

**Thesis Title: Sustainability as a driver of Mergers and Acquisitions: Impact on Firm
Development.**

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June 13, 2021

Sustainability as a driver of Mergers and Acquisitions: Impact on Firm Development.

The aim of this thesis “Sustainability as a driver of Mergers and Acquisitions: Impact on Firm Development” is to examine the use of acquisitions by firms as a means of increasing its ESG performance. There has been an increase in the importance of sustainability over the past decades, as a result, firms seek to re-evaluate their business strategy, considering its impact on the environment. Therefore, sustainability is increasingly becoming a motive for acquisition. Some studies have been carried out to examine the effect of acquiring a CSR-oriented firm on firm value using aggregate ESG ratings, however CSR is multidimensional and encompasses different factors which could have different effects on firm value.

For this reason, I decided to examine the literature further focusing on the individual effects of each ESG factor on the firm value of the acquirer. This thesis first examines the effect of acquiring a firm that has a higher ESG performance on the acquirer's ESG performance after the acquisition and presents the results. Second, the study explores the post-acquisition financial performance effect of acquiring a target with higher ESG performance. The research was conducted using Eighty-Three acquisition deals that occurred between the period 2004 and 2018 in the European Union (EU) including the United Kingdom, and the models used are probit and pooled OLS.

The results of this research identified the environmental factor as the only factor that has a significant and positive effect on the ESG performance of the acquiring firm but was unable to provide a significant result on the effect of target ESG performance on the financial performance of the acquiring firm although the relationship is negative. This thesis went further ahead to provide causal evidence in understanding the motive for firms' sustainable acquisitions using survey.

The survey experiment was conducted using Economics students at Radboud University and Finance professionals in the Netherlands with a total of Sixty-eight respondents, of which forty-six were students. The results of the experiment show that firms view CSR as a business strategy and invest in it to build their reputations and integrate it as part of their business practices. I recommend future research to broaden this sample to include acquisitions from other countries so the analysis of the correlation between target ESG and acquiring firm ESG and financial performance can be generalized. Also, it will be interesting to study if the negative effect of green acquisition is lower than dirty acquisitions on firm value.

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Chapter 1 | Introduction

Investment in mergers and acquisitions (henceforth referred to as acquisitions) continues to grow rapidly over the years (Haleblian et al., 2009) even though research has shown that acquiring firms do not benefit from acquisitions (Malatesta, 1983; Asquith, 1983). More specifically, Asquith (1983) found evidence that acquisition is value-destroying for firms in the short and the long term. Yet, there is still an increase in the number of acquisitions that happens across the globe; therefore, several studies have been carried out to understand the motive for these acquisitions. A firm could engage in acquisition activities to increase its market power, resulting from fewer firms in an industry (Kim and Singal, 1993). Increase its efficiency arising from cost reduction in a firm operation, Banerjee and Eckard (1998) found evidence of an increase in acquiring firm stock price for horizontal mergers during the merger wave in the 1900s. As a discipline mechanism for inefficient and ineffective managers, Martin, and McConnell (1991) found that the acquiring firm often dismisses CEOs of target firms after the acquisition has been completed. However, managers could engage in acquisition activities for their self-interest. Research has shown that the compensation of acquiring CEO increases post-acquisition regardless of the acquisition performance (Hatford and Li, 2007), which suggests managers exhibit a self-interested motivation to acquire to increase compensation (Haleblian et al., 2009). Although these previous works of the literature indicate that acquisitions erode firm value, they also reveal the conditions in which acquisitions could benefit acquiring firms.

There has been an increase in the importance of sustainability over the past decades due to a rise in wealth inequality and depletion of natural resources (Dao et al., 2011). As a Result, firms seek to re-evaluate their business strategy, considering it impacts the environment. A survey by KPMG on Sustainability Reporting 2020 indicated that 80% of firms worldwide report on sustainability even though Environmental Social and Governance (ESG) reporting is not mandatory and the evidence of its impact on firm value and shareholder's wealth is still mixed (Jiao, 2010). Therefore, sustainability is increasingly becoming a motive for acquisition because it is an alternative for firms seeking to increase their sustainability profile and knowledge by embracing existing CSR practices from the acquired firm instead of internally developing their practices (Wickert et al., 2017). Examples of recent acquisitions that depict this trend include Ben and Jerry by Unilever, Stonyfield Farm by Danone, The Body Shop by L'Oréal and Tom's of Maine by Colgate-Palmolive. However, do these acquisitions increase the CSR profile and knowledge of CSR of the acquiring firm? The answer to the question lies in the acquiring firm's identity (the firm's values).

Despite the significant trend in firms acquiring CSR oriented firms, sustainability as a motive for M&A has not been widely studied in the literature, and it remains limited to descriptive analysis (Mirvis, 2008). Using Australian firms, Tampakoudis and Anagnostopoulou (2020) study whether the ESG performance increases after acquiring a target with a better ESG performance and if this improved performance translates to positive market values after the acquisition announcement. They find an increase in ESG performance of acquiring firm after acquiring a target with better ESG performance. However, the evidence found regarding the relationship between acquirer market value and target ESG performance is weak although positive. They suggest that their

result is in line with the stakeholder value maximization view. The theory proposes that investment in sustainability considers the interests of other stakeholders other than shareholders, which maximizes the firm's value (Yen and Andre, 2019).

However, as with many studies, the work of Tampakoudis and Anagnostopoulou (2020) utilizes an aggregate ESG rating rather than the individual ratings as a measure of sustainability which could be one of the reasons for the weak evidence found regarding the relationship between target ESG performance and market value of acquirer. Furthermore, there is no causal evidence yet of the motive for sustainable acquisition (social responsibility or sustained greenwashing). Therefore, this literature was extended in two directions by investigating the effect of combined target ESG performance and the three components of ESG (Environmental, Social and Governance) separately on the acquirer performance in terms of CSR profile and firm financial performance post-acquisition providing causal evidence on the motive of sustainable acquisitions. First, the study examines the effect of acquiring a firm that has a higher ESG performance on acquirers ESG performance after the acquisition. It is expected that acquiring a firm with higher ESG performance would improve the ESG performance of the acquiring firm. Second, the study explores the post-acquisition financial performance effect of acquiring a target with higher ESG performance. It is expected that acquiring a firm with higher ESG performance would result in an increase in financial performance for the acquiring firm. This study is important because it allows me to offer more insight into the circumstance in which ESG performance could be value-enhancing or value destroying by exploring the three components of ESG separately. It also provides causal evidence in understanding the motive for firms' sustainable acquisitions.

In this paper, using 83 acquisition deals between the period 2004 and 2018 in European Union (EU) including the United Kingdom. First, I found that acquiring a target firm with high environmental performance improves the ESG performance of the acquiring firm post acquisition. This result suggests that due to the attention given by the world to environmental activities, firms are more willing to adopt the CSR practices of an environmentally friendly firm thereby increasing their overall ESG performance. Second, I found that acquiring a target firm with high ESG performance has a negative effect on the acquiring firm value although insignificant. This result is in line with the prior literatures that found that acquisitions are usually value destroying. For further analysis, this study provides causal evidence regarding the motive for sustainable acquisition. To provide causal evidence for the motive behind sustainable acquisitions, a survey experiment was conducted using Economics students at Radboud University and Finance professionals in the Netherlands. The survey has a total of Sixty-eight respondents, of which forty-six were students. Firms are believed to generally invest in CSR to build their reputations and integrate it as part of their business practices.

The rest of this paper is structured as follows: Chapter 2 presents literature from previous studies on the relationship between Acquisition, ESG performance, financial performance and motive for sustainable acquisition, and hypotheses development. Chapter 3 offers a detailed description of the data samples, variables, models, and methodology. Results of the research, causal evidence for the motive of sustainable acquisition and limitations of study is presented in Chapter 4. The conclusion of the study is discussed in Chapter 5.

Chapter 2 | Literature Review

The growing importance and awareness of sustainability has become pertinent in recent years; corrective measures to improve the environment are being taken by individuals and various institutions (Dasgupta et al., 2001). These punitive measures are taken by institutions such as Firms, Governments, Institutional investors, and non-Governmental organizations due to an increase in scandals and rapid decline of the climate (Yadav et al., 2016; Salvi et al., 2018). CSR is characterized as an integration of appropriate corporate governance that protects shareholders' interests, good social relations with employees, local community and other stakeholders, and environmental measures to protect the environment and welfare of environmental stakeholders (Yen and Andre, 2019). Existing literature offers two opposing views regarding the value effects of CSR activities on firm performance.

The value effect of sustainable investment by firms has been viewed from two perspectives: the stakeholder view and the shareholder view. According to the stakeholder view, CSR practices maximise a firm's value and subsequently shareholder wealth by considering other stakeholders' interests (Yen and Andre, 2019; Deng et al., 2013). According to this view, CSR is an investment in innovation, resulting in firm value maximization over time because innovation and technology can be viewed as dynamic concepts. The current world market economy constitutes continuous technological change and imperfect information, according to Kitzmueller and Shimshack (2012) such an economy is a dynamic place that includes a win-win scenario because environmental innovation produces public goods and reduces negative externalities while improving the quality of private goods provided by the firm and ultimately the firm's competitiveness. Following this line of study, previous literature shows that firms will strengthen their CSR Practices to balance their social goals with shareholder maximisation to ensure continued success (Yen and Andre, 2019). Using the Credit Lyonnais Securities Asia governance score to compile ESG data, Cheung, Tan and Zhang (2010) results reveal a positive and significant relationship between Asian firm's market value and ESG. They indicate that Asian firms are rewarded for improving their CSR practices in line with the stakeholder view.

Shareholders interested in the firm's social and environmental performance might be willing to exchange profits to further social goals. This is not in line with the behavioural model of the homo economicus, which describes individuals as rational because they maximize their utilities based on their preferences considering certain external constraints. However, experimental research has presented considerable evidence to show that economic participants are not completely described by this behaviour rather they can be driven by fairness and willingness to sacrifice economic profits to achieve their social goals. For these investors with social intention, firms that invest in CSR activities will attract these groups of investors. However, shareholders could easily satisfy their social preference by doing it independently or making donations to charitable organizations. Then the question remains why shareholders want the firms to do it on their behalf? The answer to this question can be traced back to information and transaction cost, using the example in Benabou and Tirole (2010). If a group of shareholders wants to improve workers' wages working in the coffee plantation supplying Starbucks, they could directly send money to these workers. However, they would have to be aware of each employee's contract and trades on the different coffee plantations and incur huge transaction cost when making the

financial transfer. Instead, they could easily delegate it to Starbucks who already has a financial relationship with these workers. This standpoint aligns with institutional legitimacy principles, including ethical and discretionary (Kitzmueller and Shimshack, 2012).

Challenging the stakeholder view is the shareholder view. According to this view, the primary purpose of a business is to make a profit; therefore, sustainability investment is value-destroying because serving the interest of other stakeholders comes at the expense of shareholders (Yen and Andre, 2019; Deng et al., 2013). This view sees CSR as purely a form of corporate expenditure. Following Friedman (2007), who states that the main purpose of a firm is to maximize profits, then there is no reason why a firm should voluntarily incur ESG costs. Therefore, corporate expenditure on CSR is purely an agency cost arising from management acting in their self-interest. The spill over to society is just a positive side effect of this selfish motivation. Because managers of big firms are usually closely scrutinized by the public, they are likely to have strong image motivation concerns. To a greater extent, their decisions are driven by the need to receive acknowledgements from the larger public so managers can use CSR to increase their reputation. Suppose there is a principal to agent problem in the firm. In that case, managers are motivated to increase their investments in CSR without necessarily resulting to a profit increase in the firm (Porter and Kramer, 2002). Following this argument line, previous literature shows that sustainability investment is viewed as value-destroying by shareholders (Krishnamurti et al., 2019). Cheng et al. (2013) found a decline in ESG when the stock ownership of managers increases in a firm in their analysis using the dividend tax cut in USA. Using 73 announcements from the wall street journal and newspaper files from LEXIS/NEXIS concerning the firm's green marketing activities, Mathur and Mathur (2000) results reveal that upon announcements on green marketing activities, firms experience an abnormal twenty days of significant negative stock returns, in line with the shareholder view. However, even though CSR can be costly, it can form part of a firm optimal strategy.

First, suppose consumers and employees are interested in the social and environmental performance of the firm. In that case, they might be willing exchange profit to further social goals. Consumers that have social preferences are willing to offer a higher price for environmentally or socially conscious goods and services (Baron, 2008) compared to those who do not have. Also, image concerns are why consumers are more likely to buy good/services of enterprises with high visible social or environmental commitment. Consumers feel the need to enjoy a high reputation within their social group, so they are willing to abstain from buying goods/services from an unethical firm (Fernandez-Kranz and Santalo, 2008). At the same time, neutral consumers will also choose to refrain from purchasing unethical goods/services to be viewed by their peers as ethical and morally engaged (Schmitz and Schrader, 2015). Therefore, CSR can be used as an instrument to prevent boycotts in the future (Glazer et al., 2008).

Additionally, if future or current employees have a social preference, firms will benefit from increasing their CSR activities to attract new employees and improve the morale of existing ones. The foregoing is premised on the social identity theory, which asserts that the social categories individuals tend to identify with are heavily influenced by the identity of their employers (Dutton et al., 1994). Another advantage of attracting ethical and moral employees is that firms can offer lower income beyond the marginal financial performance for the additional utility the employee derives from the moral causes (Brekke et al., 2010). Attributes such as sustainable

economic activity, employee welfare service and ethically justifiable products are essential criteria for job applicants (Montgomery and Ramus, 2003).

Firms interest in sustainability may be intrinsic or extrinsic. The demand for CSR reflects an extrinsic motivation when firms adopt strategic CSR practices that do not coincide with their profit maximisation goals, like charging a higher price for their products or prevent a boycott. CSR reflects an intrinsic motivation when the firm CSR practices go beyond increased firm performance and contribute to the welfare of society at large. Intrinsic CSR is strongly dependent on the demographic characteristics of society, such as living standard, education, and technological development. Individuals starts caring about ethical firm behaviour when their basic needs are met, which is why developed countries are the cradle of CSR preferences (Kitzmueller and Shimshack, 2012). Both shareholder and stakeholder views reflect the extrinsic nature of sustainability which have led to opposite conclusions on the value effect of CSR on firm performance, despite numerous attempts to determine which predominates. This is because the empirical literature concerning the relationship between CSR investment and a firm profit vary in various aspects. First, the technique used empirically to measure this relationship differs. Second, a different causal relationship has been implied by different authors. Some studies find that high investment in CSR positively affects profit (Jones and Murrell, 2001), while some believe that it is the other way round, investment in CSR depends on the firm's profit (Mcguire et al., 1988). Generally, it appears that, regardless, firms do not lose profits when they invest in ESG. In this regard, Griffin and Mahon (1997) reviewed fifty-one papers on the relationship between ESG and firm performance, and their results revealed that thirty-three reports found a positive relationship, twenty articles found a negative relationship, while nine papers found no relationship.

In the context of an acquisition, limited works of literature discuss the stakeholder and shareholder views of ESG. Unlike other firm's investment activities, acquisition activities of a firm have a significant effect on firm value and shareholder's wealth because it involves a firm's reorganization that fundamentally changes the firm's operations and interest distribution among various stakeholders of the firm (Yen and Andre, 2019; Deng et al., 2013). Management of firms conducting acquisition activities is complicated concerning the inconsistencies of the value effects of CSR on firm performance. The stakeholder theory reveals that a CSR oriented firm is more likely to acquire a target that has a high CSR orientation (Krishnamurti et al., 2019), pay a lower premium for a deal (Gomes and Marsat, 2018; Krishnamurti et al., 2019) and achieve a high post-acquisition performance due to cultural fit (Bereskin et al., 2018) and effective deal negotiation (Deng et al., 2013). However, the shareholder theory reveals that when an CSR-oriented firm conducts acquisition, firms are persecuted by investors because of agency problems, thereby leading to a loss in the firm's value post-acquisition and reduction in shareholder wealth (Yen and Andre, 2019). Investors might assign a negative value to a CSR investment that is perceived as agency problem.

The mixed evidence regarding the effect of ESG performance on the acquisition can be attributed to the use of aggregate measures (Galema et al., 2008) to measure ESG performance. For example, Aktas et al. (2011), using 129 M&A deals of listed companies and Innovest's intangible Value Enhancement (IVA) ratings to measure ESG performance found an improvement in acquirer's performance post-acquisition after acquiring a CSR oriented firm. While Yen and Andre (2019), using cross border deals reveal that the effects of the acquirer's

pre-acquisition performance depend on the investor's ESG cost concerns. ESG is multidimensional as it encompasses several factors representing wide-ranging firm behaviour concerning its resources, processes, and output (Brammer et al., 2006). Each of these factors may have different impacts on firm performance, some value-enhancing while some value is destroying (Humphrey et al., 2012) concerning the firm's resources, processes, and output. Such aggregation of ESG factors could lead to compounding effects, preventing one from accurately determining a relationship between ESG performance and firm post-acquisition value (Humphrey et al., 2011; Cellier and Chollet, 2016).

Klassen and McLaughlin (1996), in their study, found that stock prices increase(decrease) concerning firms release of good(bad) news on environmental issues. Similarly, low ranked eco-efficiency stocks portfolio is outperformed by portfolios of high ranked eco-efficiency stocks (Derwall et al., 2005). In contrast, Galema et al. (2008) found no significant relationship between the Environmental component and financial performance. In the Social component, supporters of social initiatives argue that when firms invest in engaging stakeholders, they create a good impression of themselves in the community, allowing them to attract competent employees, which creates a competitive edge for the firm (Turban and Greening, 1997). Similarly, firms with poor reputation are outperformed by firms with a better reputation (Herremans et al., 1993). However, Galema et al. (2008) found no significant relationship between employee affairs and financial performance. In the Governance component of ESG, Cremers and Nair (2005) found a significant and positive relationship between governance (internal and external) and financial performance. In contrast, Statman and Glushkov (2009) does not find any relationship between the Governance component and financial performance. Hence, it is worthwhile to examine Environmental (E), Social (S) and Governance (G) sub-components of ESG independently to determine how each component affect performance.

There is a scarcity of literature that has studied the effect of ESG components independently on post-acquisition value. Rather previous studies have been done in the context of shareholder's value, firm performance, and Corporate Reputation. In the context of shareholder's value, Cellier and Chollet (2016) found that overall ESG ratings do not impact shareholder value. Rather specific factors of ESG have different effects using Vigeo social rating announcements for a large sample of European firms; Environment, some aspects of human resources and parts of human rights are value-enhancing. At the same time, Community, business behaviour, management of atmospheric emissions are value-destroying. In the context of firm performance, Using the ESG data from Sustainability Asset Management Group GmbH and the UK portion of the Dow Jones Sustainability Indexes, Humphrey et al. (2012) found no significant cost or benefit to investing in a portfolio with E and G components. They only found weak evidence for the S component showing that high ranked S stocks underperform low-rank S stocks driven by industry specifics. In the context of Corporate Reputation, Brammer et al. (2006) found that environmental performance does not harm reputation in industries with salient environmental issues. Employee performance only influences reputation in the service sector; and community performance has a positive effect on reputation in all, but one of the sectors studied, the resources sector, using a large sample of UK firms and the "Britain's most admired companies" survey from Management Today 2002 to measure corporate reputation. All this prior literature provide evidence that each ESG components have different impacts on the firm value.

Although previous literature provided evidence of the effect of acquiring a CSR oriented firm on the acquiring firm ESG performance post-acquisition (Tampakoudis and Anagnostopoulou, 2020). This effect was measured quantitatively and did not subjectively provide evidence that a firm can “buy CSR”. The best way to decide if the acquisition of a CSR oriented firm improves the CSR profile of the acquiring firm is in its long-term impact. Does the target firm keep innovating and connecting with its consumers? Is the acquiring firm in house product development resulting in synergies for both firms, and is the acquisition followed up by other complementary acquisitions? (Mirvis, 2008). Furthermore, is it possible for acquiring firms to expand their knowledge on CSR by acquiring a CSR oriented firm and incorporate its newfound knowledge in its products and processes? Truthfully, it is difficult to “buy CSR” due to several organisational and cultural fit between the parties in a deal. Demonstrated in the recent acquisition of Ben and Jerry by Unilever, Stonyfield Farm by Danone, The Body Shop by L’Oréal, and Tom’s of Maine by Colgate-Palmolive. According to Brickson (2005), organization identity orientation of firms can be classified into three; Individualistic, Relational and Collectivistic.

The individualistic identity orientation relates to the shareholder view, which states that the primary purpose of a firm is to maximize profits. Individualistic firms perceive CSR as appropriate when it does not coincide with its profit maximization view (Wickert et al., 2017). Evidence from the CSR practices adopted by Colgate-Palmolive and L’Oréal from their acquired firms show that they are individualistic (Waddock, 2008). Relational Identity orientation relates to the stakeholder view, which emphasises the well-being of the firm stakeholders. The relational firm tends to establish long-lasting relationships with its stakeholders and perceive CSR as meaningful when contributing to its continuous interaction with other stakeholders (Wickert et al., 2017). Stony-Field farm and Tom’s of Maine are both characterized as relational firms because they have established different procedures to address their stakeholders needs (Mirvis, 2008). Collectivistic identity orientation relates to altruism which provides a strong motivation to contribute to societal welfare. Collectivistic firms perceive ESG practices as meaningful when it follows a collective agenda (Wickert et al., 2017). Evidence shows that body shop and Ben & Jerry have collectivistic identity.

There is not much evidence that points that the acquisition of Tom’s of Maine by Colgate-Palmolive, and the acquisition of The Body Shop by L’Oréal has led the firms to improve their ESG practices by moving their brand and products towards or a new direction or acquired another CSR oriented firm. Colgate-Palmolive, characterized as an individualistic firm, will adopt only the CSR practices that will improve its products and results in profit maximization, as evidenced in its adoption of Tom’s of Maine knowledge on CSR only on its natural product segments and other selected products (Wickert et al., 2017) but still uses questionable chemicals in its products including saccharin and parabens (Mirvis, 2008). L’Oréal, characterized as an individualistic firm, is likely not to adopt the majority of The Body Shop ESG practices will be compromising their profit maximization objective as evidenced in L’Oréal continuous use of animals for testing cosmetics even though The Body Shop is advocating against it (Purkayastha and Fernando, 2007) but pitching sustainable development and developing social campaigns which can also be described as greenwashing. For both firms, buying CSR is viewed as a form of business strategy and a one-time deal.

Nevertheless, not all ESG acquisitions is a form of greenwashing or serves as a business strategy. Like in the case of the acquisition of Stonyfield Farm by Danone. Both firms are characterized as relational firms,

resulting in a substantial ESG adoption because both firms will combine the best of their CSR practices due to the high level of cultural alignment between them (Wickert et al., 2017). For instance, Danone adopted Stonyfield farm procedures in managing suppliers and local community relations (Mirvis, 2008) after the pitfall of its current CSR practice was brought to its attention. This combination creates a win-win situation for all the parties involved. While the case of L'Oréal, Colgate-Palmolive and Stonyfield farm is easier to judge, Ben and Jerry's acquisition is a bit more complicated to consider. Because Unilever is a relational firm that can be characterized as CSR oriented (Mirvis, 2008) but still cost minimisation and profit maximisation driven. Therefore, it will only adopt Ben and Jerry's social practices in its operations but not Ben and Jerry's anti-war demonstrations reducing the Ben and Jerry brand to a cost-driven business division (Mirvis, 2008). These recent acquisitions illustrate how differences in ideology impact the adoption of the CSR practices of the acquired firm.

Therefore, ESG performance on acquisition relies on the CSR practices adopted by the acquiring firm from the target firm. Thus, the study posits that the effect of the target's firm ESG performance on the acquirer's ESG and financial performance is significantly determined by the fit between the CSR practices of both firm's pre-acquisition. This study contributes to the available existing literature by providing a unique inquiry into the value effects of the three components of ESG independently on a firm's value in the context of M&A and whether firms can use an acquisition strategy to increase their ESG performance.

2.1 | Hypotheses Development

The empirical analysis of the study begins by examining the effect of a target's pre-acquisition ESG performance on the acquirer's post-acquisition ESG performance. The strength and direction of the relationship between the target ESG pre-acquisition performance on acquirer's post-acquisition ESG performance may be contingent upon what component of ESG is focused on by both firm's pre-acquisition since CSR practices are part of organizational culture, acquiring firms are likely to choose a target with similar ESG orientation (Bereskin et al., 2018). There are several reasons why an acquiring firm will choose a CSR oriented firm. First, acquiring firm is likely to prefer targets that can cope with CSR issues such as corporate governance. Several empirical evidence supports the claim that CSR oriented firms are less likely to engage in earnings management (Gras-Gil et al., 2016). As a Result, Kim et al. (2014) found evidence that firms with strong CSR practices have a lower risk of stock price crash. Second, acquirers could learn from the CSR experiences and practices of the target, as evidenced in Stonyfield Farm and Danone acquisition deal. Providing support for this claim, Aktas et al. (2011) found evidence to show that acquiring firm who acquire CSR oriented firms are rewarded by the stock market. Third, Increased ESG awareness, knowledge and profile potentially increases the efficiency of a firm (Benlemlih and Bitar, 2018), employee and customer satisfactions, and finally generates a new opportunity for the firm (Fombrun and Shanley, 1990). Therefore, it is expected that a CSR oriented acquiring firm will choose a target that is ESG oriented to minimize risks associated with lack of CSR practices since it is aware of the benefits of CSR activities compared to other firms. Based on this line of argument, I hypothesize that:

Hypotheses 1: Acquirer ESG performance increases after the acquisition of a target with higher ESG performance than the acquirer in pre-acquisition.

Next, the study examines whether there is an association between the CSR practices of the target's pre-acquisition and the financial performance of the acquirer's post-acquisition. Previous literature has argued in support of the importance of stakeholders wants, understanding these wants are essential, especially when designing the firm's ESG practices (Frooman, 1999) or adopting CSR practices, and that stakeholders are most likely to respond positively when the CSR practices of a firm is similar to their preference (Brammer et al., 2006). Therefore, there is a chance that the overall impact of ESG performance on financial performance depends on the fit between CSR practices of both firms. Previous studies suggest that both short-term and long-term effect of M&A on acquiring firm performance is inconclusive since returns are either negative or insignificant (Ang and Cheng, 2006; Bauer and Matzler, 2014; Kwoka and Pollitt, 2010). While some studies focused on the effect of ESG on acquisitions from the perspective of the acquiring firm. Studies show that firms are willing to pay a higher bid premium for a CSR oriented firm because it is perceived as a value-enhancing strategy (Qiao and Wu, 2019). However, only a few studies have examined the effect of acquiring a CSR oriented firm on financial performance (Tampakoudis and Anagnostopoulou, 2020; Aktas et al., 2011). Previous literature that focused on ESG and financial performance, Kapereit et al. (2015) found evidence to support the claim that ESG is value-enhancing, validating this support is Martinez-Ferrero and Frias-Aceituno (2015) whom in their study show that the relationship between ESG and financial performance is two way and positive. Yet not all studies agree that ESG is value-enhancing, Cellier and Chollet (2016) argue that not all dimensions of ESG are value-enhancing, especially if investors perceive the acquisition of CSR oriented firm as an agency problem (Yen and Andre, 2019). Using ESG performance as a proxy for CSR, I hypothesize that:

Hypotheses 2: Acquirer financial performance increases after the acquisition of a target with a higher ESG performance than the acquirer in the pre-acquisition.

Chapter 3 | Data and Methodology

In this study, I delve into the rationale behind sustainable investment made by a firm within the M&A framework. Specifically, I test whether acquirer ESG performance increases after acquiring a target with higher ESG performance than itself in pre-acquisition(H1). Subsequently, I explore the relationship between target pre-acquisition ESG performance and the acquirer firm value post-acquisition (H2). In this section, I describe the data used to construct the sample used in this paper, define the variables, and highlight the research methodology used to test the paper's hypotheses. The word ESG and ESG are used interchangeably.

3.1 | Sample Selection

The sample for this study consists of European Union (EU) acquisitions between 2004 and 2018. The acquisitions sample was obtained from the Zephyr Bureau van Dijk database. Accounting and financial data were obtained from the Thomson Reuters DataStream database, and ESG data was obtained from the Thomson Reuters ASSET4 database. Specifically, the following criteria were used to select transactions on the Zephyr Bureau van Dijk database:

- Acquirer: publicly listed companies excluding government-owned organizations.
- Type of deal: Mergers and Acquisitions.
- Percentage of acquirer's stake pre-acquisition: Maximum of 49%.
- Percentage of acquirer's final stake post-acquisition: At least 50.1%.
- Deal status: Completed deals.
- Time period: from January 1st, 2004, to December 31st, 2018.
- Geographic zones: Acquirers and target in the European Union, including the United Kingdom.
- Deal Value: At least €1 million.
- Method of payment: Cash or Shares or Mixed.
- Exclusion: Deals in the Financial Industry.

The initial sample consisted of 583 deals. The initial sample was reduced taken account of deals in which the acquirer or target do not have ESG data and deals in which acquirers do not have the necessary accounting and financial data. These filters resulted in a final sample of 83 deals from 2006 to 2018. Panel A of Table 1 provides a classification for deals in terms of year and industry organized by acquirer nation. Eleven Industries were sampled, most deals occurred in the Manufacturing, Pharmaceutical, Transportation and Service Industry, all four industries have a whole deal of 59 or 71%. The highest number of deals occurred in 2015 and 2017 (12), followed by 2007 and 2018 (9). Panel B summarizes the geographical composition of the sample. The most significant proportion of deals are initiated in the United Kingdom (31%), followed by France (13%), Netherlands (10%) and Germany (10%).

3.2 | Dependent Variables

3.2.1 | ESG Score

To specify the proxy for ESG in this paper, I rely on ASSET4 ESG Scores. ASSET4 is a company based in Switzerland, and it specializes in gathering ESG data for over 7,000 listed firms globally across 400 company-level ESG evaluation metrics. However, the underlying measures for the company assessment are based on a subset of 178 relevant standards, considering comparability, data availability, and industry relevance (Thomson Reuters, 2018). These 178 measures are grouped into ten categories (Resource Use, Emission, Innovation, Management, Shareholders, ESG strategy, Workforce, human rights, community, and Product Responsibility). The categories are weighted proportionately to the number of measures within each category. Therefore, categories that consist of several measures, such as management with board composition, diversity, independence, and composition will have higher weights than categories such as human rights (Thomson Reuters, 2018). These weighted measures formulate the ESG score reflecting the firm's ESG performance, commitment and effectiveness based on the publicly available information (Thomson Reuters, 2018). The score ranges from 0-100, with 100 as the highest score. This score is calculated using percentile rank scoring methodology based on the number of companies worse than the current company, the number of companies with the identical value, and the number of companies with a value (see Figure 1).

Several prior studies utilized the ASSET4 ESG database to measure sustainability (Krishnamurti et al., 2019; Duque-Grisales and Caracuel, 2021). To measure the acquirer's post-acquisition ESG performance, ACQESG is used. ACQESG is a dummy variable that takes a value of 1 if the acquiring firm's post-acquisition ESG performance is higher than its pre-acquisition ESG performance and 0 otherwise.

$$\text{score} = \frac{\text{no of companies with a worse value} + \frac{\text{no of companies with the same value included in the current one}}{2}}{\text{no of companies with a value}}$$

Figure 1

Source: Thomson Reuters, 2018

3.2.2 | Return on Asset

The most popular measurements for post-acquisition performance are market measures and accounting measures. Return on Assets (ROA) is an accounting measure that is used from a mid-long-term perspective. According to Cording et al. (2010), both measures have two different underlying assumptions; (1) market measures make use of few days for event study while accounting measures make use of years (time frame used) and (2) The information used in market measures are publicly available while accounting measures are both privately and publicly available (Nature of available information). The decision regarding which of the measures to use depends on the study's research question (Salvi et al., 2018). Following the same authors, the advantages that accounting measures have over market measures include: (1) the actual realized performance is what is being measured, (2) different aspects of firm financial performance is being measured and (3) potential

synergies in the long-term perspective can be explored. Therefore, ROA is chosen to be the most suitable proxy to measure firm post-acquisition performance because it is able to capture financial performance from a long-term perspective which is required to measure the effect of ESG performance on firm value post-acquisition because it allows post ESG performance to settle in the market and be fully incorporated in the acquirer actual performance post-acquisition. ROA was obtained from the Thomson Reuters database, which is calculated as $(\text{Net Income} - \text{Bottom Line} + ((\text{Interest Expense on Debt} - \text{Interest Capitalized}) * (1 - \text{Tax Rate}))) / \text{Average of Last Year's and Current Year's Total Assets} * 100$. As suggested by Zollo and Singh (2004), the change in ROA one year before the deal announcement to a one-year post-deal announcement is used to ensure that the dependent variable captures the gains from the acquisition.

Table 1

Sample Distribution

<i>Panel A: Sample distribution by year and industry</i>					
Year	<i>N</i>	%	Industry	<i>N</i>	%
2006	3	3.61	Agricultural, Forestry and Fishing	2	2.41
2007	9	10.84	Construction	4	4.82
2008	2	2.41	Consumer Goods	3	3.61
2009	2	2.41	Manufacturing	17	20.48
2010	7	8.43	Oil and Gas, Metals	12	14.46
2011	5	6.02	Other Service Industry	18	21.17
2012	6	7.23	Pharmaceuticals	12	14.46
2013	5	6.02	Transportation and Communications	10	12.05
2014	7	8.43	Wholesale & retail trade	5	6.02
2015	12	14.46	Total	83	100
2016	4	4.82			
2017	12	14.46			
2018	9	10.84			
Total	83	100			

<i>Panel B: Sample distribution by Acquirer Country</i>		
	No of Acquirer	%
Belgium	3	3.61
France	11	13.25
Germany	8	9.64
Ireland	5	6.02
Japan	6	7.23
Netherlands	8	9.64
United Kingdom	26	31.33
Others	16	19.28
Total	83	100

Table 2

Variables Description

Variable	Symbol	Description
Dependent Variables		

Acquirer ESG performance	ACQESG	Continuous variable which denotes the percentage of the ESG score assigned to acquirers in the sample one year after the deal announcement.
Change in ROA t+1	ROA	Change in ROA for the acquirer one year prior to deal announcement to one year post deal announcement.
Independent Variables		
Target pre-merger ESG performance	TARESG	Dummy variable equals to 1 if the target firm has a higher ESG performance than the acquiring firm pre-merger and 0 otherwise,
Target pre-merger ENV performance	TARENV	Dummy variable equals to 1 if the target firm has a higher ENV performance than the acquiring firm pre-merger and 0 otherwise,
Target pre-merger SOC performance	TARSOC	Dummy variable equals to 1 if the target firm has a higher SOC performance than the acquiring firm pre-merger and 0 otherwise,
Target pre-merger GOV performance	TARGOV	Dummy variable equals to 1 if the target firm has a higher GOV performance than the acquiring firm pre-merger and 0 otherwise,
Control Variables		
Firm Size	SIZE	Measured as natural logarithm of total assets
Leverage	LEV	Measured as Debt Ratio (total debts divided by total assets)
Tobin's Q	TOBIN	Measured as market value of assets (shareholder's equity) divided by book value of assets.
Deal Size	D_SIZE	Measured as natural logarithm of deal value
Cash transactions	CASH	Dummy variable equal to 1 if the acquisition is paid fully by cash and 0 otherwise
Cross-Border deals	CB	Dummy variable which takes the value of 1 if the headquarters of the acquirer is in a different country from the target and 0 if the both the acquirer and target headquarters are in the same country.

3.3 | Independent Variables

3.3.1 | Target ESG Score

One of the research objectives of this paper is to examine whether the ESG and financial performance of acquiring firm increases after acquiring a target with a higher ESG performance. The target ESG score reflects the target's ESG performance based on the publicly available information (Thomson Reuters, 2018). To capture the influence of acquiring a target with high ESG performance on the acquirer ESG performance and firm value post-acquisition, a dummy variable is used, which takes a value of 1 if the target firm has a higher ESG performance than the acquiring firm pre-acquisition and 0 otherwise (TARESG).

3.3.2 | Environmental Score

The main research objective of this paper is to examine the target individual components of ESG independently to determine how they affects the ESG performance and financial performance of the acquiring firm. This component of ESG reflects the measures taken by a firm concerning its responsibility to the environment. Three of the ASSET4 ESG categories (Resource Use, Emission Reduction, and Innovation) are aggregated to form the environmental score. The Resource Use Score reflects a firm's capacity and performance in improving supply chain management by seeking out eco-friendly solutions. The effectiveness and commitment of a firm in reducing emissions both in the production and operational processes are shown in the Emission Reduction Score. The Innovation Score reflects a company's capacity to create new ecological technologies and eco-designed products to reduce customers environmental costs (Thomson Reuters, 2018).

The E score was generated from a weighted score of a firm's strengths and weaknesses concerning the three categories (Thomson Reuters, 2018). To capture the influence of acquiring a target with high environmental performance on the acquirer ESG performance and firm financial performance post-acquisition, a dummy variable is used, which takes a value of 1 if the target firm has a higher environmental performance than the acquiring firm pre-acquisition and 0 otherwise (TARENV).

3.3.3 | Social Score

This component of ESG reflects upon the relationship between the firm and its community. It involves the commitment of the firm to its community and beyond. Four of the ASSET4 ESG categories (Workforce, Human Rights, Community, and Product Responsibility) are aggregated to form the social score. The Workforce Score measures how effective the policies a firm adopt in ensuring its workforce enjoys job satisfaction. These could include maintaining diversity, the provision of a conducive workplace, and ensuring equal opportunities for all. The Human Rights Score as the name implies is concerned with fundamental human rights. It measures the level of a firm's responsiveness in respecting the rights of all stakeholders. The Community Score assesses a firm's commitment in acting as responsible member of the community who ensures in addition to the health of the public being protected, business ethics are upheld. The Product Responsibility Score reflects the ability of a firm to incorporate the integrity, data privacy, health and safety of customers when producing quality goods and services (Thomson Reuters, 2018). The S score was generated from a weighted score of a firm's strengths and weaknesses concerning the four categories (Thomson Reuters, 2018). To capture the influence of acquiring a target with high social performance on the acquirer ESG performance and firm financial performance post-acquisition, a dummy variable is used, which takes a value of 1 if the target firm has a higher social performance than the acquiring firm pre-acquisition and 0 otherwise (TARSOC).

3.3.4 | Governance Score

This component of ESG measures the degree to which the firm's organizational structure ensures that the firm's management acts in the best interest of shareholders. Three of the ASSET4 ESG categories (Managements, Shareholders, and ESG strategy) are aggregated to form the governance score. The Management Score measures how committed a firm is in ensuring that follow the best practices of corporate governance principles, as well as how effective these principles are. The Shareholders Score is concerned with a firm's dedication to unbiased treatment of shareholders as well as the use of anti-takeover mechanisms. The ESG Strategy Score demonstrates how a firm communicates its integration of economic, social, and environmental dimensions into its day-to-day decision-making processes (Thomson Reuters, 2018). The G score was generated from a firm's strengths and ESG Strategies' weighted score concerning the three categories (Thomson Reuters, 2018). To capture the influence of acquiring a target with high governance performance on the acquirer ESG performance and firm financial performance post-acquisition, a dummy variable is used, which takes a value of 1 if the target firm has a higher governance performance than the acquiring firm pre-acquisition and 0 otherwise (TARGOV).

3.4 | Control Variables

The control variables used in this paper comprises the acquirer's specific financial characteristics and the deal-specific characteristics, which are most often used by researchers (Cording et al., 2010). Following prior literature (Deng et al., 2013; Duque-Grisales and Aguilera-Caracuel, 2021), firm size, firm leverage and Tobin's Q will be used to represent the acquirer's specific financial characteristics. Firm size could be relevant to this study for several reasons, such as the ability of a large firm to invest more in sustainability than a small firm. The natural logarithm of total assets will be used as a measurement for firm size (SIZE) because it is a standard indicator for firm size (Aktas et al., 2011; Brammer and Pavelin, 2008). Leverage of a firm measure the firm's undiversifiable risk, which might be necessary to the study because CSR-oriented firms are generally perceived to be less risky and access debt at a lower cost (Orlitzky and Benjamin, 2001). There are several measurements for leverage; following Krishnamurti et al. (2019), this paper makes use of debt ratio (total debts divided by total assets) to measure leverage (LEV). Tobin's Q (TOBIN) measures the relationship between market value and intrinsic value (Investopedia, 2021). The Q ratio can be relevant to study due to several reasons, such as the ability of firm with high-quality management to invest in sustainability because they have a strong incentive to increase firm value by increasing stakeholder motivation (Deng et al., 2013), therefore controlling for it ensures that the quality of management does not drive the study result. Tobin's Q was measured using the market value of assets divided by the book value of assets.

For the deal-specific characteristics, the size of the deal, the method of payment and the cross-border nature of the deal was included. The deal size is valuable in understanding if the deal's value influences the acquirer's performance post-acquisition. Following Salvi et al. (2018), the natural logarithm of deal value is used as a proxy for deal size (D_SIZE). Concerning the payment method, firms use cash to fund an acquisition if management believes the firm is undervalued (Myers and Majluf, 1984). Therefore, the market interprets cash offer as good news regarding the true value of the acquiring firm (Travlos, 1987). Cash is a dummy variable that takes the value of 1 if the acquisition is paid entirely by cash and 0 otherwise. Cross border deals usually entail more risk but provide higher returns than domestic deals (Shimizu et al., 2004); thus, it needs to be controlled. Cross border deal is a dummy variable that takes the value of 1 if the headquarters of the acquirer is in a different country from the target and 0 if both the acquirer and target headquarters are in the same country. Table 2 summarizes all variables used in the study.

To test the research hypotheses I, this paper applies probit regression due to the nature of the study data. Equation 1 is used to explain the relationship between target ESG performance pre-acquisition and acquirer post-acquisition ESG performance.

$$ACQESG = \alpha + \beta_1 TARESG + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROA + \beta_5 TOBIN + \beta_6 D_{SIZE} + \beta_7 CASH + \beta_8 CB + \sum_{j=1}^{j=9} \beta_{9j} IND + \sum_{j=1}^{j=4} \beta_{10j} YEAR + \varepsilon_i$$

1

To allow for industry effects, the regression model is estimated with industry dummy variables. To allow for year effects, the regression model is estimated by grouping the years into four categories and including dummy variables representing each category. Here, the paper tests whether TARESG, TARENV, TARSOC and TARGOV that captures the target ESG performance pre-acquisition are significant in explaining the acquirer's post-acquisition ESG performance. To test the research hypotheses II, this paper applies Pooled Ordinary Least Square (OLS) regression due to the nature of the study data. Equation 2 is used to explain the relationship between high target ESG performance pre-acquisition and acquirer post-acquisition firm value.

$$ROA_{i,t} = \alpha + \beta_1 TARESG_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 TOBIN_{i,t} + \beta_5 DSIZE_{i,t} + \beta_6 CASH_{i,t} + \beta_7 CB_{i,t} + \sum_{j=1}^{j=9} \beta_{8j} IND_{i,t} + \sum_{j=1}^{j=4} \beta_{9j} YEAR_{i,t} + \varepsilon_{i,t} \quad 2$$

Here, the paper tests whether TARESG that captures the target combined ESG performance pre-acquisition in comparisons to acquirer performance pre-acquisition is significant in explaining acquirer's post-acquisition ESG performance. Additionally, the study will also test whether TARENV, TARSOC, TARGOV that captures the performance of a target firm on the individual components of ESG in comparisons to acquirer performance pre-acquisition, is significant in explaining acquirer's post-acquisition ESG performance.

Although the paper utilizes an extensive list of control variables described in Chapter 3, which helps to reduce omitted bias in testing our hypotheses, the results from the regression could still suffer from endogeneity bias caused by unobservable omitted variables. The impact of ESG performance on acquisition could rely upon the acquirer country since different countries have different institutional, legal, and regulatory frameworks that might influence the level of ESG and financial performance (Beck et al., 2018). The study will perform 2SLS regression analysis using country dummies as instrumental variables for the dependent variables to address these endogeneity concerns.

3.5 | Descriptive Statistics

Table 3 presents a summary of the descriptive statistics of the variables used in the study. The mean percentage of acquiring firms with higher post-acquisition ESG scores than its pre-acquisition performance is 73%, which could be an indication that acquiring a CSR oriented firm could increase the ESG score of acquiring firm post-acquisition. The percentage of target firms with higher ESG scores than acquiring firm pre-acquisition is 35%, which means in the sample, fewer target firms are more CSR-oriented than acquiring firms. The G component of ESG has the highest percentage (42%) of target firms that had a higher score than acquiring firm in pre-acquisition amongst the three components of ESG, followed by the S component (36%) and the least percentage is the E component (33%). The mean and median change in ROA one year after the acquisition for the sample is -0.46 and -0.27, respectively, confirming previous research that acquisitions destroy firm value (Salvi et al., 2018).

When examining the control variables, the average size of the acquiring firm's total asset is between the range 14.60 – 19.53. It has an overall mean of 16.87 and median of 16.93, indicating that the study sample is biased towards large companies. The average Tobin's Q is 0.40 with a median of 0.39. The mean debt ratio of 29% indicates that the acquiring firm's financial position is relatively healthy. The average percentage of acquiring firm that paid for the deal in cash is 50%, and 70% of the deals in the sample are cross border deals. The average size of the deal's total value ranges from 10.04 as its minimum to 17.00 as its maximum with an overall mean of 15.24 and median of 15.22, indicating that the deals studied in this paper are biased towards large deals.

3.5.1 | Correlation Matrix

Table 4 reports the correlation between variables in the study. Target firms with higher ENV and GOV score compared to acquirer pre-acquisition is positively correlated and significant with acquiring firm with higher ESG score post-acquisition (0.24 and 0.29 respectively). The change in ROA one year after the acquisition is negatively correlated and significant with a higher ESG score for acquiring firm's post-acquisition and cross border deals (-0.23 and -0.20, respectively), lending support to the preposition that ESG is value-destroying. The size of the acquiring firm's total asset is negatively correlated and significant with target firms with higher ENV score compared to acquirer pre-acquisition and Tobin's Q (-0.25 and -0.19, respectively), and positively correlated and significant with the debt ratio (leverage) of acquiring firm and deal size (0.20 and 0.60 respectively) lending support to the preposition that large firm is likely to pay more for a deal. There is also a negative relationship between acquiring firm Tobin's Q and acquiring firm leverage (-0.54), showing that a firm that has high market value uses less debt. Additionally, there is a positive relationship between cross border deals and cash transactions (0.22). While there is a positive correlation between target firms with higher ESG scores than acquirer pre-acquisition and acquiring firm with higher ESG scores post-acquisition, the magnitude of the relationship is low (0.10). Most of the other correlations are similarly low and show no indication of multicollinearity problems.

Table 3

Descriptive Statistics

	Obs	Mean	Median	Max.	Min.	Std. Dev.	25 percentiles	75 percentiles
ACQESG	83	0.73	1.00	1.00	0.00	0.44	1.00	1.00
ROA	83	-0.46	-0.27	3.26	-9.17	1.41	-0.85	0.00
TARESG	83	0.35	0.00	1.00	0.00	0.48	0.00	1.00
TARENV	83	0.33	0.00	1.00	0.00	0.47	0.00	1.00
TARSOC	83	0.36	0.00	1.00	0.00	0.48	0.00	1.00
TARGOV	83	0.42	0.00	1.00	0.00	0.50	0.00	1.00
SIZE	83	16.87	16.93	19.53	14.60	1.09	15.99	17.64
LEV	83	0.29	0.27	0.69	0.04	0.14	0.18	0.38
TOBIN	83	0.40	0.39	0.87	0.07	0.15	0.28	0.50
D_SIZE	83	15.24	15.22	17.00	10.04	1.35	14.59	16.27
CASH	83	0.53	1.00	1.00	0.00	0.50	1.00	1.00

CB	83	0.70	1.00	1.00	0.00	0.46	1.00	1.00
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Table 4

Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1 ACQESG	1.00											
2 ROA	-0.23 ^b	1.00										
3 TARESG	0.10	-0.12	1.00									
4 TARENV	0.24 ^b	-0.21 ^c	0.62 ^a	1.00								
5 TARSOC	0.11	-0.11	0.82 ^a	0.60 ^a	1.00							
6 TARGOV	0.29 ^a	-0.13	0.40 ^a	0.24 ^b	0.37 ^a	1.00						
7 SIZE	-0.14	0.14	-0.03	-0.25 ^b	-0.03	-0.03	1.00					
8 LEV	-0.01	0.04	0.06	-0.03	0.08	-0.08	0.20 ^c	1.00				
9 TOBIN	0.18	-0.16	-0.03	0.14	-0.03	0.15	-0.19 ^c	-0.54 ^a	1.00			
10 D_SIZE	0.05	-0.02	0.07	-0.13	0.08	0.09	0.60 ^a	0.06	-0.01	1.00		
11 CASH	0.09	0.12	-0.22 ^b	-0.17	-0.20 ^c	0.02	0.15	0.06	-0.13	0.02	1.00	
12 CB	0.08	-0.20 ^c	-0.18	-0.10	-0.16	-0.08	0.14	0.03	0.06	0.14	0.22 ^b	0.06

This table presents the Pearson correlation coefficients between the dependent variables and independent variables. ACQESG is a dummy variable that takes a value of 1 if the acquiring firm's post-acquisition ESG performance is higher than its pre-acquisition ESG performance and 0 otherwise. ROA is the change in ROA for the acquirer one year prior to the deal announcement to a one-year post-deal announcement. TARESG is a dummy variable equals to 1 if the target firm has a higher ESG performance than the acquiring firm pre-acquisition and 0 otherwise. TARENV is a dummy variable equals to 1 if the target firm has a higher ENV performance than the acquiring firm pre-acquisition and 0 otherwise. TARSOC is a dummy variable equals to 1 if the target firm has a higher SOC performance than the acquiring firm pre-acquisition and 0 otherwise. TARGOV is a dummy variable equals to 1 if the target firm has a higher GOV performance than the acquiring firm pre-acquisition and 0 otherwise. SIZE is measured as the natural logarithm of total assets. LEV is measured as Debt Ratio (total debts divided by total assets). TOBIN is measured as the market value of assets (shareholder's equity) divided by the book value of assets. D_SIZE is measured as the natural logarithm of deal value. CASH is a dummy variable equal to 1 if the acquisition is paid entirely by cash and 0 otherwise. CB is a dummy variable that takes the value of 1 if the headquarters of the acquirer is in a different country from the target and 0 if both the acquirer and target headquarters are in the same country.

- a. Correlation is significant at the 1% level.
- b. Correlation is significant at the 5% level.
- c. Correlation is significant at the 10% level.

Chapter 4 | Empirical Results

4.1 | Acquirer post-acquisition ESG performance

This section begins with the results on the effect of acquiring a firm with higher ESG performance than the acquiring firm on the post-acquisition ESG performance of the acquirer. Table 5 presents the probit regression; the dependent variable is a dummy variable for acquiring a firm with higher ESG performance post acquisition than its pre-acquisition performance (ACQESG). I used targets with higher ESG performance than the acquiring firm pre-acquisition as a dummy variable and their individual breakdown as the main variables of interest in the probit regression models. Model 2 was estimated after controlling for industry and year effects. Models 3, 4 and 5 were estimated with the main variable of interest being TARENV, TARSOC and TARGOV, respectively. All models report standard errors that are adjusted for heteroscedasticity and clustered at the firm level.

Model 1 of Table 5 presents the result for the primary variable of interest without controlling other variables. The model shows that acquiring a target with a higher ESG score than the acquirer (TARESG) positively affects the possibility that the acquirer has a higher ESG performance post-acquisition; however, this is not significant (0.35). The findings remain unchanged even after controlling for the acquirer's specific financial characteristics, the deal-specific characteristics, industry, and year effects in Model 2. The size of the acquiring firm negatively and significantly affects the possibility that the acquirer has a higher ESG performance post-acquisition (-2.39). Leverage, Tobin's Q, deal size and Cross border deals are statistically insignificant.

Moreover, turning to each component of ESG individually shows that only TARENV in Model 3 is statistically significant, which means acquiring a target with a higher Environmental score than the acquirer positively and significantly affects the possibility that the acquirer has a higher ESG performance post-acquisition at the 5% level (1.25). Both TARSOC and TARGOV are positive but statistically insignificant. All industries have significantly lower effect than Oil and Gas, metals industry on the possibility that the acquirer has a higher ESG performance post-acquisition.

The findings show no significant relationship between target and acquirer ESG performance. However, zooming into the individual components of ESG, the study shows that acquiring a target with a higher environmental score than the acquiring firm pre-acquisition increases the ESG score of the acquirer post-acquisition. Therefore, providing partial evidence to support hypothesis I, which posits that Acquirer ESG performance increases after the acquisition of a target with higher ESG performance than the acquirer in pre-acquisition. Looking at the acquiring firm-specific characteristics, the report finds that large firms tend not to increase but rather decrease their ESG score after acquiring a target with a higher ESG performance than itself pre-merger. None of the measures has a significant relationship with acquiring firm post-acquisition ESG performance for the deal-specific characteristics. Additionally, the industry a firm belongs to has a significant relationship with the acquiring firm post-acquisition ESG performance with the Oil and Gas, metal industry having the most effect.

Table 5*Post-acquisition ESG performance of acquiring firm and acquisition of ESG oriented firms.*

Variables	Model (1)	Model (2)	Model (3)	Model (4)
TARESG	0.420 (0.91)			
TARENV		1.251 ^b (2.30)		
TARSOC			0.666 (1.42)	
TARGOV				0.765 (1.40)
SIZE	-0.590 ^b (-2.37)	-0.483 ^c (-1.91)	-0.542 ^b (-2.12)	0.554 ^b (-2.35)
LEV	1.068 (0.54)	1.066 (0.55)	1.097 (0.55)	1.647 (0.82)
ROA	-0.077 (-0.55)	0.028 (0.18)	-0.077 (-0.53)	-0.078 (-0.53)
TOBIN	0.090 (0.06)	0.775 (0.46)	0.416 (0.25)	0.303 (0.19)
D_SIZE	0.246 (1.28)	0.197 (1.02)	0.214 (1.11)	0.290 ^c (1.61)
CASH	0.161 (0.39)	0.194 (0.47)	0.163 (0.41)	0.040 (0.09)
CB	0.129 (0.26)	0.485 (0.91)	0.174 (0.34)	0.193 (0.39)
INTERCEPT	13.346 ^a (3.31)	12.010 ^a (3.19)	12.883 ^a (3.19)	11.387 ^a (2.97)
Industry Dummy	Included	Included	Included	Included
Year Dummy	Included	Included	Included	Included
N	83	83	83	83
Pseudo R2	0.417	0.466	0.423	0.431
Wald chi2	438.92	377.60	403.50	615.75
Prob > chi2	0.00	0.00	0.00	0.00
AIC	95.923	91.265	94.863	94.605
BIC	144.300	139.642	143.240	142.982

This table presents the results of probit regressions. In all regression models, the dependent variable is ACQESG. ACQESG is a dummy variable that takes a value of 1 if the acquiring firm's post-acquisition ESG performance is higher than its pre-acquisition ESG performance and 0 otherwise. TARESG is a dummy variable equals to 1 if the target firm has a higher ESG performance than the acquiring firm pre-acquisition and 0 otherwise. TARENV is a dummy variable equals to 1 if the target firm has a higher ENV performance than the acquiring firm pre-acquisition and 0 otherwise. TARSOC is a dummy variable equals to 1 if the target firm has a higher SOC performance than the acquiring firm pre-acquisition and 0 otherwise. TARGOV is a dummy variable equals to 1 if the target firm has a higher GOV performance than the acquiring firm pre-acquisition and 0 otherwise. All ESG performance is measured using ASSET4. All control variables are defined in Table 2. The reference for industry dummies is Oil and Gas, metals, and the year dummies' reference is the year 2006-2009. The p-values are based on robust standard errors clustered at the firm level. The z-values are in parentheses.

- a. Indicate significance at the 1% level.
- b. Indicate significance at the 5% level.
- c. Indicate significance at the 10% level.

For economic significance, the probability that an acquiring firm has a higher ESG performance post-acquisition is 9.15% greater when it acquires a target with a higher Environmental score than itself pre-merger. Therefore, acquiring firm acquiring a target with higher Environmental score than itself helps acquiring firm to

increase their ESG performance post-acquisition. This result is in line with Aktas et al. (2011), who show that following the acquisition of SRI-aware targets, acquiring firm's environmental and social performance increases.

4.2 | Acquirer post acquisition firm performance

This subsection provides evidence on the effect of ESG performance on acquiring firm financial performance by investigating the impact of the target ESG performance on the acquiring firm's operating performance. The study further analyses the individual impact of each component of target ESG performance on the financial performance of the acquiring firm post acquisition. I used ROA to measure the financial performance of the acquiring firm and estimate OLS regression models after controlling for the acquirer's financial and deal-specific characteristics, industry, and year effects. Firms that made more than one acquisitions in a year were removed, reducing the data sample to 79. The results are presented in Table 6.

Model 1 of Table 6 presents the result for TARESG as the main variable of interest. The model shows that the relationship between the change in ROA and Target with a high ESG score is negative but statistically insignificant. Model 2 of Table 6 presents the result for ACQESG as the main variable of interest. The model shows that the relationship between the change in the post-acquisition ROA and increase in acquiring firm ESG score post-acquisition is negative but statistically insignificant. However, turning to each component of ESG individually on the change in the acquirer's post acquisition performance in Model 3 to 5. The result shows that none of the components of ESG have a significant relationship with acquiring firm change in ROA post-acquisition. Yet, we cannot discard the negative relationship between the acquirer high environmental score post-acquisition and the difference in the acquirer post-acquisition ROA. Although insignificant at 10%, it is still statistically significant at a 15% significance level which makes it relevant. Since we find no significant relationship between TARESG and ACQESG on the firm post-acquisition financial performance. The result allows for the rejection of hypotheses II, which posits that the Acquirer financial performance increases after the acquisition of a target with a higher ESG performance than the acquirer in the pre-acquisition. Instead, the study provides partial evidence that a target with a high environmental score decreases the ROA of the acquiring firm post-acquisition. This finding is in line with previous studies supporting the value destroying ESG model proposed by shareholder theory (Yen and Andre, 2019; Derwall et al., 2005).

Turning to acquiring firm financial and deal-specific characteristics, the only significant variable is the cross-border deal. Cross border deals have a negative and significant relationship with the change in ROA of acquiring firm at a 5% significance level across all models. This can be due to it entailing more risk than domestic deals. For the industry dummy variables, only the warehouse and retail industry is significant, which means the warehouse and retail industry have a lower effect than the oil and gas, metal industry on the change in acquiring firm ROA post-acquisition. Regarding the economic significance of the result, on average, a one standard deviation increase in TARENV (-0.64) is associated with a decrease in ROA of acquiring firm post-acquisition by 21.3% (derived as $(-0.6424 \times 0.4729) / 1.4283$ based on Model 3. The first and second term is the coefficient and standard deviation of TARENV respectively, the third term is the standard deviation of ROA.

Table 6*ESG and Firm operating performance.*

Variables	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
TARESG	-0.357 (-0.88)				
ACQESG		-0.354 (-0.92)			
TARENV			-0.642 (-1.45)		
TARSOC				-0.269 (-0.65)	
TARGOV					-0.201 (-0.52)
SIZE	0.171 (1.04)	0.133 (0.72)	0.107 (0.57)	0.166 (0.96)	0.175 (1.04)
LEV	0.457 (0.20)	0.697 (0.29)	0.829 (0.35)	0.519 (0.22)	0.309 (0.15)
TOBIN	-0.631 (-0.49)	-0.314 (-0.22)	-0.184 (-0.14)	-0.583 (-0.44)	-0.566 (-0.44)
D_SIZE	-0.003 (-0.03)	0.007 (0.06)	-0.018 (-0.20)	-0.002 (-0.02)	-0.014 (-0.15)
CASH	0.270 (0.90)	0.355 (1.11)	0.252 (0.85)	0.299 (1.00)	0.350 (1.12)
CB	-0.882 ^b (-2.53)	-0.799 ^b (-2.50)	-0.906 ^b (-2.62)	-0.870 ^b (-2.51)	-0.872 ^b (-2.35)
INTERCEPT	-2.696 (-1.16)	-2.209 (-0.98)	-1.693 (-0.71)	-2.757 (-1.18)	-2.668 (-1.15)
Industry Dummy	Included	Included	Included	Included	Included
Year Dummy	Included	Included	Included	Included	Included
N	79	79	79	79	79
R-squared	0.289	0.284	0.314	0.284	0.280
F value	2.18	2.17	2.49	2.13	2.06
Prob > F	0.013	0.013	0.004	0.015	0.019
AIC	290.546	291.113	287.693	291.155	291.549
BIC	335.566	336.133	332.712	336.174	336.569

This table presents the results of pooled OLS regressions. In all regression models, the dependent variable is ROA measures the change in ROA for the acquirer one year prior to the deal announcement to a one-year post-deal announcement. TARESG is a dummy variable equals to 1 if the target firm has a higher ESG performance than the acquiring firm pre-acquisition and 0 otherwise. TARENV is a dummy variable equals to 1 if the target firm has a higher ENV performance than the acquiring firm pre-acquisition and 0 otherwise. TARSOC is a dummy variable equals to 1 if the target firm has a higher SOC performance than the acquiring firm pre-acquisition and 0 otherwise. TARGOV is a dummy variable equals to 1 if the target firm has a higher GOV performance than the acquiring firm pre-acquisition and 0 otherwise. ACQESG is a dummy variable that takes a value of 1 if the acquiring firm's post-acquisition ESG performance is higher than its pre-acquisition ESG performance and 0 otherwise. All ESG performance is measured using ASSET4. All control variables are defined Table 2 in the reference for industry dummies is Oil and Gas, Metals, and the year dummies' reference is the year 2006-2009. The p-values are based on robust standard errors. The t-values are in parentheses.

- a. Indicate significance at the 1% level.
- b. Indicate significance at the 5% level.
- c. Indicate significance at the 10% level.

4.3 | Robustness Test

4.3.1 | Two-stage instrumental regression

One concern when examining the relationship between ESG and firm post-acquisition performance is the issue of endogeneity bias. This issue occurs when the independent variables are endogenous and correlated with the error term (Wooldridge, 2012). In the instance where the independent variables are endogenous, the estimators will be biased, and the effect of ESG performance on a firm's post-acquisition performance cannot be inferred. The result shows a partial significant negative relationship between the target with a higher environmental score than the acquiring firm and the acquirer's ROA post-acquisition, which can be driven by endogeneity due to reverse causality. For example, it could result from acquiring firm-specific factors such as the country firms are headquartered driving the relation. The first step to overcome a potential endogeneity bias is to check for endogenous independent variables. By performing a Wu-Hausman specification test, the endogenous independent variable can be identified. If the independent variables are endogenous, the two-stage least square technique will estimate consistent estimators. For this technique, an instrument is needed to correlate with the independent variable while it does not affect the dependent variable.

This study uses country dummy as instrumental variables, and the main independent variables (ACQESG, TARESG, TARENV, TARSOC and TARGOV) are used as endogenous variables. Results for the two-stage regression is presented in Appendix A. The instrumental variable (country dummies) for ACQESG and TARGOV are insignificant in the first stage regression, so they are weak instruments for both variables. For TARESG, TARSOC and TARENV, the instrumental variables in the first stage regression are significant. The 2SLS provides similar results to the baseline results of this study. The Wu-Hausman test indicates that all the main independent variables are exogenous and Sargman's over-identification test of all instruments does not reject the null hypotheses, suggesting that the instrument variables are uncorrelated with the error term, supporting the validity of the instruments used in 2SLS regression. The result of this study is still robust to endogeneity.

4.4 | Experimental evidence for the motive of sustainable acquisitions

Previous sections investigated the effect of combined target ESG performance and the three components of ESG (Environmental, Social and Governance) separately on the acquirer performance in terms of ESG profile and firm financial performance post-acquisition. By examining the effect of acquiring a firm with a higher ESG performance on acquirers ESG performance after the acquisition and exploring the post-acquisition firm value effect of acquiring a target with higher ESG performance and acquiring firm having a higher ESG performance post-acquisition. The results provide inconclusive evidence neither supporting the shareholder view of ESG nor the stakeholder view of ESG. This section focuses on the motive for sustainable acquisition; it provides experimental evidence to refute the ideology that a firm can "buy CSR". The section begins with the description of the experimental survey design, followed by the definition of variables, and finally, the results are presented.

4.4.1 | Experimental Survey Design

The study uses a 2 (CSR motive; between-subjects) × 2 (ESG performance; within-subjects) mixed experimental design to conduct the survey experiment. The use of a between-subject design for analyzing the results from the survey allows participants to be subjected to either a control or treatment environment, thereby ensuring decisions made by participants in the treatment environment is caused by the treatment and not some other external factors such as social conformity. While for CSR profile, the within-subject design was used because it allows for the efficient testing of the effect of ESG performance on the participants.

Participants were asked to indicate how much they are willing to offer to each of the three companies presented in the survey; the maximum each participant could spend on each company is €5 billion. The three target companies presented in the survey are Bob Ltd, Jonas Ltd, and Gary Ltd. Participants were randomly assigned to either a control group or a treatment group. For the CSR motive, the control group was provided with the ESG score of each target company to be acquired. The treatment group was manipulated to include an expected increase in profit margin for the acquiring firm post-acquisition to test offer price distribution across the three target companies between both groups. Testing for differences in distribution allows for determining what motive drives ESG (Profit-maximization, strategic CSR, and altruism). Every other information remains the same in both groups. Based on the shareholder view (sustained greenwashing), it is expected that participants in the treatment group will offer less for CSR oriented firms than participants in the control group because of the profit motive of a firm (Friedman, 2007). Based on an altruistic view (social responsibility), it is expected that participants in both groups will offer comparable prices because the goal is to make a large contribution to social welfare (Wickert et al., 2017). Following the same authors, based on the stakeholder view (business strategy), the offer price will balance CSR and profit maximization such that CSR does not coincide with profit maximization.

ESG performance was manipulated at two levels: high ESG performance and low ESG performance. In high ESG performance environments, the assigned ESG score was 70, and participants had to decide based on this ESG score and how much they are willing to offer to purchase each target company. For participants in the control group of ESG motive, Bob Ltd, Jonas Ltd and Gary Ltd have an ESG score of 60, 80 and 70, respectively. In addition to these ESG scores, the profit margin assigned to Bob Ltd, Jonas Ltd and Gary Ltd were 6%, 11% and 16%, respectively. For the low ESG performance environments, the assigned ESG score was 55. For participants in the control group of ESG motive, Bob Ltd, Jonas Ltd and Gary Ltd had an ESG score of 45, 65 and 55, respectively. In addition to these ESG scores, the profit margin assigned to Bob Ltd, Jonas Ltd and Gary Ltd were 4%, 9% and 14%, respectively. In both environments, the risk premium and difference in ESG scores remained the same. It is expected that participants would offer less for firms with higher ESG scores when they have a high ESG score than when they have a low ESG score (Gomes and Marsat, 2018). Table 7 provides a detailed summary of all the three target firms offered to respondents in the survey.

The participants were presented with three target companies and a budget of €5 billion for each company in both the low and high ESG performance environment; the amount offered to each target firm will

be taken as the dependent variable. The ESG performance and the CSR motive are taken as the independent variable.

Table 7

Snapshot of Survey Information

		Bob Ltd	Jonas Ltd	Gary Ltd
Low ESG Performance Environment (55)	ESG Score	45	65	55
	Profit margin increase	4%	9%	14%
High ESG Performance Environment (70)	ESG Score	60	80	70
	Profit margin increase	6%	11%	16%

4.4.2 | Procedure

Experimental evidence was collected using a survey. This method is selected because of the high level of control it provides. It allows for each variable to be controlled independently or in combination with other variables, resulting in the ability to give an accurate result. The survey was created using Qualtrics. The survey link was sent to Finance professionals in the Netherlands on LinkedIn and sent to Economics student at Radboud University on WhatsApp and Email, inviting them to participate. Both Finance professionals and Economics student are a good representative of the general population because finance professionals work with the firms that engage in M&A activities, therefore, have a good understanding of how investment in ESG oriented firms are perceived in the corporate world. Students are the future employees of these firms, their perception of how these firms view CSR activities are essential for this study. Sixty-eight people volunteered, consisting of approximately forty-six students. The questionnaire sent to both student and professionals only differ in the general and demographic questions.

The link to the survey directed participants to the Qualtrics application, and participants completed some question capturing their general information after the task. After completing the survey, the application thanked participants for their time.

4.4.3 | Task

Participants were introduced to the task via instructions delivered on the screen of the Qualtrics application and an unambiguous definition of ESG. For each question relating to acquisition decisions, instruction was also provided regarding what they were expected to do. The instructions informed the participants of the firm's characteristics and the type of firm it is looking to acquire; they were also informed about the number of firms being considered for acquisition, the ESG score of the firm they represent, and the allocated budget for the acquisition. Each participant had a maximum fixed budget of €5 billion to offer to the three target firms in consideration each.

The questions displayed the ESG scores and expected profit margin of each target firms in the case of the treatment group and only ESG scores for the control group. At the end of each question, participants indicated how much they are willing to offer to each target firms. It was ensured that the total allocation for each target firm could not exceed €5 billion. Regardless of the ESG performance environment, the application still required participants to offer new prices for each of the firms, meaning both ESG performance environments are independent. The survey questionnaire can be found in the Appendix C.

4.4.4 | Sample Description

Table 8 presents a summary statistic of the student respondents in the sample. Thirty-two (32) of the students' respondent have a background in M&A with nineteen (19) of them in the control group while fourteen (14) have no background in M&A with four (4) of them in the control group. Panel A of Table 8 shows the response distribution for the reason behind CSR. In the control group, two most popular responses for the motive behind CSR are best business practices and reputational building. This is the same for the treatment group as well.

For the professional sample, majority of the respondents in both the treatment and control group work in either Finance or Insurance sector. Detailed information can be found in Appendix B. Table 9 shows the response distribution for the reason behind CSR. In the control group, two most agreeable responses for the motive behind ESG are best business practices and reputational building as identified in the student's sample. While in the treatment group, three most agreeable responses for the motive behind ESG are sustained greenwashing, best business practices and reputational building. Based on both samples, firms are believed to generally invest in ESG to build their reputations and integrate it as part of their business practices.

The result of the ESG ratings given by the professionals to their firms before their recent acquisition and after their recent acquisition can be found in the Appendix B; they also provided a subjective rating for the firm they recently acquired. Generally, in both control and treatment group, it is seen that the average ratings given to the acquired firm are lower than the rating provided to their firm, which could be a result of firm bias. Also, they indicated an increase in their ESG performance after the acquisition, which would suggest a learning effect between both firms. The differences between the rating provided by both groups were tested. The T-test is insignificant, which means their means are different from each other. Detailed information can be found in the Appendix B.

Table 8

Student Sample distribution of ESG motive and M&A background by Group

<i>Panel A: ESG Motive</i>			
	Treatment		
	Treatment	Control	Total
Reputational Building	9	7	16
Risk Management	4	2	6

Best Business Practices	7	12	19
Market Capitalization	3	2	5
Total	23	23	46

Panel B: M&A Background

	Treatment	Control	Total
Yes	13	19	32
No	10	4	14
Total	23	23	46

Table 9

Professionals Sample distribution for ESG motive

Panel A: Sample distribution of ESG motive for Treatment group

	Agree	Somewhat agree	Disagree
Investment in sustainability helps my company build its reputation	6	3	2
Sustainability is integrated into my company's business practices	5	6	0
My company actively seeks opportunity to invest in sustainability	3	6	2
Investment in sustainable activities assists my company in managing risks	6	3	1
My company seeks external views with regards to its sustainable activities	7	2	2

Panel A: Sample distribution of ESG motive for Control group

	Agree	Somewhat agree	Disagree
Investment in sustainability helps my company build its reputation	6	4	1
Sustainability is integrated into my company's business practices	7	3	1
My company actively seeks opportunity to invest in sustainability	4	4	3
Investment in sustainable activities assists my company in managing risks	5	3	3
My company seeks external views with regards to its sustainable activities	2	8	1

4.4.5 | Results

Table 10 presents the result from the OLS regression. The table shows that the main effects, treatments, and ESG performance environments are significant which means they both influence how much individuals/firms are willing to offer to acquire a CSR oriented firm. However, their interaction is insignificant which means the amount invested in the target firms in any ESG performance environment does not depend on the respondent's group. Table 11 shows the effect of treatment in each ESG performance environments. There is no statistical difference between the high ESG performance environment and low ESG performance environment in the treatment group.

Moreover, since the survey allowed the amount that could be spent on acquisition to vary within the ESG performance environments, the study also looks at the difference in the amount offered between the target firms within the ESG performance environment. In the low ESG performance environment, there is a significant positive difference between the amount invested in Jonas Ltd and Bob Ltd (€971,000,000) and a significant positive difference between Gary Ltd and Bob Ltd (€1,210,000,000). However, there is no significant difference between the amount invested in Jonas Ltd and Gary Ltd.

In the high ESG performance environment, the result is similar to the low ESG performance environment; there is a significant positive difference between the amount invested in Jonas Ltd and Bob Ltd (€1,140,000,000) and a significant positive difference between Gary Ltd and Bob Ltd for (€1,080,000,000). However, there is no significant difference between the amount invested in Jonas Ltd and Gary Ltd. Indicating that regardless of a firm's ESG score, firms are likely to offer more to a firm with a similar or higher ESG score than theirs, and it makes no difference to them if the ESG score is the same as theirs or higher. Additionally, the difference between Jonas Ltd and Bob Ltd is higher, and the difference between Gary Ltd and Bob Ltd is lower in the high ESG performance environment indicating that firms with high ESG score are willing to offer more for firms with higher ESG scores which is a similar finding with Ojao and Wu (2019) that found that ESG oriented firm pay a higher bid premium.

For the control group, there is a significant positive difference between the amount respondents are willing to offer to acquire Bob Ltd in the high ESG environment compared to the low ESG environment (€485,000,000). Within the ESG performance environments, in the low ESG performance environment, there is a significant positive difference between the amount invested in Jonas Ltd and Bob Ltd (€1,510,000,000) and a significant positive difference between Gary Ltd and Bob Ltd (€879,000,000). However, there is a significant negative difference between the amount invested in Jonas Ltd and Gary Ltd (€626,000,000). In the high ESG performance environment, the result is similar to the low ESG performance environment; there is a significant positive difference between the amount invested in Jonas Ltd and Bob Ltd (€1,010,000,000) and a significant positive difference between Gary Ltd and Bob Ltd (€665,000,000). However, there is no significant difference between the amount invested in Jonas Ltd and Gary Ltd. There is no significant difference between the amount invested in Jonas Ltd and Gary Ltd. This indicates that firms with a low ESG score are willing to offer more to acquire a firm with high ESG scores, but this phenomenon is not found in the high ESG performance environment.

Looking at the results from the sample individually, Model 3 of Table 10 provides the result for the professional sample. Similar to the full sample, Model 3 shows that the interaction between CSR motive and ESG performance is insignificant, which means the amount invested in the target firms in any ESG performance environment does not depend on the respondent's group. Model 3 of Table provides the result for the student sample. Model 5 shows that the interaction between CSR motive and ESG performance is insignificant, which means the amount invested in the target firms in any ESG performance environment does not depend on the CSR motive similar to both the full and professional sample.

The result analyzed from this survey indicates that individuals and firms view ESG as a business strategy, a practice they are willing to invest in as far as it does not impede on their profit maximization objective as seen in the difference in acquisition decisions made by respondents in both the control group and treatment group. In the control group, it is seen that firm and individuals were willing to invest more in a target firm with high ESG score, especially if the acquiring firm has a low ESG score; however, in the treatment group, firms with low ESG score are indifferent about how much they are willing to pay for target firms if the target ESG score is lower than its own. Hence, the demand for ESG is extrinsic, and it can be concluded that firms are unable to use an acquisition strategy to increase their ESG performance.

Table 10

Main and Interaction Effect

Variables	Model (1)	Model (2)	Model (3)
ESG Motive	6079000000000000000 ^c (3.32)	1464000000000000000	1470000000000000000 ^a (7.64)
ESG Performance	10600000000000000000 ^a (11.57)	2559000000000000000 ^b (3.10)	8205000000000000000 ^a (8.53)
ESG Motive*ESG Performance	9743000000000000000 (1.06)	8680000000000000000 (1.05)	6368000000000000000 (0.66)
Intercept	12180000000000000000 ^a (6.04)	3573000000000000000 ^c (1.97)	10310000000000000000 ^a (4.87)
N	408	132	276
Adj R-squared	0.1200	0.0751	0.1342

This table presents the results of the OLS regression. Model 1 represents the full sample; Model 2 represents the professional sample and Model 3 represents the student sample. The dependent variable is the amount offered to each target firm by respondents in the survey. The independent variables are ESG performance with represents the within variable element of the regression and ESG motive which is a dummy variable that takes the value of 1 if the respondent is in the treatment group and value of 0 if the respondent is in the control group, representing the between variable element of the regression. The t-values are in parentheses.

- a. Indicate significance at the 1% level.
- b. Indicate significance at the 5% level.
- c. Indicate significance at the 10% level.

Table 11

Pairwise Comparisms Between ESG Motive and ESG Performance

<i>Panel A: Treatment Group</i>			
	ESG Performance (I)	ESG Performance (II)	Contrast (I-II)
	High ESG Performance:	Low ESG Performance:	
	Jonas Ltd	Jonas Ltd	147000000 (0.45)
	Bob Ltd	Bob Ltd	-17600000 (-0.05)
	Gary Ltd	Gary Ltd	-15300000 (-0.47)
	Low ESG Performance:		

Jonas Ltd	Bob Ltd	971000000 ^a (2.96)
Gary Ltd	Jonas Ltd	244000000 (0.74)
Gary Ltd	Bob Ltd	1210000000 ^a (3.70)
<hr/>		
High ESG Performance:		
Jonas Ltd	Bob Ltd	1140000000 ^a (3.46)
Gary Ltd	Jonas Ltd	-559000000 (-0.17)
Gary Ltd	Bob Ltd	1080000000 ^a (3.29)

Panel B: Control Group

High ESG Performance:	Low ESG Performance:	
Jonas Ltd	Jonas Ltd	-147000000 (-0.04)
Bob Ltd	Bob Ltd	485000000 (1.48)
Gary Ltd	Gary Ltd	271000000 (0.82)
<hr/>		
Low ESG Performance:		
Jonas Ltd	Bob Ltd	1510000000 ^a (4.59)
Gary Ltd	Jonas Ltd	-626000000 ^c (-1.91)
Gary Ltd	Bob Ltd	879000000 ^a (2.68)
<hr/>		
High ESG Performance:		
Jonas Ltd	Bob Ltd	1010000000 ^a (3.06)
Gary Ltd	Jonas Ltd	-341000000 (-1.04)
Gary Ltd	Bob Ltd	665000000 ^b (2.02)

This table reports the pairwise comparisons of the within variables. Panel A reports the result for the treatment group and Panel B reports the result for the control group. The t-values are in parentheses.

- a. Indicate significance at the 1% level.
- b. Indicate significance at the 5% level.
- c. Indicate significance at the 10% level.

4.5 | Discussions and Implications

The study focused on examining the effect of acquiring a firm with a higher ESG performance on acquiring firm ESG performance and financial performance after the acquisition. Additionally, provides causal evidence using a survey regarding the motive for sustainable investment.

Many prior studies disclosed both positive and negative financial performance effect of CSR acquisition (Deng et al., 2013; Krishnamurti et al., 2019). Previous research demonstrated better CSR-oriented firms' financial performance (Kapereit et al., 2015; Martinez-Ferrero and Frias-Aceituno, 2015). Similarly, Krishnamurti et al. (2019) reveal that a CSR-oriented firm is more likely to acquire a high CSR oriented target. In contrast, Yen and Andre (2019) When a CSR-oriented firm conducts acquisition, shareholders are persecuted by investors because of agency problems, thereby losing the firm's value post-acquisition and reduction in shareholder wealth. They show that investors assign a negative market value if investment in CSR is perceived as an agency problem.

This study investigates the differential effects on firms that undertook an acquisition between 2006 to 2018 based on their ESG performance and financial performance improvement compared with their previous performances using probit regression, and OLS pooled regression analysis respectively after controlling for year, firm, and industry-specific effects. Additionally, the study strived to identify the most significant components of the ESG contributing to the increase in ESG performance and financial performance of acquiring firm. It is observed in the study, no significant relationship between the high ESG performance of the acquiring firm post-acquisition and high target ESG performance pre-acquisition. The Environmental factor was identified as the most significant factor influencing acquirer high ESG performance post-acquisition. The results demonstrate the importance of environmental performance to all stakeholders due to various reasons such as expected future benefits of being environmentally friendly received from regulations and it is also a good marketing campaign for the firm. The research contributed to the literature in this field by presenting aggregately no improvement in ESG performance by acquiring a target with high ESG performance. However, disaggregate proved an improvement in ESG performance by acquiring a firm with high environmental performance.

The insignificant relationship between the high ESG performance of the acquiring firm post-acquisition and high target ESG performance pre-acquisition also resulted in an insignificant relationship between acquirer high ESG performance post-acquisition and the change in ROA following the acquisition. This remains insignificant even with a high target firm ESG performance pre-acquisition. It was also ascertained that partial evidence identifies environmental factor as the most significant factor affecting financial performance. This insignificant relation shows that investment in a CSR oriented firm does not necessarily lead to profit, except the CSR oriented firm focuses its business practices on its environmental impacts. Investors associate a negative value to it. Cheng et al. (2013) document a decline in ESG when the stock ownership of managers increases in a firm, in their analysis using the 2003 dividend tax cut in the USA. This indicates that there is a principal to agent problem, and the selfish motivation of managers might lead to high investments in CSR without necessarily leading to a profit increase in the firm. Selfish motivation, such as reputational building, as found in the survey carried out in this study, might be one of the reasons' firms invest in CSR to the detriment of all stakeholders in the firm. Therefore, there is no profit/loss associated with improvement in ESG performance. However, it will be interesting to study if the negative effect of green acquisition is lower than dirty/normal acquisitions. Moreover, because of the loss associated with acquiring a firm with high environmental performance, in the short term, firms might not desire efforts towards ecological protection to make the paradigm shift from socially

responsible investment to sustainable investment. However, continued efforts towards environmental protection will be the best strategy for a firm (Yadav et al., 2016).

Although it is found that there is no significant relation, sometimes negative relation between ESG performance and financial performance, firms continue to invest in CSR. This study surveyed sixty-eight respondents, finance professionals and economics student, to find a causal effect for CSR motive by instructing the volunteers to make acquisition decisions. It is observed in the survey analysis that the strongest motive for CSR is not to “buy CSR” but use it as a business strategy. Firms can use CSR as an optimal business strategy to attract consumers, employees, and investors. If consumers, employees, and investors are interested in the firm's social and environmental performance, they might be willing to trade monetary profits or incur losses to further social goals (Baron, 2008; Brekke et al., 2010; Kitzmueller and Shimshack, 2012).

Table 4 shows that deal-specific characteristics, such as cross-border deals, are negatively correlated with operating performance, which may infer that cross-border CSR deals are less equipped to improve CSR practices because of its information opaqueness riskiness than domestic deals, where there is less information asymmetry.

4.6 | Limitations of study

The limitations of this study and propose recommendations for future research are discussed in this section. First, the samples used in this study were relatively small. ASSET4 ESG database, the object of ESG data, includes ESG data from firms who report ESG data; therefore, there was a lack of data available for most of the acquirers and targets in the initial sample. Future research could broaden this sample using ESG data from a firm with more robust data on companies. The analysis of the correlation between target ESG and acquiring firm ESG and financial performance can be generalized.

Second, the samples employed in this study comprise of publicly listed firms relatively large in size. Therefore, firms not listed in the stock exchange are excluded in this study. Future study should widen the sample to these firms to further explore the relationship between ESG and financial performance. Third, the number of professionals who responded to the survey was relatively small. This is due to time constraint and lack of incentives; therefore, limited responses from professionals in the acquisition field could not provide the study with enough data to explore a causal effect for the motive behind ESG acquisition. Future research should interview professionals in the field so that the causal effect between the ESG performance of a target firm and the ESG performance of an acquiring firm could be explored further.

Fourth, this study indicates that the components of ESG, except the Environmental component, does not affect either the ESG performance or financial performance of the acquiring firm post-acquisition, at least in the short term. Thus, acquiring a firm with higher ESG performance neither reduces nor decreases ESG performance or financial performance. However, if the time duration under analysis is broadened, the results will be different. Considering the growing importance of sustainability, more studies are required to elucidate

on which of these ESG components affect a firm's sustainability and financial performance in both medium and long term.

Finally, this study is also subject to several limitations regarding its empirical setup. The predictor might be biased due to a potential endogeneity issue. Possible treatments include performing additional robustness tests using instrumental variables shown in Chapter 4 or setting up a dynamic model. Second, using a different proxy for control variables such as firm size from the current one used in the study might improve test results and ensure robustness. Conclusively, to increase understanding and achieve better results, a better model should be designed; one that incorporates additional variables and excludes possible confounding factors. These aspects are left for future study.

Chapter 5 | Conclusion

Investment in CSR acquisitions continues to increase over the years even though research has provided inconsistent evidence on the benefit of such acquisitions on the ESG performance and financial performance of acquiring firm. This study extended the literature in two directions by investigating the effect of combined target ESG performance and the three components of ESG (Environmental, Social and Governance) separately on the acquirer performance in terms of ESG and financial performance post-acquisition and providing causal evidence on the motive of sustainable acquisitions. The analysis is based on the stakeholder view of ESG and that ESG enhances firm value in both the short term and long term.

The study uses both secondary and primary data. The secondary data for both acquirer and target were retrieved from Zephyr and ASSET4 ESG data for 2004 and 2018. The sample consists of 83 acquisition deals for firms in European Union (EU), including the United Kingdom, for which ESG scores are available for both acquirers and targets. The ESG scores used were the combined ESG scores, Environmental Scores, Social Scores, and Governance Scores as ESG variables. ROA was chosen as proxy variables for financial performance to measure financial performance. For the primary data, a survey was conducted using Economics students at Radboud University and Finance professionals in the Netherlands, which had a total of Sixty-eight respondents.

In the effect of target ESG performance and acquiring firm ESG performance post-acquisition, only the environmental score had a positive relationship at a significant level below 5%. While target aggregated ESG score, social and governance score have a positive relationship, they are not statistically significant at a significance level of 10% or below. Examining the effect of ESG performance and financial performance, target aggregated ESG score, environmental, social, governance pre-acquisition, and acquiring firm aggregated ESG score post-acquisition have a negative relationship with ROA. They are not statistically significant at a significance level of 10% or below.

The hypothesis that the acquirer ESG performance increases after the acquisition of a target with higher ESG performance than the acquirer in pre-acquisition is partially supported. In contrast, the hypotheses that acquirer financial performance increases after the acquisition of a target with a higher ESG performance than the acquirer in the pre-acquisition was not supported. These results indicate that while target ESG activities positively influence acquiring firm ESG activities, not all ESG activities exert a statistically significant effect on acquiring firm ESG activities. While there is a positive influence on acquiring firm ESG activities, neither it nor the target ESG activities itself influence acquiring firm financial performance. Hence, firms should focus their effort on ESG factors that demonstrates significant result.

In the motive for sustainable acquisitions, the survey results indicate that individuals and firms view ESG as a business strategy, a practice they are willing to invest in as far as it does not impede on their profit maximization objective.

Appendices

Appendix A | Robustness Test

Two stage instrumental regressions

Variables	First stage	Second stage	First stage	Second stage	First stage	Second stage	First stage	Second stage	First stage	Second stage
	1	2	3	4	5	6	7	8	9	10
	DV = TARESG	DV = ROA	DV = ACQESG	DV = ROA	DV = TARENV	DV = ROA	DV = TARSOC	DV = ROA	DV = TARGOV	DV = ROA
	Probit	OLS	Probit	OLS	Probit	OLS	Probit	OLS	Probit	OLS
TARESG		0.174 (0.41)								
ACQESG				0.814 (0.83)						
TARENV						0.010 (0.02)				
TARSOC								0.563 (1.28)		
TARGOV										0.666 (0.92)
SIZE	-0.025 (-0.24)	0.196 (1.38)	-0.167 ^b (-2.43)	0.314 (1.39)	-1.101 (-1.15)	0.189 (1.09)	-0.067 (-0.67)	0.233 (1.57)	-0.044 (-0.44)	0.229 (1.46)
LEV	-0.278 (-0.32)	0.588 (0.29)	0.434 (0.63)	0.198 (0.09)	0.323 (0.48)	0.541 (0.25)	-0.222 (-0.29)	0.600 (0.28)	-1.243 ^c (-1.85)	1.328 (0.56)
TOBIN	-0.387 (-0.51)	-0.305 (-0.24)	0.259 (0.39)	-0.635 (-0.47)	0.346 (0.48)	-0.415 (-0.32)	-0.561 (-0.76)	-0.053 (-0.04)	-0.597 (-0.93)	0.101 (0.07)
D_SIZE	-0.006 (-0.07)	-0.017 (-0.19)	0.055 (1.08)	-0.056 (-0.51)	-0.046 (-0.69)	-0.012 (-0.15)	-0.015 (-0.19)	-0.035 (-0.35)	-0.041 (-0.56)	-0.008 (-0.09)
TELCOM	0.101 (0.38)	0.689 (1.60)	-0.549 ^b (-2.30)	1.109 ^c (1.67)	0.012 (0.05)	0.693 ^c (1.65)	0.005 (0.02)	0.753 ^c (1.74)	-0.389 (-1.62)	0.964 ^b (2.07)
WAREHOUSE	-0.259 (-0.78)	1.642 ^b (2.27)	-0.552 ^b (-2.00)	2.063 ^b (2.21)	0.104 (0.26)	1.591 ^b (2.08)	-0.192 (-0.59)	1.735 ^b (2.36)	-0.885 ^a (-2.80)	2.138 ^b (2.21)
FRANCE	-1.179 ^a (-5.43)		0.169 (0.34)		-1.163 ^a (-4.39)		-0.990 ^a (-4.05)		-0.525 (-0.95)	
GERMANY	-1.017 ^a (-4.37)		0.345 (0.70)		-0.788 ^a (-2.66)		-0.624 ^b (-2.40)		-0.098 (-0.18)	
IRELAND	-0.985 ^b (-2.49)		0.079 (0.15)		-0.959 ^a (-2.99)		-0.487 (-1.37)		-0.350 (-0.59)	
JAPAN	-0.706 ^b (-2.15)		0.081 (0.16)		-1.059 ^a (-3.34)		-0.317 (-0.97)		-0.152 (-0.24)	
NETHERLANDS	-1.087 ^a (-4.12)		-0.120 (-0.23)		-1.343 ^a (-4.71)		-0.968 ^a (-3.23)		-0.029 (-0.05)	
UNITED KINGDOM	-1.075 ^a (-6.09)		0.184 (0.37)		-0.933 ^a (-4.22)		-0.868 ^a (-4.41)		-0.408 (-0.74)	
OTHERS	-0.942 ^a (-3.87)		0.170 (0.36)		-1.075 ^a (-4.59)		-0.692 ^a (-2.78)		-0.290 (-0.54)	
INTERCEPT	2.386 ^c (1.68)	-3.400 ^c (-1.83)	2.735 ^b (2.09)	-5.378 ^c (-1.67)	3.511 ^b (2.50)	-3.192 (-1.54)	2.915 ^b (2.15)	-4.031 ^b (-2.13)	3.045 ^b (2.14)	-4.830 ^c (-1.86)

Year dummy	Included									
N	79	79	79	79	79	79	79	79	79	79
Adj/ R-Squared	-0.077	0.262	0.204	0.205	0.012	0.276	0.023	0.218	0.118	0.218
F Statistics/Wald chi2	5.93	55.37	3.82	54.39	2.64	62.48	9.04	44.58	5.56	45.81
Probability	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.001	0.000	0.000
Endogeneity test (Wu-Hausman)		0.192		0.302		0.359		0.661		0.339
Endogeneity test (Robust regression)		0.754		1.744		2.229		1.632		0.969
Sargan statistic (Overidentification test)		4.910		4.274		5.050		4.082		4.241
p-value		0.555		0.640		0.537		0.666		0.644

This table presents the results of the 2SLS regression. The dependent variable for model 1 is TARESG; a dummy variable equals 1 if the target firm has a higher ESG performance than the acquiring firm pre-acquisition and 0 otherwise. The dependent variable for model 3 is ACQESG. This dummy variable takes a value of 1 if the acquiring firm's post-acquisition ESG performance is higher than its pre-acquisition ESG performance and 0 otherwise. The dependent variable for model 5 is TARENV; a dummy variable equals 1 if the target firm has a higher ENV performance than the acquiring firm pre-acquisition and 0 otherwise. The dependent variable for model 7 is TARSOC; a dummy variable equals 1 if the target firm has a higher SOC performance than the acquiring firm pre-acquisition and 0 otherwise. The dependent variable for model 9 is TARGOV; a dummy variable equals 1 if the target firm has a higher GOV performance than the acquiring firm pre-acquisition and 0 otherwise. The dependent variable for the second stage regression is ROA which measures the change in ROA for the acquirer one year prior to the deal announcement to one-year post-deal announcement. The instrumental variable is countries. Country is where the acquiring firm is headquartered and is measured as a dichotomous variable representing the eight countries presented in this study. All ESG performance is measured using ASSET4. All control variables are defined in Table 2. For all models, the reference for country dummies is Belgium, and the reference for the year dummies is 2006-2009. The z/t-values are in parentheses and are based on standard errors adjusted for heteroskedasticity and clustered by acquiring firm.

- Indicate significance at the 1% level.
- Indicate significance at the 5% level.
- Indicate significance at the 10% level.

Appendix B | Summary statistics of professionals

Sample distribution by respondent's industry and firm size

<i>Panel A: Treatment Group</i>					
	Small	Medium	Large	Total	
Agricultural, Forestry and Fishing	0	0	0	0	
Real Estate	0	0	1	1	
Professional Services	2	0	0	2	
Utilities	0	0	0	0	
Manufacturing	0	0	1	1	
Arts and Entertainment	0	0	0	0	
Other services	0	0	0	0	
Finance or Insurance	1	4	1	6	
Others	0	0	1	1	
Total	3	4	4	11	
<i>Panel B: Control Group</i>					
	Small	Medium	Large	Total	
Agricultural, Forestry and Fishing	1	0	0	1	
Real Estate	0	0	0	0	
Professional Services	1	0	0	1	
Utilities	0	1	0	1	
Manufacturing	0	0	2	2	
Arts and Entertainment	0	0	1	1	
Other services	0	1	0	1	

Finance or Insurance	2	1	1	4
Others	0	0	0	0
Total	4	3	4	11

Sustainable Ratings by Group

Panel A: Treatment

	Obs	Mean	Median	Std. Dev	Min	Max	5 percentiles	95 percentiles
Target Rating	11	58	63	34	0	99	0	99
Firm pre-acquisition rating	11	68	70	14	40	88	40	88
Firm post-acquisition rating	11	77	78	14	50	95	50	95

Panel B: Control

	Obs	Mean	Median	Std. Dev	Min	Max	5 percentiles	95 percentiles
Target Rating	11	70	71	17	30	90	30	90
Firm pre-acquisition rating	11	72	70	9	60	84	60	84
Firm post-acquisition rating	11	73	70	14	49	95	49	95

Test of Difference

	Control Mean Score (I)	Treatment Mean Score (II)	Mean difference (I - II)	T-test
Target Rating	70	58	11.727	1.032
Firm pre-acquisition rating	72	68	4.091	0.823
Firm post-acquisition rating	73	77	-4.364	0.731

Appendix C | Survey Questionnaire

Hello, thank you for participating in my survey. These are questions for my master's thesis at Radboud University. This survey has only 12 questions and should take you 7 minutes. There are no right or wrong answers.

In this survey you will be asked to make some acquisition decisions in a specific economic setting.

Note: All responses are anonymous and treated with confidentiality.

Control Group

Q1 Lawrence Ltd is a high-end manufacturer of luxury bags. Lawrence is considering buying a company that sources and processes ecofriendly vegan leather. After careful due diligence by the M&A team, three companies have been shortlisted for acquisition.

Lawrence Ltd has a current ESG score of 55 and a budget of 5 billion euros for the acquisition.

As the M&A manager, how much are you willing to bid for each shortlisted companies?

Note: The budget for each company is still 5 billion euros.

	Bid Amount (euros)
Bob Ltd with a ESG score of 45	
Jonas Ltd with a ESG score of 65	
Gary Ltd with a ESG score of 55	

Q2 Lawrence Ltd is a high-end manufacturer of luxury bags. Lawrence is considering buying a company that sources and processes ecofriendly vegan leather. After careful due diligence by the M&A team, three companies have been shortlisted for acquisition.

Lawrence Ltd has a current ESG score of 70 and a budget of 5 billion euros for the acquisition.

As the M&A manager, how much are you willing to bid for each shortlisted companies?

Note: The budget for each company is still 5 billion euros.

	Bid Amount (euros)
Bob Ltd with a ESG score of 60	
Jonas Ltd with a ESG score of 80	
Gary Ltd with a ESG score of 70	

Treatment Group

Q3 Lawrence Ltd is a high-end manufacturer of luxury bags. Lawrence is considering buying a company that sources and processes ecofriendly vegan leather. After careful due diligence by the M&A team, three companies have been shortlisted for acquisition.

Lawrence Ltd has a current ESG score of 70 and a budget of 5 billion euros for the acquisition.

As the M&A manager, how much are you willing to bid for each shortlisted companies?

Note: The budget for each company is still 5 billion euros.

	Bid Amount (euros)

Bob Ltd with a ESG score of 60 is expected to increase the profit margin of Lawrence Ltd by 6%	
Jonas Ltd with a ESG score of 80 is expected to increase the profit margin of Lawrence Ltd by 11%	
Gary Ltd with a ESG score of 70 is expected to increase the profit margin of Lawrence Ltd by 16%	

Q4 Lawrence Ltd is a high-end manufacturer of luxury bags. Lawrence is considering buying a company that sources and processes ecofriendly vegan leather. After careful due diligence by the M&A team, three companies have been shortlisted for acquisition.

Lawrence Ltd has a current ESG score of 55 and a budget of 5 billion euros for the acquisition.

As the M&A manager, how much are you willing to bid for each shortlisted companies?

Note: The budget for each company is still 5 billion euros.

	Bid Amount (euros)
Bob Ltd with a ESG score of 45 is expected to increase the profit margin of Lawrence Ltd by 4%	
Jonas Ltd with a ESG score of 65 is expected to increase the profit margin of Lawrence Ltd by 9%	
Gary Ltd with a ESG score of 55 is expected to increase the profit margin of Lawrence Ltd by 14%	

PREVIOUS M&A EXPERIENCE

Q5 To what extent do you agree with these statements.

	Agree	Somewhat Agree	Disagree
Investment in sustainability helps my company build its reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sustainability is integrated into my company's business practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My company actively seeks opportunity to invest in sustainability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment in sustainable activities assists my company in managing risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My company seeks external views with regards to its sustainable activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 Which of the following industries most closely matches the industry of your previously acquired company?

▼ Forestry, fishing, hunting or agriculture support ... Unclassified establishments

Q7 On a scale of 0-100, how would you rank the sustainability action level of your previously acquired company?

0 10 20 30 40 50 60 70 80 90 100

Sustainability Action Level	
-----------------------------	--

Q8 On a scale of 0-100, how would you rank the sustainability action level of your company pre-acquisition?

0 10 20 30 40 50 60 70 80 90 100

Sustainability Action Level	
-----------------------------	--

Q9 On a scale of 0-100, how would you rank the sustainability action level of your company post-acquisition?

0 10 20 30 40 50 60 70 80 90 100

Sustainability Action Level



Q10 In one word, how would you describe the future of sustainability for your company?

Q11 How would you describe the size of your previously acquired company?

- Small (0-100 employees)
- Medium (101-500 employees)
- Large (>500 employees)

GENERAL QUESTIONS.

All your answers are anonymous and will only be used for my thesis. It will be helpful if you respond to all.

Q12 What is your job position in your company?

Q13 Which of the following industries most closely matches the one in which you are employed?

▼ Forestry, fishing, hunting or agriculture support ... Unclassified establishments

Q14 How would you describe your company size?

- Small (0-100 employees)
- Medium (101-500 employees)
- Large (>500 employees)

GENERAL QUESTIONS FOR STUDENTS

All your answers are anonymous and will only be used for my thesis. It will be helpful if you respond to all.

Q15 What is your major?

Q16 Do you have a background in mergers and acquisitions? (e.g. taken a course on M&A or work experience)

Yes

No

Q17 Which of the factors do you believe best move companies towards sustainability?

Reputational Building

Risk Management

Best business Practices

Market Capitalization

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