

THE GREEN INNOVATIONS AND DEVELOPMENTS IN THE FIELD OF MERGER AND ACQUISITION

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ABSTRACT

The relevance of green development to firms has increased recently. Pollution companies engage in green mergers and acquisitions (GMA) to get green resources, technology, or management expertise to address the needs of green development. GMA describes acquisitions, mergers, and other business endeavours, such as companies acquiring green resources and developing green technologies. Since environmental, or "green," deals are essential to achieving climate goals and, ideally, offer possibilities to generate value, our analysis focused on them. This paper aims to clarify the realities surrounding green mergers and acquisitions and provides insight into future research. Additionally, this study aims to add to the body of knowledge already available on green mergers and acquisitions. The study aims to ascertain whether there is a future association between the GMA studies that have been done and how these studies have changed over time. The study finds several motives behind the shifting of polluting companies to green mergers and acquisitions. Furthermore, the main motive of GMA is shifted from government pressure to moral pressure and social responsibility.

KEYWORDS: Environmental governance, green merger & acquisition, Green innovation, Green development, Social responsibility.

I. INTRODUCTION

Over the past two decades, mergers and acquisitions, or M&As, have become increasingly important to the global economy. A merger is the amalgamation of two legally independent companies' assets into a new company. One corporation transfers ownership of its assets to another through a takeover or acquisition. In a complete takeover, the acquirer absorbs all of

the target company's assets, and the takeover "victim" vanishes. There are incredibly few mergers within the "mergers and acquisitions." Conventionally, M&As are categorized into three parts: Horizontal, Vertical, and Conglomerate (Buckley & Ghauri, 2002). The size of the acquired assets of the acquiring entity determines the differences in acquisitions. The challenges presented in "bolt-on" deals—where the new assets can be merged with an existing element of the buying firm—are very different from those in scenarios where the acquirer can use its assets to buy a company that is as big or bigger than itself (Ghauri & Buckley, 2003). When a company acquires another, it makes two assumptions. First, the purchasing company can derive more excellent value from the same assets than the current owners. This is a compelling argument for superior managerial skill. The second presumption is that the value derived from the same assets by the purchasing firm will exceed the market price paid for the assets, in addition to the fact that the acquiring firm can extract more value than the current owners. Saying, "Our valuation of the assets is superior to the current valuation," is what an acquiring company is trying to convey.

The main reason many acquisitions fail as instruments for increasing profits is that this assumption is frequently incorrect; if the market price accurately predicts the acquired assets' future earnings stream, then there is no room for profit. On the other hand, when assets lack a market value, as is the case with individual businesses or divisions of more giant corporations, there are prospects for profit. Since making "guesstimates" of the market price is necessary, specific organizations may be more adept at this estimation than others (Buckley & Ghauri, 2002).

Green development has grown in importance for businesses in recent years. To meet green development needs, pollution firms acquire green resources, technology, or management experience through green mergers and acquisitions (GMA). According to Salvi et al. (2018), GMA refers to purchasing, merging, and other business ventures, including businesses getting green resources and advancing green technology. To enhance resource utilization and eventually phase out outdated production processes, Chifeng Jilong Gold Mining Co., Ltd., for instance, purchased 100% of Xiongfeng Environmental Protection Technology Co., Ltd. in 2014.

The company used the company's "three wastes" treatment technology (Lu, 2021). Environmental, social, and governance (ESG) concerns have long been considered by M&A dealmakers when chasing targets. Nonetheless, ESG concerns were frequently evaluated as

risks to avoid rather than deal-enhancing aspects, making them secondary considerations in many situations. Now, though, that mindset is shifting. Dealmakers have been paying more attention to ESG-related value creation opportunities during the last ten years, such as investing in the clean energy transition or using sustainable sourcing to create a competitive advantage. A recent BCG study supports the increasing trend of ESG dealmaking. The study concentrated our in-depth research on environmental, or "green," deals since they are crucial for accomplishing climate goals and, ideally, present opportunities to add value. The present paper attempts to enlighten the facts related to green mergers and acquisitions, and our study also tries to shed light on the future perspective of research in this field. Furthermore, this study also tries to contribute to existing literature on green mergers and acquisitions. The study attempts to determine the prospective relationship between the GMA studies that have been conducted and how these studies have been shifted nowadays.

II. LITERATURE REVIEW

It is already confirmed that the global energy strategy is changing. Subsequent climate conferences have validated them, with the most recent one in Glasgow in 2021. As a result, an increasing number of nations are enacting new laws that regulate the energy sector's operations by the principles of the green economy. Many energy businesses are shifting their business models to incorporate more renewable energy sources, as permitted by law and with their available resources. They diversify their energy production in this way. Since the energy industry must adapt swiftly, many businesses choose to grow outside, favoring mergers and acquisitions (M&A) to meet the demands of climate conference statements. M&A deals include acquiring solar energy companies, wind farms, hydropower plants, and other renewable energy producers. This is frequently accomplished via purchasing start-ups. This is because cultures who reject the "brown economy" are highly conscious of the pressure coming from politicians as well. In addition, it will increase understanding of strategic analysis and business strategies in regulated industries (Niemczyn et al., 2022). In the view of Han et al. (2022), the Chinese heavily polluted industry they shifted their motive for green merger and acquisition from a market perspective to cost and innovation.

In imperfect competition, where we account for product differentiation, cost asymmetries, and pollution intensities (green and brown commodities), Choi et al. (2022) examine

businesses' motivations to merge. Initially, we investigate mergers without environmental regulations, demonstrating that mergers cause an output shift in favor of the firm with the lowest costs. However, businesses also consider their respective pollution intensities when implementing emission levies, which could reverse the abovementioned production shift. We demonstrate how enterprises may shift output to a more cost-efficient firm, resulting in increased pollution and socially excessive mergers. Conversely, socially insufficient mergers may occur if production shifts result in less pollution. Liu et al.'s (2023) analysis of the connection between investors' preferences for green M&A and managerial choices looks at the driving forces behind green M&As in highly polluting companies. The study indicates investors' preferences for green M&As using data on green M&As carried out by heavily polluting enterprises in China between 2008 and 2019. They find that heavily polluting firms prefer to implement (avoid) green M&As when investors grant them a more significant (lower) premium. Time varies in the relationship, which is consistent with the catering effect. At the same time, SOEs have a more significant green M&A catering effect than non-SOEs. Lastly, the paper discovered that managers can encourage green M&A for highly polluting companies by using investor preference instead of media oversight. The "carrots" (incentives) and "sticks" (penalties) of green fiscal policy have been essential in encouraging businesses to make green transformations.

Yang et al.'s (2023) study investigates how deadline-driven and time-sensitive green fiscal policy encourages green mergers and acquisitions (GM&As) by businesses. According to the data, the effect seems more noticeable for companies with CEOs from their hometowns, with more female upper echelons and younger upper echelons. Additional examination of the mechanism demonstrates that green fiscal policy can encourage businesses to improve the green proficiency of the highest echelons of the triangle—directors, executives, and supervisors—to facilitate the success of mergers and acquisitions. Supervisory ineffectiveness in internal green governance is highlighted because supervisor expertise does not significantly boost GM&As. The political, economic, social, technological, legal, and environmental factors (PESTLE) that influence mergers and acquisitions in the energy sector were identified through analysis.

The study finds that although M&A activity is growing in the energy sector, the agreements' goals have significantly shifted. Most M&A transactions between 1995 and 2010 were carried out to identify opportunities for synergies and cut costs. To secure supply, meet

demand, and represent the green development of the ecological environment and ongoing changes like energy, companies have been pursuing M&As for growth prospects over the past ten years (Andriuškevičius & Štreimikienė, 2021). In the view of Zhang et al. (2023), green mergers and acquisitions have significantly increased the quality rather than the quantity of Eco-innovation and technology-driven innovation.

The impact of an environmental tax on businesses' green transformation practices was examined by Hu et al. in 2023. According to our baseline data, this environmental tax policy encourages green mergers and acquisitions (M&As) by highly polluting companies. According to heterogeneity analyses, firm characteristics (such as state ownership, innovation capacity, and reputation), industry characteristics (such as competition and entry barriers), and regional characteristics (such as the strength of the legal system, the severity of environmental pollution, and pollution tax rates) all moderate the effect of the ecological tax on green M&As. Finally, the study discovered that following the enactment of the environmental tax, the capital market reacts more favorably to green M&As in highly polluting companies. Huang and Yuan (2023) show that green M&A can significantly enhance a company's capacity for green innovation.

The involvement of external stakeholders has acted as a middleman since green M&A allows businesses to access more government subsidies and commercial credit, which lowers financing barriers and improves corporates' capacity for green innovation. According to Wu & Qu (2021), adopting exploratory M&As is more advantageous for businesses seeking a high green image and functioning in an environment with significant green subsidies to maximize green innovation performance. Exploratory M&As are also beneficial for exploitative international M&As. On the other hand, companies seeking a low-green image and functioning in an environment with minimal green subsidies are better off engaging in exploitative M&As.

According to a well-known perspective, companies should deliberately invest in CSR initiatives to address stakeholder and shareholder conflicts. Corporate social responsibility is also one of the main motives for adopting the green merger and acquisition strategy. Chen et al., 2023 discovered that after cross-border M&As, Chinese acquirers significantly boost CSR investment and performance. It has been found that the host nations' social norms and legal backgrounds have a beneficial impact on the acquirers' post-M&A CSR spending and performance. The findings align with Chinese acquirers using cross-border M&As to demonstrate their commitment to corporate social responsibility in response to requests from various stakeholders and to enhance their company's brand—the paper also presents evidence

that cross-border M&A by Chinese enterprises fosters green innovation through knowledge acquisition.

Furthermore, the study demonstrates that Chinese acquirers' long-term financial performance is unaffected, suggesting that strategic CSR expenditures can be incorporated with other corporate investment endeavors. The analysis shows how cross-border M&As impact stakeholder and shareholder value.

Gao et al. (2022) examine marketing innovation's green component in cross-border mergers and acquisitions by newly formed multinational corporations. This study examines the boundary conditions of financial advisers' marketing channels and the impact of aggressive and defensive green marketing strategies on cross-border M&A completion. Cross-border M&A completion rates can be raised by developing green patents as an assertive green marketing strategy, hiring financial advisors as a marketing channel, and carrying out corporate social responsibility initiatives as a defensive green marketing strategy, according to an analysis of 358 cross-border M&As by Chinese companies. Financial advisers mitigate the primary association between an assertive green marketing strategy and M&A completion by replacing forceful green marketing innovation. According to Sun et al. (2023), there is a positive correlation between the risk of GMA and a negative CSR performance gap. The media coverage and unfavorable investor sentiment have mediation roles when viewed through the lens of market pressure.

Moreover, the abovementioned promotion is only evident in businesses in their growth stage, which have a lot of financial wiggle room or both. According to the study, a CSR performance gap only encourages strategic green innovation regarding GMA performance. Still, when businesses are subject to intense environmental regulations from the government, substantive green innovation is encouraged. Firm value is inversely correlated with green M&A premiums. The outcomes are more noteworthy when enterprises implement symbolic rather than substantive corporate social responsibility (CSR) strategies. The negative relationship is more pronounced when state ownership, low government subsidies and environmental regulations, overconfident management, green M&A happening locally or across provinces in the same region, and acquiring enterprises with these characteristics. The agency-view theory is supported by this study's analysis of agency cost as a mediating factor in the relationship between green M&A premium and company value (Liu et al., 2023).

Based on data from the China National Bureau of Statistics, China's overall export trade grew at an average annual rate of 19.3% between 1998 and 2008. However, with the 2008 global financial crisis, the export growth rate fell precipitously in 2009 and continued to decline beyond 2015. The export performance of China's pollution industry has been significantly restrained due to "green barriers," which are regions or countries that import goods and services to protect the environment, domestic markets, and trade and impose strict regulations on exporting countries' products and services. Lu (2022) focuses on environmentally friendly mergers and acquisitions (green M&A) of polluting companies that can easily acquire clean enterprise resources. By analyzing the frequency, scale, and geographic characteristics of green M&A, Lu compares the effects of various green M&A modes on export performance and export margin.

First, according to this paper's analysis using the propensity score matching - double difference (PSM-DID) method, green M&A can improve export performance. Export performance is positively connected with the frequency and size of green M&A. Export performance of green M&A companies is inversely associated with their geographic remoteness. Second, by encouraging green innovation, government subsidies, and bank financing capacity, green M&A can improve export performance. Conversely, by raising the costs of environmental governance, it can decrease export performance.

The impact of cross-border mergers and acquisitions (M&As) on Chinese industrial businesses' export green technical sophistication is examined by Liu et al. (2023). The findings demonstrate that cross-border M&As can successfully advance acquired companies' export-ready green technology capabilities. Over time, M&As have progressively increased promoting effect. The results of the heterogeneity analysis also show that the promoting effect is more potent in privately held businesses, businesses that have been partially purchased, businesses engaged in pollution-intensive industries, and businesses located in eastern regions. Finally, cross-border M&As can raise export levels of green technological sophistication by enhancing green innovation capabilities and introducing pollution control equipment.

In recent years, heavy pollution enterprises have often adopted a green merger and acquisition (GMA) strategy to obtain green technology and resources to realize the transformation and upgrading of the pollution industry. Juanlu, 2021 tries to explore the impact of GMA on EPI of heavy pollution listed companies and compare the effects of different types of GMA on EPI. The findings demonstrate that GMA can increase EPI and that horizontal GMA

has a more considerable marginal impact on EPI than vertical and mixed GMA. GMA has a U-shaped effect on EPI, first lowering and then increasing when viewed from the standpoint of time effect. According to the impact route test, GMA promotes EPI by building company reputation, raising environmental consciousness, strengthening finance capabilities, and providing subsidies while inhibiting EPI by raising merger and acquisition and management costs. According to the company life cycle heterogeneity analysis, horizontal GMA significantly affects EPI during growth. Vertical GMA can significantly increase EPI during the maturation period and hinder EPI during the recession stage. According to Lu et al. (2023), green mergers and acquisitions are also helpful in reducing illegal pollution discharge (ILP).

The effect of green cross-border M&A on environmental performance is examined by Peng & Tey (2022). The empirical study's findings indicate that industrial companies engaging in green cross-border M&A will considerably improve their environmental performance compared to non-green M&A. Sun et al. (2023) use data from Chinese significantly polluting firms from 2011 to 2020 to study the effect of GMA on corporations diverse environmental investment methods. It is discovered that GMA encourages business investment in environmental issues.

Additionally, businesses are more likely to implement source reduction initiatives after GMA, which is positively controlled by retail investor attention and information openness and mediated by bank loans. The beneficial impact is only seen in businesses with little media scrutiny or extensive government control. Furthermore, by implementing source reduction techniques, GMA can improve green innovation even more. According to Yang & Chi (2023), green mergers and acquisitions (GM&As) are a strategic move to gain legitimacy because they allow enterprises to transition to a green industry; however, they are not helpful for PGT. Nonetheless, by increasing businesses' green efficiency, green innovation (GI) driven by efficiency incentives plays a vital role in advancing PGT. Over time, significantly polluting businesses have grown to rely on green mergers and acquisitions (M&A) to fulfill their green transformation goals of reducing emissions and conserving energy.

Through green M&A, heavily polluting companies have been able to get clean technology and resources. Liang et al., 2022 investigate whether or not these M&As can foster green innovation. The findings demonstrate that M&As by highly polluting companies can foster green innovation, and government subsidies can help further this effect. Accordingly, the analysis concludes that most M&As involving highly polluting companies are assuming

responsibility for environmental protection and starting the transition to a greener business model. To attain their objective of green transformation, the government can implement pertinent rules that incentivize highly polluting companies to engage in green mergers and acquisitions.

He et al., 2024 investigate the boundary effects of property rights and government environmental regulations on the relationship between green mergers and acquisitions and the quality of environmental information disclosure. The findings indicate that government environmental regulation positively moderates the relationship between green mergers and acquisitions and ecological information disclosure quality and that green mergers and acquisitions of heavily polluting enterprises positively impact acquiring firms' environmental information disclosure quality. Through subgroup analysis based on distinct property rights, it is discovered that state-owned firms show a larger positive link between green mergers and acquisitions and the caliber of environmental information disclosure compared to non-state-owned enterprises.

Li et al. (2020) discovered that green M&A by major polluters is linked to higher risk-taking. Increased resource accessibility, fewer financial restrictions, and lower tax obligations suggest better legitimacy. Government involvement in the M&A process and state ownership positively correlate with these outcomes. Green financing is an essential financial instrument for balancing the interests of environmental preservation and economic growth. The first official, dedicated green credit policy was established in 2012 with the release of the Green Credit Guidelines (GCGs).

Sun & Liu (2022) try to investigate the performance of green M&As and assess the efficacy of GCGs in green governance. The findings demonstrate that adopting the GCGs has dramatically aided in promoting green M&A operations for highly polluting companies. Furthermore, the promotion effect is more pronounced in companies with low levels of financial marketization and limited capacity for green innovation. Additional investigation indicates that green M&As can enhance businesses' performance in green innovation.

Purchasing a company with superior environmental performance as part of a cream-skimming strategy may strengthen the acquirer's existing green initiatives and enhance their ecological capabilities. As part of a turnaround strategy, an acquirer could purchase companies from a less ethical company and renovate them to meet the buyer's environmental standards. Eng & Fikru (2020) identify transactions where targets have worse or better ecological

performance (toxic chemical management) than their acquirers among a sample of 13 M&A agreements in the food and beverage sector. According to our research, there appears to be some indication of progress in the targets' and acquirers' rates of managing hazardous chemicals among the specified companies.

The potential of green mergers and acquisitions (M&A) to drive corporate green transformation remains uncertain despite their recent emergence as corporate green management initiatives. This is because little is known about how M&A might influence strategic choices about environmental behavior within firms. Zhao & Jia (2023) examine the effects of green M&A on corporate environmental governance by analyzing Chinese heavy-polluting companies listed on the Shanghai and Shenzhen Stock Exchanges between 2009 and 2017, utilizing legitimacy theory as a framework. The findings indicate that corporate environmental management benefits from green M&A specifically; they find a significant positive correlation between green M&A and corporate environmental governance in businesses that receive much media attention.

This is because these businesses are subject to more substantial legitimacy advantages and illegitimacy penalties. On the other hand, they weaken this link because state-owned companies (SOEs) naturally have political connections to undercut legitimacy gains and escape illegitimacy penalties. Therefore, the study contends that the possibility of an organization implementing green M&A as a natural, meaningful strategic activity is influenced by SOEs and media attention. In conclusion, the study characterizes an organization's green M&A implementation in environmental governance as an actual green action instead of dishonest green washing.

There are several stages involved in the merger that can be broadly divided into pre- and post-merger. The efficiency and competitiveness of low-carbon manufacturers can now be increased through mergers. Lin et al., 2022 examine the effects of horizontal mergers between asymmetric producers of low-carbon products on consumer surplus, profitability, diversity of products, and the environment. The study demonstrates that if the production or investment savings are significant, the merger can result in a win-win-win situation where the manufacturer, customers, and environment benefit through merger and acquisition. Kayser & Ziilch, 2024 conducted a systematic review of the impact of sustainability on different deal stages of a merger and noted that sustainability is recognized as having an effect on or being impacted by M&A activity in every examined pre- and post-deal stage. As a result,

practitioners must strategically take sustainability into account while originating and executing deals.

According to the research, a green SPAC's size is determined by several factors, including its regional focus, the qualities of its CEO, the exchange it chooses, and the legal counsel's areas of expertise. The corresponding geographic and legal-counsel features influence the speed of IPO. Simultaneously, following the announcement of a merger, green SPACs show cumulative market-adjusted returns between 6% and 12%. Furthermore, merger returns are positive at the time but rapidly turn negative (-1 to -9%) and decline over time. The features of Special Purpose Acquisition Companies (SPACs) devoted to environmental causes are examined by Dimic et al. in 2024. Entrepreneurs seeking financing for environmentally conscious businesses are becoming more prevalent due to SPACs' growing significance in the financial markets. Popa & Popa, 2016 conducted a study on green acquisitions, which take place in industrial companies to lower input costs without sacrificing production (substitution and efficiency).

These procedures typify a circular economy focused on resource efficiency (savings from fewer purchases of inputs). The technique of industrial procurement, which can help firms save money and materials, is the main topic of this article. In addition to negotiating costs, buyers can persuade suppliers to provide goods and services in a way that uses less natural resources. The life cycle of industrial items illustrates the benefits and drawbacks for the environment of different acquisition and total reuse alternatives.

The short- and long-term effects of the network on Chinese firms' green innovation are examined by Ding and Tian (2024). It is proposed that the network contributes positively to green innovation, which is evident over time but not as much in the short term. We further show that large firms, substantially polluting enterprises, non-high tech enterprises, enterprises with rich knowledge bases, and enterprises without myopic managers are more clearly in need of the long-term enabling function. Furthermore, government environmental protection subsidies serve to offset the long-term positive effects of cross-border M&A networks on green innovation, while corporate environmental responsibility also plays a role.

The excellent growth of the new energy industry is greatly aided by the technological advancements made by lithium battery companies. Zhong et al. (2023) attempt to empirically examine how mergers and acquisitions (M&A) affect the technological innovation capacities of these businesses, with a particular emphasis on China's lithium battery industry. According

to the report, technical M&A plays a critical role in enabling listed firms in the lithium battery market to raise their levels of technological innovation. Putting M&A plans into practice helps companies innovate more technologically and significantly promotes innovation in green technology.

On the other hand, Li (2022) examines the function of technology-driven cross-border mergers and acquisitions (TDC M&As) in green innovation and concludes that these transactions significantly foster green innovation. Increased ownership concentration positively affects the company's interaction with TDC M&As and green innovation.

III. OBJECTIVES

- A.** To explain the trends in the field of Green merger and acquisition.
- B.** To explain the future expectation in Green merger and acquisition.

IV. RESEARCH METHODOLOGY

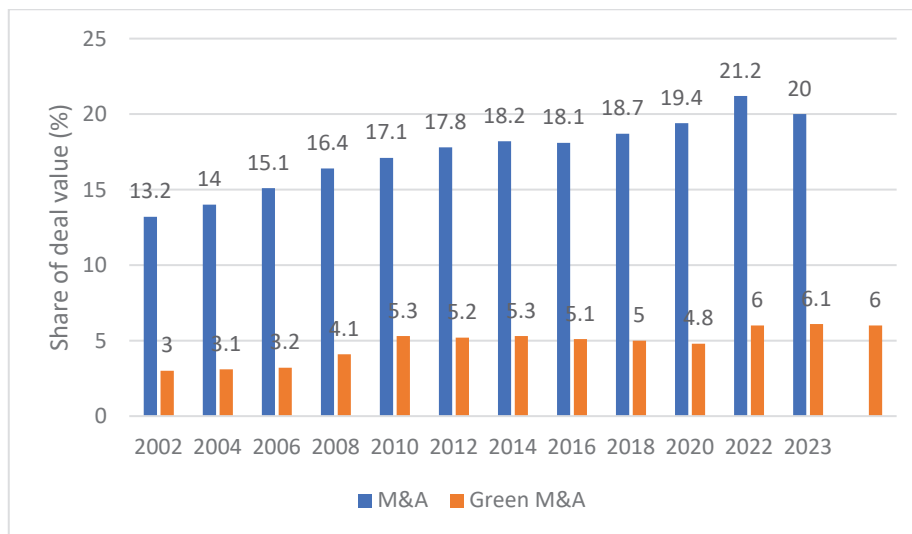
The present study has utilised secondary data obtained from a variety of sources, including websites, scholarly articles, books, journals, magazines, and newspapers. This study is exclusively focused on doing a comprehensive analysis of existing literature in the field of green merger and acquisition, specifically examining the factors that contribute to the rise and decline of such mergers and acquisitions. This study examines the importance of green mergers and acquisitions in improving industrial performance and contributing to the betterment of society and the country.

V. DATA ANALYSIS

This study is conducted through a comprehensive analysis and synthesis of existing resources on the historical development of green merger and acquisition. To perform comprehensive searches in academic databases such as Google Scholar, Web of Science, and Scopus, relevant keywords such as "merger & acquisition," "Green merger & acquisition," and "Green development" are utilised. The objective is to identify and extract pertinent articles from peer-reviewed journals, book chapters, conference proceedings, and other reputable sources that examine the relationship between management education and its comparative analysis with other nations. Analyzing and combining the information gathered from the literature to identify

recurring patterns, emerging trends, and valuable insights that are relevant to the research goals. Green merger and acquisition refer to business acquisitions, mergers, and other activities, such as companies acquiring green resources and developing green technologies. Environment social governance (ESG) has played a vital role in the merger and acquisition decision for the last ten years. Figure–1 represents the trends in global merger and acquisition and in green merger and acquisition deals from 2002 to 2023.

Figure 1: Share of M&A and Green M&A deals



Source: Author compiled it by using BCG report, 2023

Figure 1 extensively examined the significance of Environmental, Social, and Governance (ESG) factors in mergers and acquisitions (M&A), with a specific focus on the concept of "green dealmaking." The proportion of transactions related to Environmental, Social, and Governance (ESG) factors has consistently increased over the last twenty years. The ongoing trend of corporations seeking to buy expertise and assets related to decarbonization, the energy transition, clean tech, and the circular economy will continue to drive M&A activity. During the previous ten years, our data clearly showed an increased tendency. Globally, the number of ESG deals per year increased by 60%, from roughly 5,700 in 2011 to an all-time high of approximately 9,200 in 2021. After two worse years for overall M&A activity and ESG transactions, deal volumes increased by 35% in 2021, indicating an exceptionally robust acceleration in activity. This increasing tendency can be partially attributed to an overall positive M&A climate that has increased deal volumes (up 28% from 2011 to 2021). However, the picture is even more stark: the number of ESG-related deals increased from 12% in 2001 to 17% in 2011 and 22% in 2021 as a percentage of all deals.

Due to a steady increase in the relative volume of healthcare deals, the percentage of all socially oriented deals (e.g., involving healthcare or social entrepreneurship) rose from 12% in 2011 to 16% in 2021. About 0.2% of deals are governance-related transactions. This is a tiny percentage. This implies that governance is considered a risk element during due diligence rather than being the main driving force behind a purchase. Contrarily, transactions about the environment can significantly contribute to a company's achievement of its climate and other environmental objectives and, as such, merit additional research. As a percentage of all deals, the share of these green deals has been small and steady, rising to 6% by 2021 after remaining at 5% from 2011 to 2019. Given the prevalence of environmental challenges, the share may still be low, but it has increased by 20% in the last two years, indicating that more dealmakers are becoming aware of the value these deals might add. The growing ubiquity of ESG reporting obligations might have also influenced this increase in the activity of green M&A.

ExxonMobil's purchase of Denbury Resources for \$4.5 billion demonstrates the US oil company's desire to grow its influence in the carbon capture and storage industry. In a similar vein, the Swiss industrial behemoth Georg Fischer purchased Uponor, a Finnish manufacturer of household and industrial goods, for a substantial sum of \$2.2 billion. This acquisition aligns with Georg Fischer's objective of establishing itself as a leading global provider of environmentally friendly water and flow solutions. Stellantis, an automaker, is planning to establish a joint venture with Galloo, a metals recycler, to focus on recycling end-of-life vehicles. This arrangement is very significant. This represents a progression towards enhancing the circular economy endeavours of both companies.

The impact of ESG variables (environmental, social, and governance) on dealmaking is now most noticeable in the energy, real estate, industrial, and automotive industries. However, there is a growing recognition of the significance of ESG considerations in the consumer and finance sectors as well. Financial sponsors have accumulated assets specifically designated for investments that adhere to environmental, social, and governance (ESG) requirements, known as ESG-linked dry powder.

VI. CONCLUSION

Despite still making up only roughly 5% of all M&A transactions, we discovered that the proportion of green acquisitions had grown dramatically over the previous three years. Upon further investigation, we found that the percentage is significantly higher than usual within the utilities and energy sector and among Middle Eastern and Asia-Pacific-based businesses. The DIY method of developing environmental competencies is still prevalent in other industries and areas. Many companies can leverage green M&A as a strategic tool to mitigate the mounting challenges associated with ESG. However, buyers should be warned that green transactions have a hefty price premium. Our analysis shows that over the past three years, the average acquisition price for these deals has been above the overall market average by about 7%, with premiums of 20% to 30% in specific industries. The higher premiums are probably a result of both the increased rivalry among targets and the targets' superior underlying growth potential compared to other businesses in their industry.

According to our data, green M&A already has a significant strategic impact on businesses in several sectors, including energy and utilities, as well as geographical areas like the Middle East. These businesses are under pressure to switch to greener technology and have effectively implemented the necessary technologies. To increase their environmental skills, some companies might still rely more on internal innovation and R&D and unconventional business deals like joint ventures and corporate venturing. However, as the need to address climate change increases and additional objectives with suitably developed technology become accessible, green M&A activity is anticipated to speed up across all industries and locations. The study demonstrates that numerous antecedents are necessary for achieving high green technology innovation performance following the GMA of highly polluting firms; no single antecedent is adequate to achieve this result. In addition, there are three equal combinations of requirements—an internal leader, an external link, and a competent buyer—to accomplish green transformation. These include the professional buyer configuration, which emphasizes the value of combining M&A experience and scale; the internal leading configuration, which stresses the necessity of organizational resources and environmental awareness; and the internal-external linkage configuration, which calls for the simultaneous application of M&A experience and environmental regulations from the government.

The study tries to cover the available literature on green mergers and acquisitions to draw conclusions about the past, present, and future scenarios. The study finds a shift in the motives behind green mergers and acquisitions over time. Previously, the company went for green mergers and acquisitions due to legal and government pressure, but nowadays, the motive has shifted to model pressure and social responsibility. There is a broad scope available for researchers to go deep into the reasons and consequences of green mergers and acquisitions in the industry and the country as a whole. Most green mergers and acquisitions searches are conducted in China; The researcher can also explore other countries.

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