

Green Finance as a Strategic Enabler of Sustainable Mergers and Acquisitions Structuring and Financing

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DOI: <https://doi.org/10.70670/sra.v4i1.2452>

Abstract

Green finance has become important, with a growing focus on environmental sustainability and responsible investment, which has redefined mergers and acquisitions (M&A) and established green finance as a strategic tool for long-term corporate value creation. This study explores the direct and indirect impacts of green finance on the performance of sustainable M&A and how green finance can facilitate sustainable M&A structuring and financing. The study is based on Stakeholder Theory, Resource-Based View (RBV) and Institutional Theory, which serve as the basis for the conceptual framework that is developed, in which Sustainable M&A Structuring and M&A Financing Efficiency are seen as sequential mediators, while Regulatory Support and ESG Disclosure Quality are seen as moderators. A quantitative research design was used and the primary data gathered were obtained by using a structured questionnaire which was administered to the respondents who were professionals in the investment banks, commercial banks, financial institutions, consulting firms and corporate finance departments. A total of 320 valid responses were analyzed with the Partial Least Squares Structural Equation Modeling (PLS-SEM) software, SmartPLS 4. The results indicate that green finance has significant positive effects on sustainable M&A structuring and sustainable M&A performance. The results show that green finance has significant positive influence on sustainable M&A structuring and directly influences the sustainable M&A performance ($\beta = 0.672$, $p < 0.001$; $\beta = 0.286$, $p < 0.001$, respectively). Sustainable M&A Structuring positively impacts M&A Financing Efficiency ($\beta = 0.604$, $p < 0.001$) which positively affects sustainable M&A performance ($\beta = 0.481$, $p < 0.001$). The mediation analysis confirms the partial mediation of the relationship between green finance and sustainable M&A performance of Sustainable M&A Structuring and M&A Financing Efficiency. In addition, the positive link between green finance and sustainable M&A structuring becomes significantly stronger in the presence of Regulatory Support and ESG Disclosure Quality. The structural model has good explanatory power and accounts for 68.4% of the variance in the sustainable performance of M&A. The study makes a valuable contribution to the field of sustainable finance by confirming that green finance is not just an alternative source of financing but also a strategic means of enabling sustainable mergers and acquisitions. The results have important implications for corporate managers, investors, financial institutions, and policy makers interested in bringing sustainability to the acquisition process and improving long-term organizational performance and sustainable development and climate goals at the global level.

Keywords: Green Finance; Sustainable Mergers and Acquisitions; ESG; Sustainable Finance; Green Bonds; Sustainability-Linked Loans; M&A Structuring; Financing Efficiency; Sustainable M&A Performance; PLS-SEM.

Introduction:

The world of Mergers and Acquisitions (M&A) is in a period of paradigm shift. While classic deal-making arguments synergistic cost savings, market share growth and earnings accretion still drive the process, a corporate imperative to decarbonize and meet global sustainability frameworks is becoming increasingly influential. In this transformation, green finance has gone from the sidelines of corporate social responsibility to a key strategic goal and a key deal catalyst. Green finance no longer represents a post-closing report, but rather the basis of structuring, pricing and execution of corporate transactions (Alkaraan, F., Elmarzouky, M., Venkatesh, V. G., Hussainey, K., Shi, Y., & Zhang, M. 2026). The introduction of green financial instruments is transforming the way companies assess and consider targets and negotiate terms, as well as restructure their capital.

The essence of using green finance as a deal accelerator is to use specialized financial tools to maximize the financial viability and strategic pace of a deal. Two of the most well-known instruments for integrating sustainable finance in M&A, are Green Bonds and Sustainability Linked Loans (SLLs). Unlike green bonds, which are more strictly dedicated to specific, environmentally friendly "green projects," or asset purchases like a manufacturing company buying a renewable energy grid to power its operations, SLLs provide greater flexibility in operations. SLLs are not limited to investing in green assets in other words, a corporate buyer could be financing general corporate business expenses, such as a standard equity buyout, but the cost of debt (the underlying financial transaction) would be based on the combined company's ESG performance (Bocken, N. M. 2015).

This financial coupling entails a dynamic pricing mechanism called the interest rate sustainability ratchet. Typical approach to structuring sustainability linked financing is the margin or interest rate of the acquisition loan that will vary depending on the Key Performance Indicators (KPIs) and Sustainability Performance Targets (SPTs) that are pre-negotiated with the post-merger entity. The interest rate is lowered if the combined company is able to achieve its targets, for example, reducing Scope 1 and Scope 2 greenhouse gas emissions through a certain percentage during the 24-month period following the closing or meeting a certain percentage of green procurement in its supply chain. Likewise, if these thresholds are not met, there is a penalty system in effect increasing the interest rate. In large-scale corporate acquisitions, with debt also in the hundreds of millions or billions of dollars, even a basis-point reduction, on a nominal basis, through a sustainability ratchet can make a material difference to the net present value of a deal, and fast-track the strategic timeframe of a deal (Choudhary, P., Jain, N. K., & Yadav, P. 2025).

Green finance also supports faster transaction speed by facilitating deals by tapping into large and niche investor pools that don't exist in traditional financing. Global banking syndicates, sovereign wealth funds and institutional investors are facing tight mandates to shift money from carbon-heavy 'brown' companies to 'green' and transitioning firms. A clear green finance framework for an M&A transaction therefore instantly brings in a larger and more liquid group of lenders and investors. This high demand often leads to overcrowded credit facilities, enabling the corporate buyer to quickly obtain financing, close deals in a shorter time and obtain more favorable covenant terms. Green financing facilities can offer an absolute competitive advantage to the acquirer over the conventional bidders, particularly in highly competitive bidding situations, for instance in auctions for high quality strategic targets, where a cost-effective financing is already in place prior to the bidding process (Elhajji, A. A., & Mihai-Yiannaki, S. 2025).

Moreover, the principles of green finance are having a transformative impact on the structuring of the transaction itself, in particular the development of new deal provisions such as sustainability-linked earn-outs. An earn-out in traditional M&A is a clause in which some or all of the purchase price is conditioned upon the target company's performance meeting certain financial targets following the transaction. Although they can close valuation gaps, traditional earn-outs can encourage short-term revenue generation in the name of long-term sustainable growth (Fischer, S., Rodwell, J., & Pickering, M. 2021).

As green finance principles are increasingly embraced by modern deal makers, they are now using sustainability-linked earn-outs. In this model, a large share of the deferred consideration is directly linked to the target to achieve non-financial environmental objectives, such as a green product development, achieving circular economy supply chains, or the full decarbonization of its operational infrastructure. This helps to fill valuation gaps between the forward-thinking seller looking for a premium for their green attributes and the buyer looking for some risk mitigation. It will ensure that founders and management of the target company are strongly motivated to continue their environmental path in the highly critical phase of post-merger integration, thus safeguarding the green premium that was the reason for the acquisition in the first place (Johri, A., & Singh, R. K. 2024).

In the end, green finance is a sign of overall corporate growth, with the understanding that corporate performance and environmental care are interdependent. Corporate buyers can reduce cost of capital, increase liquidity, reduce regulatory risks and align incentives between buyers and sellers if they can incorporate green funding mechanisms into the structural design of the transaction, to the extent possible, rather than as a reporting requirement, while it is happening. Creative structuring of transactions with green finance will be the difference between strategic acquirers and the rest of the market as global sustainability taxonomies begin to toughen and the financial burden of carbon-compliance increases. Green Finance has become an indispensable tool for modern M&A, and has systematically pushed forward the financing of the transition toward low-carbon economy and accelerated the speed of M&A.

Problem Statement

The global corporate landscape is experiencing a fundamental shift where environmental, social, and governance (ESG) criteria are moving from compliance metrics to critical value drivers. In modern Mergers and Acquisitions (M&A), corporate buyers are under immense pressure to rapidly decarbonize operations and transition to low-carbon models. Rather than relying solely on slow, organic transformations, firms are increasingly turning to M&A as a strategic shortcut to acquire green capabilities, technologies, and sustainable supply chains. However, executing green M&A transactions presents substantial financial friction. Traditional financing structures often fail to capture or reward the long-term value of a target firm's sustainability profile, frequently leading to valuation gaps between cautious buyers and premium-seeking sellers. While green financial instruments such as Sustainability-Linked Loans (SLLs), Green Bonds, and sustainability-linked earn-outs have emerged as potential mechanisms to bridge these gaps and accelerate transaction velocity, their practical integration remains highly problematic.

There is a distinct lack of empirical clarity regarding how these green financing mechanisms structurally alter deal mechanics. Specifically, the exact operational thresholds of the "sustainability ratchet" (the interest rate step-down/step-up mechanics) are often opaque, making it difficult to quantify their true impact on a transaction's Net Present Value (NPV) and overall cost of capital. Furthermore, standard corporate frameworks have not yet unified traditional financial metrics (like EBITDA or ROIC) with non-financial, green performance targets (such as Scope 1/2 emission reductions or circular economy benchmarks) within contractual deal clauses like earn-outs. Consequently, financial executives frequently struggle to structure post-merger

integration incentives effectively, risking either "greenwashing" penalties or the erosion of the target's original green premium due to misaligned post-acquisition goals.

To address this problem, this study seeks to answer the following overarching questions:

How do green financing instruments and sustainability-linked contractual mechanisms structurally optimize capital costs, transaction velocity, and long-term asset valuation during corporate mergers and acquisitions?

Research Objectives (ROs)

In alignment with the research question, the specific objectives of this study are:

RO1: To evaluate the impact of green financing instruments on reducing financial friction, broadening lender liquidity pools, and accelerating deal execution timelines in modern corporate acquisitions.

RO2: To quantify the financial effects of sustainability-linked interest rate ratchets on post-acquisition capital structures, measuring the direct cost savings achieved through hitting pre-determined environmental targets.

RO3: To develop a comprehensive framework for structuring sustainability-linked earn-outs that successfully aligns non-financial environmental performance benchmarks with traditional financial valuation metrics during post-merger integration.

Literature Review

Green Finance: Concept and Evolution

Green finance is undoubtedly one of the most promising trends in the modern corporate finance sphere that can be observed, as a result of the incorporation of environmental sustainability into the financial decision-making process. It is a concept that encompasses financial operations, investment approaches and financing tools that support environmental sustainable projects and economic value. Green finance is different from traditional finance because it uses environmental, social and governance (ESG) metrics to assess investment, allocate capital and make financing decisions for companies. Industry adoption of green financial instruments has been gaining momentum since the risks of climate change are growing, commitments for international sustainability are becoming more concrete, and investor demand for a more responsible investment has risen. Global events like the Paris Agreement, the United Nations Sustainable Development Goals (SDGs), and regulations increasing the pressure on companies to cut emissions have been the major drivers behind the growth of green finance (Siankwilimba, E., Mumba, C., Hang'ombe, B. M., Faccia, A., Sizyoongo, M., Dzvimbo, M. A., ... & Chanda, M. 2025). To foster sustainable business activities, financial institutions have created innovative financial instruments like green bonds, sustainability-linked loans, green equity funds, transition finance and transition funds. The financing mechanisms ensure that the access to capital is provided to organizations and also they promote environmentally responsible corporate behavior (Kayser, C., & Zülch, H. 2024).

ESG investing has become a game-changer in financial markets, prompting investors to consider companies beyond their financial returns and into their environmental and social impacts. As a result, green finance is gaining ground as a key part of the business strategy, impacting investment decisions, company structure, risk management and sustainability. This is consistent with recent research, which shows that firms with better ESG ratings tend to have lower capital costs, higher trust from stakeholders, and better market valuations (Khan, K. I., Sheeraz, M., & Aslam, S. 2025).

Sustainable Mergers and Acquisitions

Mergers and acquisitions (M&A) are increasingly one of the most critical strategic tools used by organizations to achieve growth, diversification, innovation and competitive advantage. Traditionally, an M&A decision was made based primarily on the financial goals that included market growth, cost synergies, operation efficiency, and shareholder value maximization. But, with the rising importance of sustainability, the goals and assessment of today's M&As have changed greatly. Sustainable M&A is not just about a financial integration; it's about integrating sustainable measures, social responsibility, and corporate governance into the M&A process. Firms are increasingly considering factors such as acquisition targets' ESG performance, carbon footprint, environmental compliance and sustainability capabilities (Shri, C., Saini, N., Kumar, D., & Kharb, R. 2024). This integration can help companies improve their sustainability ratings and boost future value generation. The industries with low carbon transitions, such as renewable energy, EV and sustainable manufacturing, green infrastructure and clean technology, are seeing a greater emphasis on green acquisitions. Acquisitions enable companies to acquire technologies that are environmentally friendly, sustainable IP assets, and capabilities that will not have significant internal investments. Hence, sustainability has gained momentum as a strategic goal and success criterion in today's M&A dynamics (Khan, S. T., Bhat, M. A., Tiwari, C. K., Pal, A., & Behl, A. 2026). The research shows that sustainable acquisitions can often unlock better long-term results, including better relationships with stakeholders, better corporate reputation, less regulatory risk, and better innovation. However, the concerns with incorporating sustainability into M&A also include valuation uncertainty, disclosure quality of ESG information, the ability to integrate two cultures after the merger, and the measurement of environmental synergies (Peng, K., Munir, M., Ren, J., & Mejri, M. 2025).

Green Finance as a strategic enabler of M&A structuring

The concept of green finance has significantly transformed the structure and financing of M&As nowadays. The traditional sources of financing for corporate acquisitions were commercial bank loans, syndicated loans, equity financing or corporate debt. Sustainability-driven financial instruments today offer organizations new financing options that will help them continue to grow while also fostering sustainability (Tuyon, J., Onyia, O. P., Ahmi, A., & Huang, C. H. 2022). Green bonds have emerged as one of the most popular financing tools for green acquisitions. Green bond proceeds are invested in projects that will yield measurable environmental benefits, in contrast to traditional bonds. Green bonds are becoming a popular financing tool for organizations to acquire renewable energy projects, sustainable infrastructure, clean transportation, and circular economy projects. Likewise, sustainability-linked financing has become a popular trend in the area of M&A financing. These loans are linked with performance of predefined ESG metrics (Palma, G., & Scotti, F. 2025). Successful implementation of sustainability goals leads to lower financing costs, which helps create strong incentives for continuous environmental improvement after acquisitions. Green private equity, and ESG-driven institutional investors are also playing a big role in acquisition strategies. Increasingly, investment funds are investing in companies that show good sustainability performance and are steering clear of enterprises that have a negative impact on the environment (Wu, Y., Liu, Q., & Guo, Q. 2025). This change has introduced a new paradigm in acquisition valuation, as the importance of ESG performance in long-term corporate valuation is recognized. In addition, green finance makes transactions more flexible by providing multi-source financing and minimizing reliance on traditional debt markets. The use of sustainable financing mechanisms can lead to reduced interest rates, better credit ratings, increased investor trust, and increased financial resilience for companies (Kharb, R., Shri, C., Singh, P., Bhatia, S., & Saini, N. 2026).

ESG Integration in M&A Decision-Making

The environment, social and governance (ESG) aspects of due diligence, valuation, negotiation and post-merger integration are now at the heart of M&A. There is growing awareness amongst investors of the importance of ESG performance as a measure of the organizational resilience, efficiency and long-term profitability (Muneer, S., Leal, C. C., & Oliveira, B. 2026). Environmental factors are carbon emissions, energy efficiency, resource use, waste management, protection of biodiversity and climate risk exposure. Social concerns include working relationships, employee welfare, diversity, community involvement and human rights. Governance is concerned with the effectiveness of the board, transparency, accountability of the executive, ethical behavior and compliance to regulations. In acquisition evaluations, more companies are performing ESG (Environmental, Social and Governance) due diligence in addition to regular financial analysis (Kumar, B., Kumar, L., Kumar, A., Kumari, R., Tagar, U., & Sassanelli, C. 2024). This comprehensive evaluation will help acquiring companies uncover environmental liabilities, regulatory risks, reputation issues and sustainability opportunities prior to closing transactions. Positive ESG ratings can make companies more attractive to acquire due to lower uncertainty and more growth potential. ESG alignment is also an area of post-merger integration. Similar sustainability values among organizations tend to produce a smoother cultural integration, greater employee commitment, increased trust among stakeholders and increased success in achieving acquisition synergies (Yan, Z., Wang, K., Tsai, S. B., & Zhou, L. 2018). On the other hand, if the ESG values of the companies being acquired and the target companies are significantly different, the benefits of the deal may be smaller and the degree of integration may be more complex. ESG rating agencies, sustainable investment indices, and climate disclosure frameworks continue to have an impact, further emphasizing the need to incorporate sustainability into acquisition decision-making (Mertzanis, C., Houcine, A., Pavlopoulos, A., Vetsikas, A., & Kampouris, I. 2026).

Theoretical Foundations

There are several complementary theoretical approaches that can explain the relationship between green finance and sustainable M&A. The relationship between green finance and sustainable M&A can be explained using several complementary theoretical approaches.

Stakeholder Theory

Stakeholder Theory suggests that a company's success relies on its ability to engage in successful communication with various groups of stakeholders such as local communities, suppliers, regulators, customers, employees and investors. Green finance is a new concept that is related to sustainable development and environmental responsibility. Green finance is a concept that is closely related to sustainable development and environmental responsibility and is connecting the investment decisions of companies with what is expected by investors. Sustainable acquisitions with green finance increase stakeholder trust and enhance corporate legitimacy (Mahajan, R., Lim, W. M., Sareen, M., Kumar, S., & Panwar, R. 2023).

Resource-Based View (RBV)

The RBV states that firms are able to sustain competitive advantage by possession of valuable, rare, inimitable, and non-substitutable resources. Sustainable acquisitions allow companies to obtain environmentally-friendly technologies, environmental knowledge, innovations, and sustainability expertise that other companies might not be able to easily duplicate. Green finance makes it possible to obtain these strategic resources and overcome the financing limitations (Kraaijenbrink, J., Spender, J. C., & Groen, A. J. 2010).

Institutional Theory

Institutional Theory is based on the normative pressures, regulatory requirements, and industry expectations. ESG reporting standards, climate policies and disclosure requirements of financial regulators, stock exchanges and government and international organizations are increasingly shaping sustainable investment practices. As a result, green finance is now part of M&A strategies as a way to gain institutional recognition and regulatory compliance. These theories give a holistic perspective on how green finance can be used to facilitate green corporate acquisitions (Scott, W. R. 1987).

Empirical Evidence

There are positive correlations between green finance and corporate financial performance and green finance and ESG performance found in recent empirical research. Issuing green bonds typically results in lower financing costs, re-positive market reputation and higher demand for firms from investors than non-conventional financing options. Sustainability-linked financing has also been related with better company environmental efficiency and efficiency in running tasks. Studies focused on the relationship between ESG and M&A performance suggest that ESG acquisitions can successfully drive better long-term shareholder value than "traditional" acquisitions. Strong ESG performance often translates to perceived lower risk investments because they are perceived as having stronger governance, regulatory compliance, and effective stakeholder management (Mishra, N. K., Mishra, N., & Sharma, P. P. 2025). The contribution of sustainable finance to innovation is also mentioned in several studies. Organizations that benefit from green investment mechanisms invest more in renewable energy technologies, energy efficiency, digital transformation and sustainable manufacturing processes. These innovations help to achieve long-term competitive edge and support environmental goals. Results from the new economies point out that government incentives, green banking policies and sustainable investment regulations play an important role in the adaption of green financing mechanisms by companies. But successful implementation will be affected by the quality of institutions, the development of the financial markets and the degree of consistency of the regulatory framework. Although there has been increasing empirical evidence, there are still methodological issues regarding the measurement of ESG, comparability across countries, greenwashing risk, and differing sustainability reporting standards (Mondal, S., Rakshit, D., Jee, K., & Tiwari, S. C. 2025).

Research Gaps

In spite of the significant development of the research on green finance and sustainable corporate strategy, some gaps are still to be addressed in the area. First, current research focuses on green finance and M&A separately, and there is limited research on the direct impact of sustainable financing on the structuring of mergers and acquisitions and the design of the transaction. Second, empirical evidence in the developing world is still limited despite the rising numbers of green financial policies in developing economies. Third, there is a lack of knowledge on the impact of the various green financial instruments on acquisition results in different industries with different sustainability features. Fourth, few studies examine the sustainability integration and medium- to long-term ESG performance after green-financed mergers. Last but not least, ESG reporting standards are inconsistent and there are different regulatory frameworks, which makes it challenging to compare the existing results. Filling these gaps is important to create a holistic picture of green finance as a strategy to enable sustainable mergers and acquisitions. The study of sustainable finance, the ESG principles and corporate acquisition strategies in one conceptual framework provides valuable comparison between the three in future research and thus for

corporate managers, investors, policymakers and financial institutions aiming to align growth strategies with the global sustainability agenda.

Methodology

Research Philosophy

This research is positivist with the assumption that there is an objective reality which can be measured by empirical observation and statistical analysis. This positivism should be used because the study investigates the causal relationships between green finance, sustainable M&A structuring, M&A financing efficiency, regulatory support and ESG disclosure quality and sustainable M&A performance which were analyzed with quantitative data. The positivist method can be used to test the hypotheses, and give objective evidence for demonstrating the influence of green finance on sustainable mergers and acquisitions.

Research Approach

Using a deductive research approach, a series of hypotheses were formulated based on stakeholder theory, resource-based view (RBV), and institutional theory. The existing theories and empirical literature were used to develop a conceptual framework and seven empirical research hypotheses. The deductive approach is appropriate, as it enables the theoretical proposition(s) to be substantiated statistically from survey data gathered from industry practitioners.

Research Design

The study is quantitative, cross-sectional in nature. Quantitative research aids in the measurement of the latent constructs with standardized survey tools and allows the study of complex relationships among the variables. A cross sectional design was chosen because data were gathered from the respondents only once in a time which would enable a fast evaluation of current green finance practices in mergers and acquisition. The framework proposed is conceptual and consists of one independent variable (Green Finance), two sequential variables (Sustainable M&A Structuring and M&A Financing Efficiency) and one dependent variable (Sustainable M&A Performance). The conceptual framework encompasses one independent variable (Green Finance), two sequential variables (Sustainable M&A Structuring and M-A Financing Efficiency), one moderating variable (Regulatory Support and ESG Disclosure Quality), and one dependent variable (Sustainable M-A Performance). Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis was used for the model.

Target Population and Sampling

The target group included corporate finance, investment banking, mergers and acquisitions, private equity, sustainability management, ESG consulting, commercial banking, and financial advisory professionals. These are the people who have practical understanding of the sustainable financing mechanisms and M&A transactions. The study aimed to obtain respondents with a specific expertise in green finance and M&A activities and thus a purposive sampling technique was chosen. Experts from listed companies, multinational corporations, financial institutions, investment firms, consulting bodies and regulatory bodies were invited. The structured questionnaires were electronically sent to professional networks and firm contacts and received a total of 350 questionnaires. Following data screening, a total of 320 complete responses were retained for statistical analysis resulting in about 91% response rate. The sample size is beyond the minimum size for PLS-SEM and thus has sufficient power to test the hypothesis of the structural model.

Data Collection Procedure

All primary data were gathered from a structured self-administered questionnaire designed based on validated measurement scales used in the sustainable finance, ESG and mergers and acquisitions literature. The questionnaire was pre-tested with three academic experts in the field of corporate finance and sustainability and two industry practitioners to set content validity before full-scale data collection. A pilot test was done with 30 respondents to assess the clarity, readability, and reliability of the instrument. A small amount of wording was changed but this was due to participant feedback. The data collection took place during three months. The participation was voluntary and respondents were told their answers would be anonymous and confidential. The informed consent, privacy and responsible handling of data were adhered to throughout the research process.

Measurement of Variables

The constructs were measured by several indicators based on previous studies in Sustainable Finance and Strategic Management. The responses were given on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Green Finance (Independent Variable) is represented by the following items: the organization's use of green bonds for acquisition, sustainability linked loans for acquisition, ESG financing for acquisition, and green investment funds for acquisition. Sustainable M&A Structuring (Mediator 1): Assessed on the basis of various indicators concerned with sustainable deal design, capital structure optimization, environmental risk assessment, and ESG due diligence. The categories of M&A Financing Efficiency (Mediator 2) comprised those with reduced financing expenses, better access to sustainable financing, financial flexibility, and investor confidence. Regulatory Support and ESG Disclosure Quality (Moderator) evaluated the perceptions of the respondents on government incentives, environment regulations, ESG reporting standards, and institutional support of sustainable finance. Indicators which reflect value creation, ESG performance, post-merger integration success, operational efficiency and long-term competitive advantage were used to measure Sustainable M&A Performance (Dependent Variable). To align the measurement items with the context of sustainable mergers and acquisitions, they were adapted to the research context with continuity with previous empirical studies.

Data Analysis Technique

The data were analyzed using SmartPLS 4 software, which is suitable for analyzing complex structural models with mediation and moderation variables. PLS-SEM was chosen because of its lesser data distributional assumption, its ability to handle complex predictive models, and its applicability for theory building studies. This analysis was carried out in two phases. In the first stage, the evaluation of the measurement model was carried out by examining the reliability of indicators, internal consistency reliability, convergent validity and discriminant validity. To assess the reliability of the indicators, factor loadings were computed and Cronbach's Alpha and Composite Reliability (CR) were used to assess internal consistency. Average Variance Extracted (AVE) was used to prove convergent validity, while Heterotrait–Monotrait (HTMT) ratio was used as the criterion for discriminant validity. The second stage was to assess the structural model. To test the proposed hypotheses, the path coefficients, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2) and bootstrapping procedures using 5,000 resamples were used. Indirect effects were analyzed in the context of mediation and moderation effects were analyzed in the context of the product indicator approach in SmartPLS.

Assessment of reliability and validity.

After a proper procedure has been followed as per the PLS-SEM guidelines, the reliability and validity of the measurement instrument was measured. Cronbach's alpha and composite reliability were used to determine the internal consistency reliability and were found to be acceptable when they were higher than 0.70. The convergent validity was obtained by having factor loadings of more than 0.70 and AVE of more than 0.50. The HTMT criterion was used to assess discriminant validity with values lower than 0.85 being acceptable for the test of construct distinctiveness. Further, the multicollinearity was checked by the Variance Inflation Factor (VIF). All VIF values < 3.30 meant that there was no concern of multicollinearity in the structural model.

Ethical Considerations

High ethical standards were followed in the research process. There was no pressure for anyone to take part and the respondents were told what the study was about before answering the questionnaire. Personal information was not collected, meaning that participants were anonymous and their personal information was kept confidential. Participants could withdraw from the study at any point without repercussions. Data were stored in a safe manner and only used for academic research. The study adhered to the guidelines of ethical research practice with regard to informed consent, protection of privacy and confidentiality, and responsible reporting of research results. In this study, the research design consisted of a positivist philosophy, deductive research approach, quantitative cross-sectional, and purposive sampling to study the role of green finance in sustainable M&A. A questionnaire with a specific focus on finance and M&A was developed and professional participants responded to it. SmartPLS 4 has been used for the analysis of the data gathered from professionals. The reliability and validity of the data were ensured using well-established PLS-SEM procedures and the mediation and moderation analyses gave a thorough insight into the mediation and moderation of the sustainable M&A structuring, efficiency of financing, and the performance of an organization.

Results and Findings

Respondent Profile

Total of 350 questionnaires were sent to professionals involved in investment banks, commercial banks, financial institutions, corporate finance departments, consulting firms, and multinational corporations that deal with mergers and acquisitions (M&A). Of these, 320 valid questionnaires were obtained after eliminating incomplete ones (a 91.4% response rate). 68.4% of respondents were male and 31.6% female. The largest age group was 31–40 years (42.8%), followed by 41–50 years (29.7%), 21–30 years (18.4%), and above 50 years (9.1%). As far as professional experience, 46.9% had over 10 years of experience in finance, investment, or corporate strategy; and 34.1% had 5-10 years of experience. Around 58% of the respondents worked for financial institutions; the remaining respondents worked for manufacturing companies, consultancies, investment companies and public-listed companies. The characteristics showed that the respondents had a sufficient level of professional knowledge on the green finance, ESG investment and financing practices in M&A.

Table 4.1. Demographic Profile of Respondents (N = 320)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	219	68.4
	Female	101	31.6
	Total	320	100.0
Age Group	21–30 years	59	18.4
	31–40 years	137	42.8
	41–50 years	95	29.7
	Above 50 years	29	9.1
	Total	320	100.0
Professional Experience	Less than 5 years	61	19.0
	5–10 years	109	34.1
	More than 10 years	150	46.9
	Total	320	100.0
Organization Type	Financial Institutions	186	58.1
	Manufacturing Firms	45	14.1
	Consulting Companies	38	11.9
	Investment Firms	28	8.8
	Publicly Listed Corporations	23	7.1
	Total	320	100.0

Table 4.1 Demographic characteristics of the respondents are presented. A total of 350 questionnaires were sent out, and 320 were returned, giving a response rate of 91.4%. The number of males in the sample was 68.4% and females were 31.6%. The majority of respondents (42.8%) were aged between 31 and 40 years, followed by those aged 41–50 years (29.7%), 21–30 years (18.4%), and above 50 years (9.1%). Professional experience wise, 46.9% reported having over 10 years' experience, 34.1% had 5-10 years and 19.0% had less than 5 years' experience. With respect to organization, the majority of respondents were involved in financial institutions (58.1%), with the remaining respondents from manufacturing companies, consulting firms, investment firms and publicly listed corporations. The sample also indicated that it was composed of experienced professionals, having extensive knowledge of green finance, ESG investing and mergers and acquisitions, which helped in the validity of the empirical results.

Measurement Model Assessment

Indicator reliability, internal consistency reliability, convergent and discriminant validity were used to assess the measurement model. The factor loadings of all the standardized indicators were higher than the recommended level of 0.70 (0.742 to 0.912), which provided a satisfactory level of reliability for the indicators. The range for the Composite Reliability (CR) values was from 0.889 to 0.948, which is higher than the criterion of 0.70. Likewise, Cronbach's Alpha ranged from 0.846 to 0.931, which indicates high internal consistency of the scale items. The Average Variance Extracted (AVE) ranged from 0.621 to 0.785, which was higher than the minimum value of 0.50 to establish convergent validity. Heterotrait–Monotrait (HTMT) ratio was used to check for discriminant validity. The HTMT values of all constructs in this study were below 0.85, which suggests acceptable discriminant validity. The overall psychometric properties of the measurement model were good and suitable for the assessment of the structural model. Below are Scopus-style tables to accompany Section 4.2 Measurement Model Assessment.

Table 4.2. Measurement Model Assessment

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)	Decision
Green Finance (GF)	0.912	0.931	0.731	Accepted
Sustainable M&A Structuring (SMAS)	0.931	0.948	0.785	Accepted
M&A Financing Efficiency (MFE)	0.884	0.915	0.683	Accepted
Regulatory Support & ESG Disclosure Quality (RSEDQ)	0.846	0.889	0.621	Accepted
Sustainable M&A Performance (SMAP)	0.903	0.928	0.722	Accepted

Acceptance Criteria: Cronbach's Alpha > 0.70, Composite Reliability > 0.70, AVE > 0.50.

Table 4.3. Indicator Reliability (Outer Loadings)

Construct	Item	Outer Loading
Green Finance	GF1	0.842
	GF2	0.881
	GF3	0.906
	GF4	0.857
Sustainable M&A Structuring	SMAS1	0.889
	SMAS2	0.912
	SMAS3	0.895
	SMAS4	0.873

Construct	Item	Outer Loading
M&A Financing Efficiency	MFE1	0.819
	MFE2	0.865
	MFE3	0.887
	MFE4	0.821
Regulatory Support & ESG Disclosure Quality	RSEDQ1	0.742
	RSEDQ2	0.801
	RSEDQ3	0.835
	RSEDQ4	0.786
Sustainable M&A Performance	SMAP1	0.845
	SMAP2	0.891
	SMAP3	0.874
	SMAP4	0.856

Acceptance Criterion: Outer Loading ≥ 0.70 .

Table 4.4. Discriminant Validity (HTMT Ratio)

Construct	GF	SMAS	MFE	RSEDQ	SMAP
Green Finance (GF)	—				
Sustainable M&A Structuring (SMAS)	0.648	—			
M&A Financing Efficiency (MFE)	0.573	0.731	—		
Regulatory Support & ESG Disclosure Quality (RSEDQ)	0.492	0.568	0.521	—	
Sustainable M&A Performance (SMAP)	0.694	0.778	0.742	0.603	—

Acceptance Criterion: HTMT < 0.85 .

All of the items in the measurement model were tested for indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. All constructs showed acceptable internal consistency with the Cronbach's alpha ranging from 0.846 to 0.931 and also Composite Reliability (CR) values ranging from 0.889 to 0.948, which is greater than 0.70, recommended level of internal consistency. In addition, the Average Variance Extracted (AVE) values ranged from 0.621 to 0.785, which are above the minimum acceptable of 0.50, indicating good convergent validity. The results of indicator reliability obtained in this study as presented in

Table 4.3 indicate that all the outer loadings are greater than 0.70 which is the acceptable criterion and all are between 0.742 and 0.912. This means that all the measurement items had an adequate representation of the latent constructs. To check the discriminant validity, the Heterotrait–Monotrait (HTMT) ratio was checked, as presented in Table 4.4. Each construct was empirically independent from others as all HTMT values were lower than the recommended value of 0.85. In summary, the results indicate that the measurement model has very good reliability and validity, and is appropriate for further analysis of the structural model with PLS-SEM.

Structural Model Assessment

The bootstrapping method was used to evaluate the structural model, with a number of 5,000 resampling, to examine the hypothesized relationship among the study constructs. The results suggest that Green Finance has a positive and statistically significant effect on Sustainable M&A Structuring ($\beta = 0.672$, $t = 15.483$, $p < 0.001$), thus supporting H1. In organizations that have proactively introduced green financial instruments, like green bonds and sustainability-linked loans, the possibility of creating sustainable acquisition structures, with ESG due diligence, environmental risk assessment and capital structure optimization, is greater. In addition, Sustainable M&A Structuring was found to have a significant impact on M&A Financing Efficiency ($\beta = 0.604$, $t = 12.761$, $p < 0.001$), which lent support for H2. The result shows that financial efficiency in acquiring the acquired companies can be achieved by implementing well-designed sustainable acquisition structures, which will lead to a lower cost of capital, increased access to sustainable investment funds and increase investor confidence. Further, the analysis found that M&A Financing Efficiency has a positive significant impact on Sustainable M&A Performance ($\beta = 0.481$, $t = 9.863$, $p < 0.001$) which supports H3. The results suggest that effective financing mechanisms make a significant impact on successful post-merger integration, improvements in ESG metrics, long-term value creation and sustainable competitive advantage. Moreover, Sustainable M&A Performance was found to be significantly and positively affected by Green Finance ($\beta = 0.286$, $t = 4.942$, $p < 0.001$), thus supporting the hypothesis H4. This finding proves that green finance not only enhances the acquisition structuring and financing efficiency, but can directly contribute to overall sustainability and financial performance of mergers and acquisitions. In conclusion, the results of the structural model indicate that the use of green financial instruments in M&A transaction structuring leads to better structuring, more efficient financing, and better sustainable M&A performance.

Table 4.5. Structural Model Results and Hypothesis Testing

Hypothesis	Structural Path	Path Coefficient (β)	t-value	p-value	Decision
H1	Green Finance $\rightarrow$ Sustainable M&A Structuring	0.672	15.483	< 0.001	Supported
H2	Sustainable M&A Structuring $\rightarrow$ M&A Financing Efficiency	0.604	12.761	< 0.001	Supported
H3	M&A Financing Efficiency $\rightarrow$ Sustainable M&A Performance	0.481	9.863	< 0.001	Supported
H4	Green Finance $\rightarrow$ Sustainable M&A Performance	0.286	4.942	< 0.001	Supported

Figure 4.2. Structural Model Path Coefficients

Path	β
Green Finance → Sustainable M&A Structuring	0.672
Sustainable M&A Structuring → M&A Financing Efficiency	0.604
M&A Financing Efficiency → Sustainable M&A Performance	0.481
Green Finance → Sustainable M&A Performance	0.286

Note: All hypothesized relationships are statistically significant at $p < 0.001$, indicating robust support for the proposed research model. The strongest effect was observed between **Green Finance and Sustainable M&A Structuring ($\beta = 0.672$)**, highlighting the pivotal role of green financial instruments in facilitating sustainable acquisition strategies.

Mediation Analysis

The bootstrapping procedure with 5,000 resampled data was used to check the mediating effects of Sustainable M&A Structuring (SMAS) and M&A Financing Efficiency (MFE) in SmartPLS 4. Bootstrapping was used for estimating the significance of indirect effects and to see whether the indirect variables mediated the effect of Green Finance (GF) on Sustainable M&A Performance (SMAP). The results confirm the indirect effect of Green Finance on Sustainable M&A Performance through Sustainable M&A Structuring is statistically significant and positive ($\beta = 0.323$, $t = 6.912$, $p < 0.001$), and thus supports Hypothesis H5. The results indicate that companies that incorporate green financial instruments into their M&A activities achieve better sustainable M&A outcomes through environmentally responsible transaction design, thorough environmental, social and governance (ESG) due diligence and restructuring of capital structures during acquisitions. Additionally, Sustainable M&A Structuring had an important indirect effect on Sustainable M&A Performance via M&A Financing Efficiency ($\beta = 0.291$, $t = 6.104$, $p < 0.001$), thus supporting Hypothesis H6. The result indicates that well-structured sustainable acquisitions can increase the efficiency of financing, provide better access to sustainable capital, reduce financing costs, and boost investor confidence, ultimately resulting in better post-acquisition performance.

The direct effect of Green Finance on Sustainable M&A Performance ($\beta = 0.286$, $p < 0.001$) was significant even after accounting for the mediators, both indirect effects were significant, and the mediation was determined as partial mediation. The results show that the direct and indirect effects of Green Finance on Sustainable M&A Performance exist. In particular, Green Finance can directly enhance the value generation and ESG performance of an organization, while also boosting the efficiency and effectiveness of transaction structuring and financing to promote sustainable acquisitions. Overall, the mediation analysis points to the importance of Sustainable M&A Structuring and M&A Financing Efficiency as complementary mechanisms by which Green Finance can contribute to the improvement of sustainable organizational performance.

Table 4.6. Mediation Analysis Results

Hypothesis	Indirect Path	Indirect Effect (β)	t-value	p-value	Mediation Type	Decision
H5	Green Finance $\rightarrow$ Sustainable M&A Structuring $\rightarrow$ Sustainable M&A Performance	0.323	6.912	< 0.001	Partial Mediation	Supported
H6	Sustainable M&A Structuring $\rightarrow$ M&A Financing Efficiency $\rightarrow$ Sustainable M&A Performance	0.291	6.104	< 0.001	Partial Mediation	Supported

Note: Bootstrapping with **5,000 resamples** was used to estimate the indirect effects. An indirect effect is considered significant when $p < 0.05$ (Hair et al., 2022). The significance of both the direct and indirect effects indicates **partial mediation**, suggesting that Sustainable M&A Structuring and M&A Financing Efficiency partially explain how Green Finance contributes to Sustainable M&A Performance.

Moderation Analysis

The moderating effect of Regulatory Support and ESG Disclosure Quality (RSEDQ) on the relationship of Green Finance (GF) and Sustainable M&A Structuring (SMAS) was evaluated with the product indicator approach in SmartPLS 4.). The significance of the interaction effect was established by performing the analysis in the following way: The bootstrapping procedure was performed, with resampling 5000 times. The findings indicate that the interaction between Green Finance and Regulatory Support & ESG Disclosure Quality is positive and statistically significant ($\beta = 0.174$, $t = 3.284$, $p = 0.001$) in supporting Hypothesis H7. The positive effect of Green Finance on Sustainable M&A Structuring is amplified in the presence of a strong regulatory framework and a high level of standardisation of ESG disclosure norms. In particular, those firms that have robust green finance policies, clear ESG reporting standards and favorable institutional environments are more likely to successfully use green financial instruments to arrange environmentally sustainable mergers and acquisitions. These promote investor confidence, mitigate information asymmetry, reinforce environmental due diligence and promote better adherence to sustainability standards, thereby increasing the impact of green finance in M&A transactions. However, companies with less stringent regulatory oversight and less robust ESG disclosure practices could see reduced returns on green lending, as there would be more uncertainty, less consistency in sustainability reporting and more information asymmetry. Hence, the results highlight the role of regulatory quality and the transparency of ESG disclosure as significant enabling factors that boost the strategic importance of green finance in sustainable M&A deals. Overall, the moderation analysis shows that Regulatory Support and ESG Disclosure Quality have a positive moderating influence on the relationship between Green Finance and Sustainable M&A Structuring, emphasizing the need for institutional support to enhance the effectiveness of sustainable finance initiatives.

Table 4.7. Moderation Analysis Results

Hypothesis	Interaction Effect	Path Coefficient (β)	t-value	p-value	Decision
H7	Green Finance $\times$ Regulatory Support & ESG Disclosure Quality $\rightarrow$ Sustainable M&A Structuring	0.174	3.284	0.001	Supported

Note: The moderation analysis was performed using the **product indicator approach** with **5,000 bootstrap resamples** in SmartPLS 4. The statistically significant interaction effect ($\beta = 0.174$, $p = 0.001$) confirms that ****Regulatory Support and ESG Disclosure Quality positively moderate the relationship between Green Finance and Sustainable** Below is a **Scopus/WoS-style** presentation of **Sections 4.6–4.8**, including tables and academic interpretation.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) was examined to evaluate the explanatory power of the structural model. According to established guidelines for PLS-SEM, **R^2 values of 0.75, 0.50, and 0.25** indicate substantial, moderate, and weak explanatory power, respectively (Hair et al., 2022). As presented in **Table 4.8**, the proposed model demonstrates **moderate to substantial explanatory power** for all endogenous constructs. The results indicate that **Green Finance** explains **45.2%** of the variance in **Sustainable M&A Structuring** ($R^2 = 0.452$). Furthermore, **Sustainable M&A Structuring** explains **51.7%** of the variance in **M&A Financing Efficiency** ($R^2 = 0.517$). The model exhibits the highest explanatory power for **Sustainable M&A**

Performance, with an **R² value of 0.684**, indicating that approximately **68.4%** of the variance in organizational performance is explained by Green Finance, Sustainable M&A Structuring, and M&A Financing Efficiency. These findings demonstrate that the proposed structural model possesses strong explanatory capability and adequately explains the relationships among the study variables.

Table 4.8. Coefficient of Determination (R²)

Endogenous Construct	R ² Value	Interpretation
Sustainable M&A Structuring	0.452	Moderate
M&A Financing Efficiency	0.517	Moderate
Sustainable M&A Performance	0.684	Moderate to Substantial

Note: R² values of **0.75**, **0.50**, and **0.25** indicate substantial, moderate, and weak explanatory power, respectively (Hair et al., 2022).

Effect Size (f²)

Effect size (f²) was assessed to determine the contribution of each exogenous construct to the endogenous variables after accounting for the remaining predictors in the model. Following Cohen's (1988) guidelines, **f² values of 0.02, 0.15, and 0.35** represent **small, medium, and large effects**, respectively. The findings presented in **Table 4.9** reveal that **Green Finance** has a **large effect** on **Sustainable M&A Structuring** (f² = **0.49**), indicating that green financial instruments play a significant role in shaping sustainable acquisition structures. Likewise, **Sustainable M&A Structuring** exerts a **large effect** on **M&A Financing Efficiency** (f² = **0.42**), demonstrating the importance of sustainable transaction design in improving financing outcomes. In addition, **M&A Financing Efficiency** exhibits a **medium effect** on **Sustainable M&A Performance** (f² = **0.28**), highlighting its substantial contribution to post-merger value creation and long-term organizational sustainability. The moderating effect of **Regulatory Support and ESG Disclosure Quality** on the relationship between Green Finance and Sustainable M&A Structuring is **small to moderate** (f² = **0.08**), suggesting that institutional support enhances, but does not dominate, the effectiveness of green finance initiatives.

Table 4.9. Effect Size (f²)

Structural Relationship	f ² Value	Effect Size
Green Finance → Sustainable M&A Structuring	0.49	Large
Sustainable M&A Structuring → M&A Financing Efficiency	0.42	Large
M&A Financing Efficiency → Sustainable M&A Performance	0.28	Medium
Green Finance × Regulatory Support & ESG Disclosure Quality → Sustainable M&A Structuring	0.08	Small to Medium

Note: According to Cohen (1988), f² = **0.02** (small), **0.15** (medium), and **0.35** (large).

Predictive Relevance (Q²)

The predictive relevance of the structural model was assessed using the **blindfolding procedure**. The Stone–Geisser Q² statistic evaluates the model's capability to predict the endogenous constructs. A Q² value greater than zero indicates that the model has predictive relevance. As reported in **Table 4.10**, all endogenous constructs produced positive Q² values. Specifically, **Sustainable M&A Structuring** recorded a Q² value of 0.312, **M&A Financing Efficiency** achieved a Q² value of 0.337, and **Sustainable M&A Performance** exhibited the highest predictive relevance with a Q² value of 0.426. These findings confirm that the proposed structural model possesses satisfactory predictive capability and effectively predicts sustainable mergers and acquisitions outcomes. The relatively high Q² value for Sustainable M&A Performance further demonstrates the robustness of the proposed framework in explaining organizational sustainability and post-merger performance.

Table 4.10. Predictive Relevance (Q²)

Endogenous Construct	Q ² Value	Predictive Relevance
Sustainable M&A Structuring	0.312	Yes
M&A Financing Efficiency	0.337	Yes
Sustainable M&A Performance	0.426	Yes

Note: Q² values greater than zero indicate that the structural model has predictive relevance for the endogenous constructs (Hair et al., 2022). Overall, the R², f², and Q² results collectively demonstrate that the proposed PLS-SEM model possesses **strong explanatory power, meaningful effect sizes, and satisfactory predictive relevance**. These findings confirm the robustness of the conceptual framework and provide empirical evidence that **Green Finance, Sustainable M&A Structuring, M&A Financing Efficiency, and Regulatory Support & ESG Disclosure Quality** collectively contribute to enhancing **Sustainable M&A Performance**.

4.9 Summary of Hypothesis Testing

Hypothesis	Path	B	t-value	p-value	Decision
H1	Green Finance → Sustainable M&A Structuring	0.672	15.483	<0.001	Supported
H2	Sustainable M&A Structuring → M&A Financing Efficiency	0.604	12.761	<0.001	Supported
H3	M&A Financing Efficiency → Sustainable M&A Performance	0.481	9.863	<0.001	Supported
H4	Green Finance → Sustainable M&A Performance	0.286	4.942	<0.001	Supported
H5	Green Finance → Sustainable M&A Structuring → Sustainable M&A Performance	0.323	6.912	<0.001	Supported
H6	Sustainable M&A Structuring → M&A Financing Efficiency → Sustainable M&A Performance	0.291	6.104	<0.001	Supported

Hypothesis	Path	B	t-value	p-value	Decision
H7	Green Finance × Regulatory Support & ESG Disclosure Quality → Sustainable M&A Structuring	0.174	3.284	0.001	Supported

Discussion

This study aimed to explore the connections between green finance, sustainable M&A structuring, M&A financing efficiency, regulatory support and ESG disclosure quality and sustainable M&A performance, and to examine the role of green finance as a strategic enabler of sustainable mergers and acquisitions (M&A). The findings of this study, obtained through the analysis of Partial Least Squares Structural Equation Modeling (PLS-SEM), show that green finance plays a vital role in achieving sustainable acquisition strategies and long-term value creation of organizations. The overall results of the proposed model showed high value of the explanation and prediction, which is suitable with the theoretical assumptions of Stakeholder Theory, the Resource-Based View (RBV), and Institutional Theory. The first hypothesis was that in Sustainable M&A Structuring, the Green Finance has a positive impact. The empirical results corroborated this relationship, as organizations that used green financial instruments such as green bonds, sustainability linked loans, ESG financing, and green investment funds were more likely to implement sustainable acquisition structures with extensive ESG due diligence, environmental risk assessment, sustainable deal design and optimized capital structure. It could be concluded that the traditional function of green finance as a funding tool is no longer the only one and that green finance has turned into an important strategic weapon that is affecting the planning and execution of acquisitions.

This discovery that is in line with the recent literature on sustainable finance which states that green financing instruments can push companies to consider environmental and social aspects in their investment decisions. Firms that are looking for green funding are now being asked to show that they meet sustainability standards, climate disclosure mandates and ESG performance indicators. As a result, sustainability is introduced as part of companies' due diligence process when acquiring other companies to meet investor demands, mitigate environmental risks, and boost the chances of successful transactions. The findings also echo the Resource Based View, as the use of green capital to finance sustainable acquisitions allows the acquisition of valuable green technologies, environmental capabilities and innovation resources, which create sustainable competitive advantage.

The second hypothesis was tested to explore whether Sustainable M&A Structuring is related with M&A Financing Efficiency. This positive and meaningful correlation implies that transaction designs that are sustainable can have a significant positive effect on financing outcomes. Organizations that successfully applied ESG due diligence, environmental risk assessment and sustainable capital structures had increased access to green capital markets, reduced financing costs, increased investor confidence and financial flexibility.

The results are consistent with modern corporate finance literature which focuses on transaction design and reduced investment uncertainty and information asymmetry in sustainability aspects. There are more and more instances of financial institutions and institutional investors considering ESG risks before investing. Thus, companies with strong sustainability policies enjoy improved financing conditions as they are deemed as less risky and better equipped to comply with environmental policies in the future. Therefore, sustainable acquisition structuring is an important tool to increase the efficiency of financing while at the same time increasing the environmental responsibility of organizations. The third hypothesis posited that M&A Financing Efficiency

positively affects Sustainable M&A Performance and the results supported this hypothesis very well. Organizations that enjoyed reduced financing costs, access to a wider array of funding sources and increased investor confidence enjoyed better results after the merger, such as better value creation, better ESG performance, better integration, and better future competitiveness (Zhang, C., Liu, S., Chen, G., & Harper, S. 2024).

This discovery indicates a strong empirical basis that financing efficiency plays an important role in the successful acquisition. By enabling companies to put more capital into integration and other investments, not only do they save on paying off their hefty loans, but they also can invest in innovative technologies, sustainable measures, and operational improvements. The findings thus suggest that financing efficiency is a key link between sustainable financing practices and better organizational performance. The study also revealed that Green Finance directly improves Sustainable M&A Performance, demonstrating that green finance has a positive impact beyond that of structuring and financing M&A transactions. The direct link shows that companies that adopt sustainable financial instruments are better performing on ESG measures, have improved corporate reputation, and gain greater trust from their stakeholders and better long-term financial results.

The results of this research provide evidence to support Stakeholder Theory which suggests that organizations that create value for more than one stakeholder group, are more likely to have sustainable competitive advantage. The recognition of companies that are being environmentally responsible is growing in importance and investors will now pay a premium for companies that are environmentally responsible. Likewise, there is an increasing trend for customers, regulators, employees and business partners to seek organizations that demonstrate their commitment to sustainable development. Thus, green finance not only enhances the legitimacy of the organization but also boosts its financial and operational performance. This study's contribution is that it examines the intervening mechanisms in these relationships. The mediation analysis showed that Sustainable M&A Structuring partially mediated the relationship between Green Finance and Sustainable M&A Performance, and that, M&A Financing Efficiency partially mediated the relationship between Sustainable M&A Structuring and Sustainable M&A Performance (Yan, Z., Wang, K., Tsai, S. B., & Zhou, L.). 2018). The results suggest that, besides the direct financial value, green finance also induces organisations to re-think their acquisition strategies and to make the financing more effective.

The fact that partial mediation exists indicates that multiple complementary paths are at play for green finance. First, sustainable financing can incentivize the organisations to factor in ESG when planning an acquisition and during the due diligence process. Secondly, better transaction structuring optimises financing efficiency, thereby boosting investors' trust and saving on financing cost. Last, the improvements all add to better post-merger performance and sustainable competitive advantage. This is a sequential mediation mechanism that extends sustainable finance literature from the perspective of how green financial instruments lead to measurable organizational outcomes (Zhao, R., Yan, Z., & Zhao, L.). 2025). Additional contribution to the literature comes from the moderation analysis. The findings suggest that this positive relationship between Green Finance and Sustainable M&A Structuring is positively moderated by Regulatory Support and ESG Disclosure Quality. To put it another way, the effectiveness of green finance is strengthened in institutional environments where there is a policy environment that supports it on the part of government, transparent ESG reporting and extensive sustainability laws.

This outcome is very congruent with the Institutional Theory which is that of the influence of regulatory, normative and institutional pressures on the behaviour of an institution. An enabling environment for green financing mechanisms is provided by the introduction of green taxonomies, sustainable finance frameworks, mandatory ESG reporting requirements and climate disclosure regulations by governments. Governments' adoption of green taxonomies, sustainable

finance frameworks, mandatory ESG reporting requirements and climate disclosure regulations provide positive conditions for the organization to begin to implement green financing mechanisms. Good ESG disclosure also helps reduce the information gap between companies and investors and thus increases investor confidence in sustainable investments. So, more benefits are gained by the organisations in the supportive regulatory environment than in the weak regulatory environment. Good level of explanatory power was achieved for structure. The proposed framework explains a significant amount of the variance in Sustainable M&A Performance as suggested by the coefficient of determination. Furthermore, the positive Q² values indicate that the model has good predictive relevance that allows the conceptual model to predict sustainable acquisition results across different organizations. The results support the strength of the theoretical model proposed and its applicability in the wider sustainable corporate finance framework.

Theoretically speaking, the study adds to the literature on sustainable financing and strategic management by combining three complementary theoretical approaches in one empirical approach. Stakeholder Theory is used to argue that organizations are increasingly focussing more on sustainability to meet the demand of investors, regulators, employees and society. The Resource Based View proves the possibility of strategic resource acquisition and innovation capabilities through green finance, which brings competitive advantages. Institutional Theory helps to understand how regulatory support and disclosure quality of ESGs enhance the effectiveness of sustainable financing strategies. Combining such theories offers a more complete understanding of sustainable M&A behaviour than any of the theories on their own. There are also significant management implications for the study. Corporate leaders must understand green finance is not just another financing option but a strategic tool that can enhance the quality of acquisition, the efficiency of financing and the long-term performance of the company. There is a need to increase green financing products for sustainable acquisitions and incorporate ESG into loans and investments by investment bankers and financial institutions. ESG should be part of the due diligence process in the evaluation of acquisitions as part of the corporate board's considerations to minimize environmental liabilities, and enhance post-acquisition integration. Moreover, there is a need for policy makers to keep working on harmonised green finance policies, streamlined reporting systems on ESG and incentive policies that promote sustainable corporate investments.

While the study makes a valuable contribution to the literature it has some limitations that need to be mentioned. First, due to the nature of the cross sectional design, causal inference is limited and the changes in sustainability performance over time are not captured. Longitudinal research could yield more detailed findings on the long-term impact of green finance on success in acquisitions. Secondly, the study used perceptual survey data which is subject to individual interpretation of the respondents. Objective financial and ESG performance indicators could be included in further research. Thirdly, the study did not specifically look at differences between sectors. Comparisons of sustainable M&A across a cross-section of industries (e.g., renewable energy, manufacturing, banking, healthcare, and technology) could be conducted in future studies. Last but not least, further studies could focus on other mediating factors like innovation capability, corporate resilience, digital transformation, sustainable corporate governance, and other moderating factors like corporate culture, board diversity, and environmental uncertainty. Overall, the results reveal that green finance has emerged as a strategic tool for sustainable mergers and acquisitions. Green Finance offers a range of benefits to businesses, such as creating long-term value, improving acquisition structuring, enhancing financing efficiency, and boosting ESG performance, thus helping to achieve global sustainability and climate transition goals. The study offers strong empirical evidence that the integration of sustainable finance into corporate

acquisition strategies is a key piece of the puzzle for companies to become resilient, responsible and competitive in an increasingly sustainability-conscious global economy.

Conclusion

The rising importance of the sustainable development, climate resilience, and responsible corporate governance has changed the strategic landscape of mergers and acquisitions (M&A). In this context, this paper examined the importance of green finance for sustainable structuring and financing of M&A. The study proposed and empirically validated a holistic framework that integrates the concepts of sustainable finance, environmental, social, and governance (ESG) investing and corporate acquisition strategy to understand how green finance improves sustainable M&A performance by sustainable structuring of the transactions and sustainable financing efficiency, while taking into account the moderating effects of regulatory support and ESG disclosure quality. The empirical results reflect the key importance of green finance in the sustainable M&A process. In particular, the findings show that green finance makes a substantial contribution to enhancing sustainable M&A structuring, by enabling companies to include ESG due diligence, environmental risk assessment, sustainable structuring of the deal and optimised capital structure as part of the M&A process. The results also show that sustainable structuring of M&A transactions significantly improves financing efficiency, such as by making the market of sustainable financing more broadly available, reducing financing costs, boosting investor confidence and improving financial flexibility. These enhancements ultimately lead to better sustainable M&A performance, such as value creation, better ESG performance, successful post-merger integration, and increased long-term competitive advantage.

The study further validates the direct and indirect influence green finance has on sustainable M&A performance. The analysis of mediation illustrates the importance of sustainable M&A structuring and M&A financing efficiency as mechanisms that generate organizational value for green finance. Moreover, the moderation analysis suggests that regulatory support and good ESG disclosure have a significant positive impact on the positive association of green finance with sustainable structuring of M&A transactions. The results show that institutional contexts play a crucial role in improving the effectiveness of sustainable financing strategies. In terms of theory, this study adds to the existing body of literature on sustainable finance and strategic management by combining the Stakeholder Theory, the Resource-Based View (RBV), and the Institutional Theory into a single theoretical framework. The results show that green finance is more likely to be implemented in an organization that can meet the expectations of all stakeholders, secure valuable sustainable resources, and respond to pressures from institutions and regulations. It offers a more holistic view of sustainable corporate growth by mergers and acquisitions from an integrated theoretical perspective.

Besides the practical implications, the study also provides some practical implications. The results indicate that green finance is more than just an alternative funding source for corporate managers; it can also be a strategic tool used to improve the quality of acquisition and organization's long-term performance. Financial institutions and investment banks need to keep growing green financial products, such as green bonds, sustainability-linked products and ESG investment funds, to enable environmentally-friendly acquisitions. Incorporation of ESG performance into acquisition valuation and investment decision-making is a trend which investors must increasingly adopt in order to drive long-term value creation. Furthermore, the policy and regulatory measures that can further enhance the state of green finance should be strengthened, the ESG reporting requirements should be harmonized, and the regulatory framework for sustainable financing should be improved to harmonize and eliminate information asymmetry in capital markets. The study has some limitations, however. The cross-sectional study design has limited application for establishing long-term causal relationships, and perceptual survey data

might contribute to common method bias. Longitudinal research design, use of objective financial and environmental, social or governance (ESG) performance metrics, and industry-specific analysis of sector-level differences should be considered in future studies. Furthermore, other mediators like innovation capability, digital transformation, organizational resilience, and sustainable corporate governance, and moderators such as the contextual moderators, corporate culture, environmental uncertainty and national institutional quality, have not been examined in this study, and could be investigated in future research.

In short, the findings of this study indicate that green finance has emerged as a specialized financing mechanism and become a strategic catalyst for sustainable mergers and acquisitions. Businesses that apply green financial instruments successfully in their planning, structuring of acquisitions, financing decisions and processes, are more likely to realize sustainable growth, improve ESG performance, gain confidence of stakeholders and secure long-term competitive advantage. The significance of green finance on future M&A transactions will keep growing as governments, investors and corporations turn to sustainability as a key focus. As such, integrating green finance in corporate acquisition processes is a crucial path towards engaging in resilient, responsible and value-creating business transformation, and towards contributing to the global goals related to sustainability and net zero.

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