-0.4866643	22.9028989	128.8141383	15.07426983	104.002907	0	1	0	0	0
Shiseido	-0.169	78	-14.305471	22.9077774	130.7682367	26.21295967	98.4593132	0	0	1	0	0
Shiseido	8.81	77	4.97377846	23.0621586	107.7105061	22.02374272	89.9401439	0	0	0	1	0
Shiseido	10.332	73	10.9656351	23.0136182	92.217295	15.10798529	90.1032585	0	0	0	0	1
Ralph Lauren	10.191	41	3.61984401	22.5863532	105.3681172	15.32993979	88.1975914	1	0	0	0	0
Ralph Lauren	9.769	20	41.3038538	22.5507946	124.2212752	16.26758865	86.7556485	0	1	0	0	0
Ralph Lauren	-0.948	17	-28.556122	22.2050522	179.2287766	23.98882021	96.0734412	0	0	1	0	0
Ralph Lauren	4.484	17	-2.4267385	22.5413101	118.1840319	17.15153089	93.9429852	0	0	0	1	0
Ralph Lauren	9.802	19	2.11409993	22.5658768	94.13591003	17.15982892	88.9260257	0	0	0	0	1
Prada	9.637	25	17.5364393	22.2229864	175.6284349	19.46851862	81.5270121	1	0	0	0	0
Prada	6.059	25	28.2216854	22.0614081	206.7646918	24.64310937	85.4565529	0	1	0	0	0
Prada	-0.794	19	-17.95686	21.8128176	269.4440879	34.35966483	99.1719702	0	0	1	0	0
Prada	3.335	19	0.71907369	22.0107426	218.20598	26.16045293	90.4892246	0	0	0	1	0
Prada	6.466	19	9.44113183	22.0035776	148.9048893	29.27968383	89.6934836	0	0	0	0	1
Hugo Boss	9.125	87	23.4193433	22.082846	85.62800126	4.83705056	90.8139064	1	0	0	0	0
Hugo Boss	7.197	85	32.1561657	21.8724283	98.18427844	5.873134944	91.8166189	0	1	0	0	0
Hugo Boss	-10.63	84	-26.303061	21.5936142	132.1017163	8.750551817	112.108788	0	0	1	0	0
Hugo Boss	10.62	77	1.20475699	21.8988231	99.77146768	6.846226287	88.0551557	0	0	0	1	0
Hugo Boss	18.115	77	-2.3127974	21.8868476	66.47287536	6.612963047	87.6300938	0	0	0	0	1
Burberry	17.2	83	3.22746828	22.0658644	119.1338074	8.015513898	80.2521008	1	0	0	0	0
Burberry	13.822	80	14.9751904	22.0340996	130.8209483	8.492569002	82.2363765	0	1	0	0	0
Burberry	13.997	87	-0.8756229	21.8945534	149.4176373	10.11135287	84.0607534	0	0	1	0	0
Burberry	5.118	85	-8.70466	21.9033482	125.0313319	9.380578026	92.4271771	0	0	0	1	0
Burberry	18.892	82	-7.2283355	21.9944187	85.73634292	8.124402617	83.9166238	0	0	0	0	1
Moncler	16.109	90	19.7990105	21.7443637	178.2369597	64.93255574	70.242807	1	0	0	0	0
Moncler	13.065	89	31.1107859	21.5637185	208.5912139	81.78922654	71.6915383	0	1	0	0	0
Moncler	12.534	87	-3.338008	21.292846	191.3770325	30.40039322	74.3947032	0	0	1	0	0
Moncler	18.349	85	12.4587138	21.3267959	157.6099217	26.72304055	69.7857227	0	0	0	1	0
Moncler	25.355	76	13.5775126	21.20938	114.4759358	29.88590735	70.8396886	0	0	0	0	1
L'Occitane	6.377	37	17.395319	21.5654685	131.9362212	64.82115193	84.7311248	1	0	0	0	0
L'Occitane	9.833	22	9.6699905	21.4050916	168.9202283	82.96165061	83.3802638	0	1	0	0	0
L'Occitane	7.854	16	0.10359141	21.3127861	161.8849104	69.62938398	86.3286612	0	0	1	0	0
L'Occitane	6.666	19	12.3614165	21.3117507	146.4864608	67.11966488	88.5969869	0	0	0	1	0
L'Occitane	7.547	29	-1.3840748	21.1952003	137.644319	76.47823143	89.5553497	0	0	0	0	1
Salvatore Ferragamo	5.88	41	1.03104193	21.0123303	137.4244293	3.321755413	91.1785762	1	0	0	0	0
Salvatore Ferragamo	6.36	40	17.5958672	21.0020727	158.468243	3.436833129	90.456591	0	1	0	0	0
Salvatore Ferragamo	-4.66	36	-27.365728	20.8399889	187.148964	4.975841454	109.26996	0	0	1	0	0
Salvatore Ferragamo	6.35	25	0.3294095	21.1597223	133.8800707	3.08467313	90.6403555	0	0	0	1	0
Salvatore Ferragamo	11.45	21	-7.7223703	21.1564336	88.14181619	3.183669651	89.637294	0	0	0	0	1
Farfetch	9.286	23	2.66204853	21.563401	158.6717199	66.81242122	136.564912	1	0	0	0	0
Farfetch	38.511	9	34.8096267	21.5371286	169.5692827	60.25224585	121.106368	0	1	0	0	0
Farfetch	-93.223	9	63.9433243	21.2384352	214.5184184	76.42697808	137.032132	0	0	1	0	0
Farfetch	-16.721	7	69.4993559	20.7440846	218.1976755	133.4885024	140.1103	0	0	0	1	0
Farfetch	-11.353	7	56.0717783	20.2164057	224.3407859	17.15600016	127.414407	0	0	0	0	1
Tod's	1.408	41	5.32426439	20.7946961	204.7277822	57.82106677	96.0412283	1	0	0	0	0
Tod's	0.124	30	28.4341449	20.7428225	221.4976115	64.61685924	96.7899543	0	1	0	0	0
Tod's	-7.649	25	-22.840203	20.4925764	319.1818195	89.61722791	120.699243	0	0	1	0	0
Tod's	3.837	19	-4.4440504	20.751868	218.9776273	64.47193889	100.612566	0	0	0	1	0
Tod's	4.066	21	-6.786103	20.7973263	171.9218418	64.29650643	93.1786211	0	0	0	0	1

Table 31: first database with the addition of asset growth and asset size as independent variables

Company	ROA	ESG	firm growth	firm size	Asset intensi	Int Asset Inte	OC/sales	asset growth	asset size	2022	2021	2020	2019	2018
LVMH	14.937	70	16.1249782	25.1595156	170.041928	63.4143261	73.7775308	1.18798698	25.6903905	1	0	0	0	0
LVMH	13.732	71	32.7401378	25.0100188	195.142879	78.5719847	73.4843884	6.43206765	25.6785806	0	1	0	0	0
LVMH	6.776	71	-9.1248921	24.7267956	243.378648	74.029697	82.1459766	22.9986071	25.6162439	0	0	1	0	0
LVMH	11.102	63	12.4535557	24.8224797	179.815539	61.947084	78.9957146	27.4379155	25.4092411	0	0	0	1	0
LVMH	12.771	63	4.85487658	24.7051096	158.672532	66.1619613	78.909153	1.69310242	25.1667819	0	0	0	0	1
Kering	15.129	84	8.61351402	23.8008714	166.778045	56.0709547	73.6229178	2.88252742	24.3123651	1	0	0	0	0
Kering	14.562	85	24.3213239	23.7182458	176.068279	56.2379571	72.8390724	2.39126107	24.2839475	0	1	0	0	0
Kering	10.557	84	-9.9099011	23.5005464	213.778416	72.0447016	80.056793	12.6798046	24.2603163	0	0	1	0	0
Kering	15.84	81	-0.197546	23.6049063	170.920767	61.6136242	70.9490981	24.6568031	24.1409363	0	0	0	1	0
Kering	16.193	80	-3.6824901	23.6068838	136.842206	62.7152619	76.064862	-20.2418	23.9205421	0	0	0	0	1
PVH	3.299	30	-1.4254973	22.9231757	130.408236	62.1539859	94.9136766	-5.0698567	23.1886753	1	0	0	0	0
PVH	7.846	49	28.3501108	22.9375332	135.414596	67.0245885	88.0564082	-6.7454019	23.2407042	0	1	0	0	0
PVH	-8.974	49	-28.018973	22.6879417	186.376637	90.7453103	113.954238	-2.4759739	23.310541	0	0	1	0	0
PVH	3.257	36	2.61163118	23.0167093	137.561812	72.2403875	94.1487537	14.8967017	23.3356124	0	0	0	1	0
PVH	6.538	39	8.32323776	22.9909282	122.853326	74.9699693	90.9711292	-0.1850964	23.1967492	0	0	0	0	1
Shiseido	3.856	81	-9.0088782	22.8084906	122.514159	16.9667074	98.2198987	-13.459028	23.0115471	1	0	0	0	0
Shiseido	7.618	80	-0.4866643	22.9028989	128.814138	15.0742698	104.002907	-1.9737139	23.1560993	0	1	0	0	0
Shiseido	-0.169	78	-14.305471	22.9077774	130.768237	26.2129597	98.4593132	4.03926998	23.1760338	0	0	1	0	0
Shiseido	8.81	77	4.97377846	23.0621586	107.710506	22.0237427	89.9401439	22.6101763	23.1364355	0	0	0	1	0
Shiseido	10.332	73	10.9656351	23.0136182	92.217295	15.1079853	90.1032585	8.32609111	22.9325957	0	0	0	0	1
Ralph Lauren	10.191	41	3.61984401	22.5863532	105.368117	15.3299398	88.1975914	-12.106619	22.6386431	1	0	0	0	0
Ralph Lauren	9.769	20	41.3038538	22.5507946	124.221275	16.2675886	86.7556485	-2.0640254	22.7676888	0	1	0	0	0
Ralph Lauren	-0.948	17	-28.556122	22.2050522	179.228777	23.9888202	96.0734412	8.34626849	22.7885451	0	0	1	0	0
Ralph Lauren	4.484	17	-2.4267385	22.5413101	118.184032	17.1515309	93.9429852	22.4994952	22.708383	0	0	0	1	0
Ralph Lauren	9.802	19	2.11409993	22.5658768	94.13591	17.1598289	88.9260257	-3.2637182	22.5054462	0	0	0	0	1
Prada	9.637	25	17.5364393	22.2229864	175.628435	19.4685186	81.5270121	-0.1631241	22.7861868	1	0	0	0	0
Prada	6.059	25	28.2216854	22.0614081	206.764692	24.6431094	85.4565529	-1.6058676	22.7878193	0	1	0	0	0
Prada	-0.794	19	-17.95686	21.8128176	269.444088	34.3596648	99.1719702	1.30812634	22.8040084	0	0	1	0	0
Prada	3.335	19	0.71907369	22.0107426	218.20598	26.1604529	90.4892246	47.5942415	22.7910119	0	0	0	1	0
Prada	6.466	19	9.44113183	22.0035776	148.904889	29.2796838	89.6934836	-5.7475717	22.4017152	0	0	0	0	1
Hugo Boss	9.125	87	23.4193433	22.082846	85.6280013	4.83705056	90.8139064	7.63588482	21.9276882	1	0	0	0	0
Hugo Boss	7.197	85	32.1561657	21.8724283	98.1842784	5.87313494	91.8166189	-1.7752522	21.8541043	0	1	0	0	0
Hugo Boss	-10.63	84	-26.303061	21.5936142	132.101716	8.75055182	112.108788	-2.422081	21.8720162	0	0	1	0	0
Hugo Boss	10.62	77	1.20475699	21.8988231	99.7714677	6.84622629	88.0551557	51.9017658	21.8965352	0	0	0	1	0
Hugo Boss	18.115	77	-2.3127974	21.8868476	66.4728754	6.61296305	87.6300938	3.16053768	21.4784714	0	0	0	0	1
Burberry	17.2	83	3.22746828	22.0658644	119.133807	8.0155139	80.2521008	-5.9945561	22.2409415	1	0	0	0	0
Burberry	13.822	80	14.9751904	22.0340996	130.820948	8.492569	82.2363765	0.66524755	22.302759	0	1	0	0	0
Burberry	13.997	87	-0.8756229	21.8945534	149.417637	10.1113529	84.0607534	18.4577498	22.2961286	0	0	1	0	0
Burberry	5.118	85	-8.70466	21.9033482	125.031332	9.38057803	92.4271771	33.1381485	22.1267424	0	0	0	1	0
Burberry	18.892	82	-7.2283355	21.9944187	85.7363429	8.12440262	83.9166238	-2.2203024	21.8405253	0	0	0	0	1
Moncler	16.109	90	19.7990105	21.7443637	178.23696	64.9325557	70.242807	2.36582355	22.3223075	1	0	0	0	0
Moncler	13.065	89	31.1107859	21.5637185	208.591214	81.7892265	71.6915383	42.904076	22.2989247	0	1	0	0	0
Moncler	12.534	87	-3.338008	21.292846	191.377032	30.4003932	74.3947032	17.371324	21.9419213	0	0	1	0	0
Moncler	18.349	85	12.4587138	21.3267959	157.609922	26.7230406	69.7857227	54.8326202	21.7817489	0	0	0	1	0
Moncler	25.355	76	13.5775126	21.20938	114.475936	29.8859074	70.8396886	12.4629127	21.3445744	0	0	0	0	1
L'Occitane	6.377	37	17.395319	21.5654685	131.936221	64.8211519	84.7311248	-8.3076377	21.8426169	1	0	0	0	0
L'Occitane	9.833	22	9.6699905	21.4050916	168.920228	82.9616506	83.3802638	14.4361126	21.929348	0	1	0	0	0
L'Occitane	7.854	16	0.10359141	21.3127861	161.88491	69.629384	86.3286612	10.6263393	21.7945015	0	0	1	0	0
L'Occitane	6.666	19	12.3614165	21.3117507	146.486461	67.1196649	88.5969869	19.5794085	21.6935135	0	0	0	1	0
L'Occitane	7.547	29	-1.3840748	21.1952003	137.644319	76.4782314	89.5553497	37.4980594	21.514703	0	0	0	0	1
Salvatore Ferragamo	5.88	41	1.03104193	21.0123303	137.424429	3.32175541	91.1785762	-12.38539	21.3302343	1	0	0	0	0
Salvatore Ferragamo	6.36	40	17.5958672	21.0020727	158.468243	3.43683313	90.456591	-0.4257889	21.4624567	0	1	0	0	0
Salvatore Ferragamo	-4.66	36	-27.365728	20.8399889	187.148964	4.97584145	109.26996	1.53437145	21.4667237	0	0	1	0	0
Salvatore Ferragamo	6.35	25	0.3294095	21.1597223	133.880071	3.08467313	90.6403555	52.3920089	21.4514965	0	0	0	1	0
Salvatore Ferragamo	11.45	21	-7.7223703	21.1564336	88.1418162	3.18366965	89.637294	-4.1640362	21.0302104	0	0	0	0	1
Farfetch	9.286	23	2.66204853	21.563401	158.67172	66.8124212	136.564912	-3.9356448	22.0250682	1	0	0	0	0
Farfetch	38.511	9	34.8096267	21.5371286	169.569283	60.2522458	121.106368	6.56227974	22.06522	0	1	0	0	0
Farfetch	-93.223	9	63.9433243	21.2384352	214.518418	76.4269781	137.032132	61.178906	22.0016606	0	0	1	0	0
Farfetch	-16.721	7	69.4993559	20.7440846	218.197676	133.488502	140.1103	64.8579651	21.5243158	0	0	0	1	0
Farfetch	-11.353	7	56.0717783	20.2164057	224.340786	17.1560002	127.414407	140.009555	21.0244017	0	0	0	0	1
Tod's	1.408	41	5.32426439	20.7946961	204.727782	57.8210668	96.0412283	-2.6499522	21.5112072	1	0	0	0	0
Tod's	0.124	30	28.4341449	20.7428225	221.497611	64.6168592	96.7899543	-10.872567	21.5380641	0	1	0	0	0
Tod's	-7.649	25	-22.840203	20.4925764	319.18182	89.6172279	120.699243	12.4681303	21.6531671	0	0	1	0	0
Tod's	3.837	19	-4.4440504	20.751868	218.977627	64.4719389	100.612566	21.7100452	21.5356674	0	0	0	1	0
Tod's	4.066	21	-6.786103	20.7973263	171.921842	64.2965064	93.1786211	-2.5760224	21.3391961	0	0	0	0	1

Table 32: second database

Company	ROA	ESG	firm growth	firm size	Asset intensi	Int Asset Inte	OC/sales	2022	2021	2020	2019
LVMH	14.937	6	16.1249782	25.1595156	170.041928	63.4143261	73.7775308	1	0	0	0
LVMH	13.732	5	32.7401378	25.0100188	195.142879	78.5719847	73.4843884	0	1	0	0
LVMH	6.776	5	-9.1248921	24.7267956	243.378648	74.029697	82.1459766	0	0	1	0
LVMH	11.102	5	12.4535557	24.8224797	179.815539	61.947084	78.9957146	0	0	0	1
Kering	15.129	7	8.61351402	23.8008714	166.778045	56.0709547	73.6229178	1	0	0	0
Kering	14.562	7	24.3213239	23.7182458	176.068279	56.2379571	72.8390724	0	1	0	0
Kering	10.557	6	-9.9099011	23.5005464	213.778416	72.0447016	80.056793	0	0	1	0
Kering	15.84	6	-0.197546	23.6049063	170.920767	61.6136242	70.9490981	0	0	0	1
Richemont	2.666	6	14.8235777	23.9198625	181.865492	4.92393915	93.812828	1	0	0	0
Richemont	6.445	7	38.1633507	23.7816358	208.466712	30.655336	82.4565977	0	1	0	0
Richemont	4.285	6	-1.2039925	23.4583693	269.012477	44.8265368	88.7705417	0	0	1	0
Richemont	3.933	6	-0.7475102	23.4704823	213.941565	42.7588144	89.3524371	0	0	0	1
Hermes	26.548	6	21.6422672	23.2389189	150.482675	1.83589036	59.0329254	1	0	0	0
Hermes	24.8	5	29.7588923	23.0430046	154.163883	3.32887998	60.0311735	0	1	0	0
Hermes	17.971	4	1.38535491	22.7824967	172.969166	4.11645015	69.588355	0	0	1	0
Hermes	22.976	4	13.1986211	22.7687382	143.549699	2.90989918	66.1736932	0	0	0	1
Chow Tai Fook	8.526	5	-4.5488396	23.2131105	92.2438121	0.07002209	92.1807605	1	0	0	0
Chow Tai Fook	10.239	4	40.0012475	23.259666	88.6793406	0.11017034	91.6299853	0	1	0	0
Chow Tai Fook	13.054	4	23.316879	22.9231849	91.6543859	0.22518735	89.2223625	0	0	1	0
Chow Tai Fook	6.444	4	-13.834516	22.7135978	114.964723	0.77373359	92.2586113	0	0	0	1
Swatch Group	7.889	3	1.37164486	22.8178907	185.264702	1.94692626	87.8117082	1	0	0	0
Swatch Group	7.391	3	26.1949382	22.8042675	187.036784	1.96909613	89.8810338	0	1	0	0
Swatch Group	0.279	3	-25.422916	22.5716099	230.509383	2.57372654	101.251117	0	0	1	0
Swatch Group	7.333	3	-1.0799254	22.8649468	166.104574	1.81972583	89.2393546	0	0	0	1
Shiseido	3.856	5	-9.0088782	22.8084906	122.514159	16.9667074	98.2198987	1	0	0	0
Shiseido	7.618	4	-0.4866643	22.9028989	128.814138	15.0742698	104.002907	0	1	0	0
Shiseido	-0.169	4	-14.305471	22.9077774	130.768237	26.2129597	98.4593132	0	0	1	0
Shiseido	8.81	4	4.97377846	23.0621586	107.710506	22.0237427	89.9401439	0	0	0	1
Amorepacific	3.869	5	-20.388175	21.9058482	140.311436	8.65191761	94.8189419	1	0	0	0
Amorepacific	4.87	5	0.60579381	22.1338557	125.777346	4.14712525	92.9395695	0	1	0	0
Amorepacific	0.444	5	-15.476655	22.127816	128.648191	4.71041373	96.7733903	0	0	1	0
Amorepacific	6.188	5	2.10235905	22.2959585	107.327154	4.0593429	92.3329087	0	0	0	1
Pandora	29.678	7	6.45057285	22.0570825	83.1840683	28.6021993	74.5191399	1	0	0	0
Pandora	29.004	7	13.6220341	21.9945719	79.2596392	30.3240147	75.0448833	0	1	0	0
Pandora	12.48	7	-4.2013436	21.8668647	105.129149	36.524804	85.8803725	0	0	1	0
Pandora	17.751	7	-6.3607896	21.9097862	98.6418511	34.0451802	82.4903969	0	0	0	1
Burberry	17.2	7	3.22746828	22.0658644	119.133807	8.0155139	80.2521008	1	0	0	0
Burberry	13.822	7	14.9751904	22.0340996	130.820948	8.492569	82.2363765	0	1	0	0
Burberry	13.997	7	-0.8756229	21.8945534	149.417637	10.1113529	84.0607534	0	0	1	0
Burberry	5.118	7	-8.70466	21.9033482	125.031332	9.38057803	92.4271771	0	0	0	1
Titan Company	16.456	4	27.538997	22.2520742	71.2556692	1.00200401	95.2694863	1	0	0	0
Titan Company	13.702	4	32.3391905	22.0088223	77.3024036	1.34223292	94.2225626	0	1	0	0
Titan Company	8.066	5	-0.7987735	21.7286242	81.8996416	1.88669853	100.562525	0	0	1	0
Titan Company	15.513	5	-2.7363893	21.736644	65.2446071	1.90677966	91.154661	0	0	0	1
Moncler	16.109	6	19.7989916	21.7443637	178.236969	64.9325591	70.2428106	1	0	0	0
Moncler	13.065	5	31.1107905	21.5637186	208.591192	81.7892179	71.6915307	0	1	0	0
Moncler	12.534	4	-3.3379781	21.2928461	191.377019	30.4003911	74.3946979	0	0	1	0
Moncler	18.349	4	12.4586559	21.3267957	157.609959	26.7230469	69.7857393	0	0	0	1
Kosé	7.749	3	10.6494729	21.5024489	124.370538	4.99764817	92.4084168	1	0	0	0
Kosé	8.889	3	-21.948031	21.4012518	142.240969	6.34092354	91.6535916	0	1	0	0
Kosé	6.326	3	-16.288915	21.6490471	110.378719	5.06569693	95.2675302	0	0	1	0
Kosé	13.08	3	0.42708274	21.8268459	94.1664327	4.50806166	87.7470066	0	0	0	1

Table 33: second database with the addition of the minimum ESG

Company	ROA	ESG	min ESG	firm growth	firm size	Asset intensity	Int Asset Intensity	OC/sales	2022	2021	2020	2019
LVMH	14.937	6	5	16.1249782	25.1595156	170.0419277	63.41432613	73.7775308	1	0	0	0
LVMH	13.732	5	5	32.7401378	25.0100188	195.1428794	78.57198474	73.4843884	0	1	0	0
LVMH	6.776	5	5	-9.1248921	24.7267956	243.3786477	74.02969698	82.1459766	0	0	1	0
LVMH	11.102	5	5	12.4535557	24.8224797	179.8155394	61.94708403	78.9957146	0	0	0	1
Kering	15.129	7	6	8.61351402	23.8008714	166.7780453	56.07095474	73.6229178	1	0	0	0
Kering	14.562	7	6	24.3213239	23.7182458	176.0682792	56.23795706	72.8390724	0	1	0	0
Kering	10.557	6	6	-9.9099011	23.5005464	213.7784156	72.04470161	80.056793	0	0	1	0
Kering	15.84	6	6	-0.197546	23.6049063	170.9207668	61.6136242	70.9490981	0	0	0	1
Richemont	2.666	6	6	14.8235777	23.9198625	181.8654924	4.923939151	93.812828	1	0	0	0
Richemont	6.445	7	6	38.1633507	23.7816358	208.4667119	30.65533601	82.4565977	0	1	0	0
Richemont	4.285	6	6	-1.2039925	23.4583693	269.0124772	44.82653682	88.7705417	0	0	1	0
Richemont	3.933	6	6	-0.7475102	23.4704823	213.9415648	42.75881444	89.3524371	0	0	0	1
Hermes	26.548	6	4	21.6422672	23.2389189	150.4826754	1.835890364	59.0329254	1	0	0	0
Hermes	24.8	5	4	29.7588923	23.0430046	154.1638833	3.328879982	60.0311735	0	1	0	0
Hermes	17.971	4	4	1.38535491	22.7824967	172.9691658	4.116450149	69.588355	0	0	1	0
Hermes	22.976	4	4	13.1986211	22.7687382	143.5496993	2.909899178	66.1736932	0	0	0	1
Chow Tai Fook	8.526	5	4	-4.5488396	23.2131105	92.24381207	0.070022094	92.1807605	1	0	0	0
Chow Tai Fook	10.239	4	4	40.0012475	23.259666	88.67934064	0.11017034	91.6299853	0	1	0	0
Chow Tai Fook	13.054	4	4	23.316879	22.9231849	91.65438588	0.225187347	89.2223625	0	0	1	0
Chow Tai Fook	6.444	4	4	-13.834516	22.7135978	114.964723	0.773733586	92.2586113	0	0	0	1
Swatch Group	7.889	3	3	1.37164486	22.8178907	185.264702	1.946926257	87.8117082	1	0	0	0
Swatch Group	7.391	3	3	26.1949382	22.8042675	187.0367838	1.96909613	89.8810338	0	1	0	0
Swatch Group	0.279	3	3	-25.422916	22.5716099	230.5093834	2.573726542	101.251117	0	0	1	0
Swatch Group	7.333	3	3	-1.0799254	22.8649468	166.1045736	1.819725828	89.2393546	0	0	0	1
Shiseido	3.856	5	4	-9.0088782	22.8084906	122.5141588	16.96670742	98.2198987	1	0	0	0
Shiseido	7.618	4	4	-0.4866643	22.9028989	128.8141383	15.07426983	104.002907	0	1	0	0
Shiseido	-0.169	4	4	-14.305471	22.9077774	130.7682367	26.21295967	98.4593132	0	0	1	0
Shiseido	8.81	4	4	4.97377846	23.0621586	107.7105061	22.02374272	89.9401439	0	0	0	1
Amorepacific	3.869	5	5	-20.388175	21.9058482	140.3114358	8.651917606	94.8189419	1	0	0	0
Amorepacific	4.87	5	5	0.60579381	22.1338557	125.7773455	4.147125253	92.9395695	0	1	0	0
Amorepacific	0.444	5	5	-15.476655	22.127816	128.6481915	4.71041373	96.7733903	0	0	1	0
Amorepacific	6.188	5	5	2.10235905	22.2959585	107.3271538	4.059342901	92.3329087	0	0	0	1
Pandora	29.678	7	7	6.45057285	22.0570825	83.18406832	28.6021993	74.5191399	1	0	0	0
Pandora	29.004	7	7	13.6220341	21.9945719	79.25963922	30.3240147	75.0448833	0	1	0	0
Pandora	12.48	7	7	-4.2013436	21.8668647	105.1291494	36.52480404	85.8803725	0	0	1	0
Pandora	17.751	7	7	-6.3607896	21.9097862	98.64185111	34.04518017	82.4903969	0	0	0	1
Burberry	17.2	7	7	3.22746828	22.0658644	119.1338074	8.015513898	80.2521008	1	0	0	0
Burberry	13.822	7	7	14.9751904	22.0340996	130.8209483	8.492569002	82.2363765	0	1	0	0
Burberry	13.997	7	7	-0.8756229	21.8945534	149.4176373	10.11135287	84.0607534	0	0	1	0
Burberry	5.118	7	7	-8.70466	21.9033482	125.0313319	9.380578026	92.4271771	0	0	0	1
Titan Company	16.456	4	4	27.538997	22.2520742	71.25566923	1.002004008	95.2694863	1	0	0	0
Titan Company	13.702	4	4	32.3391905	22.0088223	77.30240362	1.342232921	94.2225626	0	1	0	0
Titan Company	8.066	5	4	-0.7987735	21.7286242	81.89964158	1.886698526	100.562525	0	0	1	0
Titan Company	15.513	5	4	-2.7363893	21.736644	65.24460709	1.906779661	91.154661	0	0	0	1
Moncler	16.109	6	4	19.7989916	21.7443637	178.2369688	64.93255906	70.2428106	1	0	0	0
Moncler	13.065	5	4	31.1107905	21.5637186	208.5911918	81.78921787	71.6915307	0	1	0	0
Moncler	12.534	4	4	-3.3379781	21.2928461	191.3770189	30.40039107	74.3946979	0	0	1	0
Moncler	18.349	4	4	12.4586559	21.3267957	157.6099592	26.72304692	69.7857393	0	0	0	1
Kosé	7.749	3	3	10.6494729	21.5024489	124.3705384	4.997648166	92.4084168	1	0	0	0
Kosé	8.889	3	3	-21.948031	21.4012518	142.2409693	6.340923536	91.6535916	0	1	0	0
Kosé	6.326	3	3	-16.288915	21.6490471	110.3787193	5.065696932	95.2675302	0	0	1	0
Kosé	13.08	3	3	0.42708274	21.8268459	94.16643273	4.508061662	87.7470066	0	0	0	1