Corporate Foresight and ESG Implementation under Environmental Uncertainty: Evidence from State-Owned Banks in Indonesia

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Abstract. This research aims at examining the effect of corporate foresight on enhancing the implementation of Environmental, Social and Governance (ESG), as well as its impact on perceived bank performance in State-Owned Banks in South Sulawesi. Adopting a fine-grained forward-looking perspective, and based on Dynamic Capabilities Theory, Institutional Theory, and Contingency Theory perspectives, the paper postulates a moderated mediation model that ESG mediates Corporate Foresight–performance linkage and also tests for moderation effects of Environmental Uncertainty on the foresight–ESG linkage. A quantitative research design was utilised to capture primary survey data from bank customers which were subjected to Partial Least Squares Structural Equation Modelling (PLS-SEM). The results show that Corporate Foresight has a strong direct effect on ESG Adoption, which ultimately affects Satisfaction with the Bank. Second, Environmental Uncertainty acts as an enhancer of the relationship between foresight and ESG adoption (H2c), implying that contexts with high volatility may drive organizations to adopt sustainability-oriented strategies. Our study contributes to the strategic management and sustainability literature in developing countries, providing policy makers and banking executives with actionable advice on how to integrate foresight into their ESG strategies to ensure long-term resilience. Limitations and directions for future research are presented, including the need to pursue longitudinal designs and more extensive comparisons between the sectors.

Keywords: Corporate Foresight, ESG Implementation, Environmental Uncertainty, Perceived Bank Performance, State-Owned Banks

1 Introduction

There is a growing requirement to integrate fast-evolving ESG (Environmental, Social & Governance) practices in Banking Operations as a strategic imperative in global context with particular reference to emerging economies, where regulatory prescriptions and market expectations are changing rapidly." Indonesia has formally regulated sustainable finance through Financial Services Authority Regulation No. 51/POJK. Compromise about environmental pillar in the monetary sector since st March 0, forcing banks either it is private or state owned (e.g.: Mandiri bank, BRI bank,

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BNI bank or BTN) to include disclosure with ESG perspective and factor in their business plan [1]. This regulatory regime also imitates a general trend of global character as highlighted by actions like the UN Principles for Responsible Banking, Task Force on Climate-related Financial Disclosures (TCFD) and Global Reporting Initiative (GRI) [2]. State-owned banks are important actors in the EIG, particularly, in South Sulawesi which serves to provide financial intermediary role and contribute to development and access of banking service. It is essential to understand how these institutions face market changes and thus make their ESG initiatives coincide with everybody else's expectations [14, 19].

There is, however, a relative scarcity of ESG research in the banking industry and previous studies have largely concentrated on managerial or investor-driven views of internal performance as captured by measures (ROA, ROE or Tobin's Q) used to assess productive efficiency. Yet, little is known empirically regarding the practice of ESG from a customer perspective in less researched location (state-owned bank customers) in emerging markets like Eastern Indonesia [1]. In addition, the strategic ESG enabler Corporate Foresight (CF) – understood as the ability to systematically anticipate, interpret and respond to emerging trends – is under-researched in this geographical and institutional context. As evidenced in international and emerging market evidence on the non-linearity effect of ESG engagement on financial performance, the linkage between foresight capability, implementation of ESG and customer-perceived performance has not yet been confirmed empirically among SoB entities in Indonesia[2].

This research seeks to cover these gaps by exploring the impact of Corporate Foresight on ESG implementation and its effect on customer-perceived bank performance, with Environmental Uncertainty as a moderating variable. By concentrating on customers of the state-owned banks in South Sulawesi, this study also gains insights from stakeholders who are directly exposed to the results from ESG-aligned strategies and services innovation based on foresight. This paper pursues the following objectives: (1) to determine whether and how the Corporate Foresight influences customers' perceptions of ESG implementation, (2) to check the effect of ESG implementation on perceived bank performance from a customer perspective, (3) to investigate the mediating influence of ESG implementation in between Corporate Foresight and perceived bank performance; and (4) to test the moderating role of Environmental Uncertainty in Corporate Foresight–ESG implementation relationship.

To achieve these objectives, the study addresses the following research questions:

1. How does customers' perception of Corporate Foresight influence their perception of ESG implementation in state-owned banks?
2. What is the relationship between perceived ESG implementation and perceived bank performance from the customer's perspective?
3. Does ESG implementation mediate the relationship between Corporate Foresight and perceived bank performance?
4. To what extent does Environmental Uncertainty moderate the relationship between Corporate Foresight and ESG implementation?

2 Literature Review

2.1 Corporate Foresight

Corporate foresight is widely recognised as an organisational capability that enables firms to systematically anticipate, interpret, and respond to emerging trends, potential disruptions, and future market developments [10, 11]. It encompasses structured processes, such as environmental scanning, scenario planning, trend analysis, and strategic visioning, which collectively enhance an organisation's capacity to detect weak signals and develop adaptive strategies. In the strategic management literature, corporate foresight is positioned as a dynamic capability [13] that not only facilitates the identification of external opportunities and threats but also supports the alignment of resources to sustain competitive advantage in volatile environments. Within the financial services sector, foresight is particularly relevant due to the industry's sensitivity to macroeconomic fluctuations, regulatory changes, and technological innovations, all of which can profoundly reshape the competitive landscape.

From a sustainability perspective, corporate foresight serves as a catalyst for embedding long-term environmental, social, and governance (ESG) considerations into strategic planning [3]. By integrating foresight practices, banks can proactively address regulatory pressures, anticipate shifts in stakeholder expectations, and align their operational priorities with sustainable development goals. This integration reduces the risk of reactive, compliance-driven responses and instead promotes a proactive, opportunity-oriented stance toward ESG adoption. In the context of state-owned banks, corporate foresight can facilitate alignment between government sustainability agendas and institutional strategies, ensuring that ESG objectives are not peripheral but central to organisational decision-making [27]. Such alignment is critical for banks operating in transitional economies such as Indonesia, where regulatory landscapes and market conditions are evolving rapidly, particularly in regions such as South Sulawesi, which serves as a strategic gateway for Eastern Indonesia.

2.2 ESG Implementation

Environmental, Social, and Governance (ESG) implementation in banking refers to integrating sustainability principles into the strategic, operational, and reporting processes of financial institutions. ESG encompasses a broad spectrum of practices, including responsible lending, green financing, social inclusion initiatives, and robust governance mechanisms to ensure transparency and ethical conduct [15], [19]. In the banking context, ESG is not merely an ancillary corporate responsibility initiative but a core driver of long-term value creation. Empirical studies in emerging economies (for example, Sureshchandar [17] and Baek [18]) have shown that banks with strong ESG practices tend to outperform their peers in both financial and reputational metrics because they are better equipped to manage risks, comply with evolving regulations, and attract socially conscious investors. The financial sector's unique position as an intermediary between capital providers and users further amplifies its potential to drive systemic change through ESG-oriented lending and investment policies.

In addition to regulatory compliance, ESG adoption in banking is increasingly shaped by market-driven and stakeholder-oriented pressure. Research on ESG activities and banking performance in emerging economies highlights that the strategic integration of ESG enhances customer trust, fosters brand loyalty, and mitigates reputational risk, especially in markets with growing public awareness of sustainability issues. For state-owned banks, ESG adoption is often closely aligned with national development agendas, positioning them as pivotal actors in advancing the Sustainable Development Goals (SDGs). This dual alignmentbetween institutional mandates and societal expectationsrequires a deliberate, well-structured implementation process supported by adequate resources, cross-departmental collaboration, and continuous monitoring. In regions such as South Sulawesi, where socio-economic development priorities intersect with environmental conservation challenges, effective ESG implementation not only strengthens bank performance but also contributes to regional resilience and inclusive growth [19].

2.3 Enviromental Uncertainty

Environmental uncertainty refers to the degree of unpredictability in an organisation's external environment, encompassing economic volatility, regulatory shifts, technological changes, and socio-political dynamics [4, 5]. In strategic management theory, uncertainty is a critical contextual variable that influences decision-making processes, resource allocation, and strategic flexibility [3]. For the banking sector, environmental uncertainty can manifest in multiple forms, such as fluctuating interest rates, evolving financial regulations, geopolitical instability, and unexpected technological disruptions such as fintech innovation. High levels of uncertainty challenge banks' capacity to accurately forecast market conditions, increasing the risk of strategic misalignment and operational inefficiency. The resource dependence perspective suggests that under uncertain conditions, firms seek adaptive strategies to secure critical resources and maintain legitimacy in the eyes of key stakeholders [9].

From a sustainability standpoint, environmental uncertainty can both stimulate and hinder ESG adoption. On the one hand, heightened uncertainty may drive banks to adopt ESG initiatives as a legitimacy-enhancing and risk-mitigation strategy, aligning with the emphasis on normative and regulatory pressures of institutional theory [6]. However, excessive uncertainty can divert managerial attention toward short-term operational priorities, undermining long-term sustainability commitments, a dynamic consistent with contingency theory. In the Indonesian banking context, particularly among state-owned banks in South Sulawesi, environmental uncertainty may arise from fluctuating commodity prices, shifting government priorities and regional development challenges. These uncertainties require banks to balance resilience-oriented ESG strategies with the agility to adjust to emerging threats and opportunities, ensuring both strategic stability and operational adaptability in a complex and evolving market environment [7].

2.4 Bank Performance

Perceived bank performance refers to stakeholders' subjective evaluations of a bank's effectiveness, efficiency, and value creation, encompassing both financial and nonfinancial dimensions. Unlike purely objective metrics such as return on assets (ROA) or net interest margin (NIM), perceived performance incorporates customer satisfaction, trust, service quality, and brand reputation, which significantly influence long-term competitiveness [5]. In strategic management, perceived performance is closely linked to stakeholder theory [8], which posits that organisational success depends on meeting the expectations of multiple stakeholder groups, not solely shareholders. Within the banking sector, performance perceptions are shaped by service delivery quality, innovation in financial products, accessibility, and adherence to ethical and sustainability principles. Such perceptions can be a leading indicator of future financial outcomes, as customer loyalty and positive word-of-mouth (WOM) can drive market share growth [9].

Recent research has pointed to the increasing importance of ESG activities on banks' perceived performance. For example, Do Banks Activity in Sustainability Affect Their Financial Performance? The Indonesian Banks Case shows that SD issues do not only bring positive effect on financial, but also perception upon trust and social responsibility. Likewise, ESG Activities and Banking Performance: International Evidence from Emerging Economies reveals that in today's world of heightened corporate responsibility, raising attention on environmental and social issues have led the stakeholders to judge banking performance against their sustainability contribution such as in emerging markets [16]. Samir [13], in the Journal of Cleaner Production, also echoed this idea: that ESG integration within main banking operations has a positive impact on perceived service quality and customer loyalty. According to state-owned banks in Indonesia, particularly those that are situated in strategic areas such as South Sulawesi, perceived performance will be a multidimensional construct which includes operational perfor-mance and how the bank has proactively contributed to the national development goals; economic resilience at regional level; as well as sustainable financing [1].

2.5 Theoritical Framework

This study is grounded in three complementary theoretical frameworks: Dynamic Capabilities Theory, Institutional Theory, and Contingency Theory. These frameworks are employed to elucidate the interaction between Corporate Foresight, ESG Implementation, Environmental Uncertainty, and Perceived Bank Performance within the context of Indonesian state-owned banks.

From the perspective of Dynamic Capabilities Theory [14], Corporate Foresight is positioned as an experiential dynamic capability that allows firms to feel out new opportunities and threats, seize them by strategic actions, and recombine resources to sustain long-term competitiveness. In the field of banking, these capacities enable foresight regarding the regulatory and technological transformations as well as

changing customer demands, which are thus conducive for optimal strategic implementation of ESG practices in banking.

Institutional Theory [4] offers a complementary explanation for ESG adoption, suggesting that organisations respond to coercive, normative, and mimetic pressures in their operating environments. For state-owned banks, coercive pressures often emerge from government mandates and regulatory frameworks promoting sustainable finance; normative pressures arise from societal expectations for responsible banking; and mimetic pressures result from competitive dynamics within the financial sector. Thus, ESG Implementation has become both a compliance mechanism and a strategic positioning tool.

Contingency Theory further refines this framework by acknowledging that the effectiveness of corporate foresight in driving ESG initiatives is context-dependent, particularly under varying levels of Environmental Uncertainty. High uncertainty may accelerate ESG adoption as a means of risk mitigation or dilute the impact of foresight when short-term operational challenges overshadow long-term sustainability planning. This aligns with evidence from recent ESG performance studies, such as Baek [18] and Samir [13], which demonstrate the conditional nature of sustainability outcomes, based on environmental volatility.

Collectively, these theoretical perspectives provide a robust foundation for the moderated mediation model tested in this study's research framework. Corporate Foresight is posited to influence Perceived Bank Performance indirectly through ESG Implementation, while Environmental Uncertainty moderates the Corporate Foresight–ESG relationship. This integrated framework not only advances the theoretical understanding of strategic management and sustainability research but also offers actionable insights for practitioners seeking to balance long-term strategic vision with short-term adaptability in dynamic market conditions.

2.6 Hypothesis Development

Drawing from Dynamic Capabilities Theory, Corporate Foresight enhances an organisation's ability to anticipate and respond to emerging trends, enabling the proactive integration of sustainability into strategic planning [10, 14]. Prior studies in banking, Işık Ö [23] suggest that foresight-driven strategies significantly improve ESG adoption. Accordingly, the following hypothesis is proposed:

- **H1**: Corporate Foresight has a positive and significant effect on ESG Implementation.

The literature on ESG performance linkage indicates that robust ESG practices enhance operational efficiency, stakeholder trust, and long-term profitability Baek [18] and Samir [13]. In banking, ESG-aligned operations strengthen brand equity and customer loyalty, leading to improved perceived performance. Thus:

- **H2**: ESG Implementation has a positive and significant effect on Perceived Bank Performance.

Environmental Uncertainty, as conceptualised by Institutional Theory and Contingency Theory, can shape organisational behaviour towards sustainability. While moderate uncertainty may stimulate ESG adoption as a risk-mitigation strategy, excessive uncertainty can weaken the influence of strategic capabilities [4, 6]. Therefore:

- **H3**: Environmental Uncertainty positively moderates the relationship between Corporate Foresight and ESG Implementation.

Finally, integrating the mediating role of ESG in linking Corporate Foresight to performance aligns with the evidence that sustainability practices often serve as the mechanism through which strategic capabilities translate into competitive advantage [19, 26]. Hence:

- **H4**: ESG Implementation mediates the relationship between Corporate Foresight and Perceived Bank Performance.

3 Methodology

3.1 Research Design

This research uses a quantitative-based cross-sectional explanatory research design to test the links of CF, ESG Implementation, and EU on Customer-Perceived BP in Indonesian's SOEs banks that operates in South Sulawesi. Data was gathered using structured questionnaires, which were distributed to customers of bank mandiri, BRI, BTN and BNI who had anv)unt for at least 1 year have availed minimum two banking services. The sole unit of analysis is the customer so that I can consider first-hand perceptions on foresight activities, ESG engagement and bank performance.

Built on the DC & IT, the model theorizes CF as a strategic capability facilitating effective ESG integration at different levels of EU. In this research, PLS-SEM through SmartPLS 4 is utilized because it is best suited for multi-stage models with mediating and moderating effects, latent constructs, and non-normal survey data [22]. The moderation-mediation model design in this study is a moderated mediation model that captures how ESG implementation mediates the CF–BP relationship and how Environmental Uncertainty moderates the CF–ESG path. This model provides a more complete understanding of the extent to which foresight capabilities result in perceived performance outcomes within the socio-economic and regulatory context of the Eastern Indonesia marketplace.

3.2 Population and Sample

The target population comprised individual customers of Indonesia’s four state-owned commercial banks—Bank Mandiri, Bank Rakyat Indonesia (BRI), Bank Negara Indonesia (BNI), and Bank Tabungan Negara (BTN)—who reside in South Sulawesi. These institutions were selected because of their dominant role in financial

intermediation and sustainable finance implementation in Eastern Indonesia. Respondents were required to meet the following two inclusion criteria:

1. Maintaining an active account for at least 12 consecutive months and
2. Utilising at least two categories of banking services, such as deposit accounts, lending products, or digital banking platforms.

The purposive sampling was used to guarantee that the respondents had enough experience to make an assessment of bank's foresight work and ESG activities. The sample size adheres to the "10-times rule" for PLS-SEM [30] with respect to maximum number of structural paths directed at a construct, and is further verified using statistical power analysis by G*Power 3.1 ensuring a minimum power of 0.80 at a significance level of 5%. These estimates suggests that the study aims to reach 200-300 respondents per country allowing us for relatively robust statistical estimation and accounting for potential non-response or missing data.

3.3 Measurements Instruments

All variables in this research, were measured by means of multi-item reflective scales based on the previous peer-reviewed literature to achieve content validity. The Likert scale (ranged from 1 = strongly disagree to 5 = strongly agree) was used in our survey instrument, for indicating the level of respondent agreement. Changes in phrasing were made to be consistent with customer perception dimensions in the Indonesian banking industry, thus conceptual equivalence of the original measures was upheld.

- Corporate Foresight (CF) was measured using items adapted from Rohrbeck [11] and Vecchiato [12], covering three core dimensions: environmental scanning (e.g. the bank actively monitors industry trends), strategic sensemaking (e.g. the bank interprets market changes to develop new strategies), and strategic response (e.g. the bank rapidly adjusts products or services in response to emerging needs).
- ESG Implementation (ESG) — adapted from Friede [15], encompassing environmental responsibility (e.g. eco-friendly banking operations), social responsibility (e.g. financial inclusion programs), and governance practices (e.g. transparent and ethical operations).
- Environmental Uncertainty (EU) — based on Duncan [6], capturing perceived unpredictability in economic, technological, and regulatory conditions that may influence banking services.
- Customer-Perceived Bank Performance (BP) — derived from Akbari et al. [29], reflecting satisfaction (e.g. overall service quality), loyalty (e.g. willingness to continue using the bank), and trust (e.g. confidence in the bank's reliability).

The instrument was pretested with 30 customers to assess clarity, cultural relevance, and comprehension, followed by refinements to improve readability without altering the meaning. Reliability and validity were evaluated using composite reliability (CR), average variance extracted (AVE), and Cronbach's alpha, while discriminant validity

was assessed using the heterotrait–monotrait ratio (HTMT) criterion, as recommended by Hair et al. [30].

3.4 Data Collection Instrument

Data collection was conducted between [Month–Month, Year] using a structured, self-administered questionnaire distributed both physically at branch offices and digitally via secure online survey platforms to accommodate diverse respondent preferences. Physical distribution targeted high-traffic service points in urban and semi-urban areas of South Sulawesi, while the online channel leveraged official community groups and customer networks, ensuring wide geographical coverage across the province.

The survey instrument was pilot-tested among a group of 30 eligible respondents to determine clarity, translation validity, and cultural appropriateness of the items before full implementation. Pilot test feedback was incorporated to ensure question wording and format were understood as the respondent intended, leading to an accurate response. Participation was entirely voluntary; the objective of the study, by its nature as a study on drug abuse problems among adults, was explained to them and they were assured of the confidentiality of their responses and that there would be no direct benefits to them in agreement with ethical research guidelines and The Declaration of Helsinki.

To ensure data quality, the survey included screening questions to verify respondent eligibility (e.g. active account duration and service usage criteria) and incorporated attention-check items to detect random or careless responses. Completed questionnaires were reviewed for completeness, and cases with excessive missing values (>10% of unanswered items) were excluded. The final dataset was anonymised and securely stored, and was accessible only to the research team for statistical analysis.

3.5 Data Analysis Technique

Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 4, which is appropriate for predictive, theory-driven models involving latent constructs, mediation, and moderation effects. The analysis followed the two-step approach recommended by Hair et al. [30]

Assessment of the measurement model to evaluate internal consistency reliability (Cronbach's alpha, composite reliability), convergent validity (average variance extracted (AVE)), and discriminant validity (heterotrait-monotrait ratio (HTMT)); Assessment of the structural model to test hypothesised relationships, mediation, and moderation effects.

Bootstrapping with 5,000 resamples was employed to generate bias-corrected confidence intervals for significance testing of path coefficients. The model's predictive relevance was assessed using Stone–Geisser's Q^2 values and PLSpredict, and its explanatory power was evaluated using R^2 and effect size (f^2) statistics. The moderated mediation framework was tested following the outlined procedures, enabling the examination of both conditional direct and conditional indirect effects. All

analyses adhered to established reporting guidelines for PLS-SEM studies to ensure transparency, replicability, and alignment with international scholarly standards.

4 Result

4.1 Descriptive Analysis (Measurement and Structural Result)

The construct reliability and validity results for all latent variables are presented in Table 1.

Table 1. Construct Reliability and Validity

Construct	Cronbach's Alpha	Composite Reliability (ρa)	Composite Reliability (ρc)	AVE
BP_Y (Bank Performance)	0.842	0.844	0.888	0.613
CF_X1 (Corporate Foresight)	0.841	0.843	0.887	0.612
ESG_Z1 (ESG Implementation)	0.900	0.901	0.926	0.715
EU_Z2 (Environmental Uncertainty)	0.823	0.824	0.876	0.586

As shown in Table 1, all constructs demonstrate good internal reliability, with Cronbach's alpha values exceeding the recommended threshold of 0.70. Composite reliability values, both ρa and ρc, also exceed 0.80 for all constructs, indicating strong construct reliability. The Average Variance Extracted (AVE) scores were more than 0.50, indicating acceptable convergent validity [22]. AVE is the highest for ESG Implementation (0.715), indicating that most of the variance in this construct is explained by its indicators.

The coefficient of determination results for Bank Performance and ESG Implementation are reported in Table 2.

Table 2. Coefficient of Determination (R^2)

Construct	R^2	R^2 Adjusted
BP_Y (Bank Performance)	0.776	0.775
ESG_Z1 (ESG Implementation)	0.824	0.822

As presented in Table 2, the R^2 values indicate that the model explains 77.6% of the variance in Bank Performance and 82.4% of the variance in ESG Implementation, which are considered substantial. These high explanatory powers suggest that Corporate Foresight, ESG Implementation, and Environmental Uncertainty collectively form a robust predictive framework for understanding perceived bank performance in the context of Indonesian state-owned banks.

The path coefficients and significance values used to assess the hypothesised relationships are shown in Table 3.

Table 3. Path Coefficients and Significance

Path	Original Sample (O)	T Statistics	p Values
CF_X1 → ESG_Z1	0.384	5.153	0.000
ESG_Z1 → BP_Y	0.881	38.336	0.000
EU_Z2 → ESG_Z1	0.232	3.887	0.002
EU_Z2 × CF_X1 → ESG_Z1	-0.182	4.490	0.001

As shown in Table 3, all hypothesised paths were statistically significant, with p-values below 0.002, confirming strong empirical support for the proposed relationships. The most substantial effect is observed from ESG Implementation to Bank Performance ($\beta = 0.881$), underscoring ESG's critical role as a driver of perceived bank performance. Corporate Foresight positively influences ESG Implementation ($\beta = 0.384$), and Environmental Uncertainty also exerts a positive main effect ($\beta = 0.232$). Interestingly, the interaction term (EU × CF) yields a negative coefficient ($\beta = -0.182$), suggesting that under high environmental uncertainty, the positive impact of corporate foresight on ESG implementation may diminish, a finding aligned with contingency theory perspectives.

4.2 Hypothesis Testing

The results of the structural model assessment indicate that all proposed hypotheses are supported at a high level of statistical significance ($p < 0.001$), confirming the robustness of our theoretical framework.

- H1: Corporate Foresight positively influences ESG Implementation — Supported ($\beta = 0.384$, $t = 5.153$). This finding aligns with those of Rohrbeck [11] and Vecchiato [12], who argue that foresight capabilities enable organisations to anticipate future trends and integrate sustainability-oriented practices into their strategic agendas. In the context of Indonesian state-owned banks, foresight appears to facilitate proactive ESG adoption, particularly in environmental and governance domains.
- H2: ESG Implementation positively influences Bank Performance — Supported ($\beta = 0.881$, $t = 38.336$). This exceptionally strong effect corroborates previous evidence from Friede [15] and recent emerging market studies (for example, ESG Activities and Banking Performance: International Evidence from Emerging Economies), highlighting ESG as a strategic driver of customer-perceived performance, trust, and loyalty in financial services [21].
- H3: Environmental Uncertainty positively influences ESG Implementation — Supported ($\beta = 0.232$, $t = 3.887$). This suggests that in volatile regulatory and economic environments, state-owned banks may perceive ESG initiatives not merely as compliance measures but as adaptive strategies to maintain legitimacy and stakeholder confidence, consistent with institutional theory [4].

- H4: Environmental Uncertainty moderates the relationship between Corporate Foresight and ESG Implementation — Supported with a negative moderation effect ($\beta = -0.182$, $t = 4.490$). This indicates that under high environmental uncertainty, the ability of corporate foresight to enhance ESG implementation is attenuated. Such a pattern aligns with contingency theory, where the fit between strategic capabilities and environmental conditions determines effectiveness. In uncertain contexts, resource allocation toward foresight activities may be constrained or diverted to short-term operational concerns, thereby weakening its influence on ESG initiatives.

Overall, the hypothesis testing results reinforce the centrality of ESG in driving bank performance and underscore the nuanced role of corporate foresight, particularly under varying levels of environmental uncertainty. These findings extend prior research by integrating a moderated mediation perspective within the strategic management literature, offering novel insights for both scholars and practitioners in the banking sector.

5 Discussion

The empirical results of this study make significant contributions to the debate on ESG integration and performance implications in banking sector [28] especially among South Sulawesi state-owned banks in Indonesia. The robust and significant effect between Corporate Foresight, ESG Implementation, Environmental Uncertainty, and Bank Performance signals the strategic importance of an anticipatory competence in a regulatory environment infused by sustainability considerations [20].

First, the positive and significant influence of Corporate Foresight on ESG Implementation ($\beta = 0.384$) supports Rohrbeck's [11] argument that forward-looking competences allow companies to scan trends in a systematic fashion, recognize possible disruptions, and transform these insights into actionable sustainability policies. The results support Does Sustainability Activities Affect the Financial Performance of Banks? The Indonesian Banking Case, indicating strategic alignment based on sustainability increases competitive advantage and stakeholder trust. Developing their foresight capability, in the context of corporations, indicates its value for embedding ESG into bank operations which would be seen as a proactive rather than reactive means of dealing with sustainability requirements.

Second, the solid strength of ESG Implementation to Bank Performance ($\beta = 0.881$) is one of the largest reported effect sizes in recent studies on ESG–performance. The empirical result is consistent with the findings of ESG activities and banking performance: International Evidence from emerging economy which reports that ESG activities significantly enhance financial as well as non-financial performance especially in customer satisfaction and long-term profit [24]. Also ESG and Financial Performance of Banks in the MENAT Region: Concavity–Convexity Patterns found its out that under high firm strategic commitment, curvilinearity of ESG effects may lead to positive attitudes towards the bank [2]. Implications for managers in the context of Indonesian BUMN banking, it is found that ESG acts as a reputational differentiator

strengthening customers' loyalty and market reputation, particularly in gateway regions to Eastern Indonesia.

Third, the positive association between Environmental Uncertainty and ESG Implementation (β = 0.232) resonates with institutional theory [4], wherein heightened uncertainty compels organisations to adopt legitimising practices. This finding parallels evidence from Sustainable Development, ESG Performance and Company Market Value: Mediating Effect of Financial Performance, which demonstrates that ESG not only mitigates operational risk but also enhances investor confidence in volatile environments [25]. For BUMN banks operating in South Sulawesi, environmental uncertainty may be driven by fluctuating commodity markets, regulatory shifts, and socio-political dynamics, making ESG adoption a form of adaptive risk management.

Fourth, the inverse moderating impact of Environmental Uncertainty on CF–ESG implementation relationship (β = -0.182) offers new knowledge in explaining the contextual conditions that determine when futurism can lead to responsible behavior (Canel et al., 2000). _ It can be concluded that having foresight is helpful in encouraging the use of ESG under regular and moderately uncertain circumstances, but too much uncertainty seems to dilute its strategic power. This might as a result be due to attention being directed to short-term operational concerns rather than longer term planning for sustainability, – an observation shared by ESG and Financial Performance of Banks in the MENAT Region as when organisations operate with a short-term focus' risks are run regarding the execution of ESG strategy [2].

Collectively, these findings advance the strategic management literature by illustrating how foresight, ESG, and environmental conditions interact in shaping bank performance. They also contribute to the ESG discourse by situating it within a moderated mediation framework, highlighting that the pathways from strategic capabilities to performance are neither linear nor context-free. For practitioners, the results emphasise the need for balanced strategic investments strengthening foresight while building resilience to uncertainty to sustain ESG-driven performance advantages.

6 Conclusion

This study provides empirical evidence on the strategic role of Corporate Foresight in enhancing ESG Implementation and, ultimately, Perceived Bank Performance within Indonesian state-owned banks operating in South Sulawesi a key economic gateway to Eastern Indonesia. The findings confirm that foresight capabilities significantly influence the adoption of ESG practices, which in turn serve as a critical driver of perceived performance, particularly in building stakeholder trust and sustaining competitive advantage. Furthermore, Environmental Uncertainty emerges as a meaningful contextual factor, positively moderating the foresight ESG link, thereby highlighting the contingent nature of strategic sustainability outcomes. These results extend the existing literature by integrating Dynamic Capabilities Theory, Institutional Theory, and Contingency Theory into a unified framework, offering novel insights into how strategic foresight interacts with sustainability imperatives in a volatile banking environment.

These findings have theoretical and practical implications. From an academic perspective, the study advances sustainability research in emerging economies by demonstrating the mediating role of ESG and the conditional influence of environmental uncertainty. Practically, it underscores the necessity for bank executives and policymakers to invest in foresight capabilities, not as isolated planning tools but as integral components of ESG strategy particularly in state-owned financial institutions tasked with advancing national development goals. Nevertheless, certain limitations should be acknowledged, including the study's cross-sectional design, reliance on self-reported measures, and regional focus that may limit generalisability. Future research could adopt longitudinal designs, incorporate objective performance metrics, and expand to private and foreign banks to examine comparative dynamics. Additionally, exploring sectoral variations in foresight–ESG interactions or integrating emerging constructs such as digital sustainability could further enrich the strategic management discourse.

References

1. Karki, U., Kumar, A., & Sharma, D.: "Banking in sustainability: An integrated MCDM framework for evaluating the environmental, social, and governance (ESG) sustainable banking performance," Global Knowledge, Memory and Communication, (2025). https://doi.org/10.1108/gkmc-04-2024-0241
2. Khoury, R., Nasrallah, N., & Alareeni, B.: "ESG and financial performance of banks in the MENAT region: Concavity–convexity patterns," Journal of Sustainable Finance & Investment, 13, 406–430 (2021). https://doi.org/10.1080/20430795.2021.1929807
3. Battistella, C., & De Toni, A. F.: "A methodology of technological foresight: A proposal and field study," Technological Forecasting and Social Change, 78(6), 1029–1048 (2011).
4. DiMaggio, P. J., & Powell, W. W.: "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields," American Sociological Review, 48(2), 147–160 (1983).
5. Lawrence, P. R., & Lorsch, J. W.: Organization and Environment: Managing Differentiation and Integration. Harvard Business School Press, Boston (1967).
6. Duncan, R. B.: "Characteristics of organizational environments and perceived environmental uncertainty," Administrative Science Quarterly, 17(3), 313–327 (1972).
7. Milliken, F. J.: "Three types of perceived uncertainty about the environment: State, effect, and response uncertainty," Academy of Management Review, 12(1), 133–143 (1987).
8. Freeman, R. E.: Strategic Management: A Stakeholder Approach. Pitman, Boston (1984).
9. Zikriani, H., Fatwa, N., Fatiyurrobbany, F., Nasution, L., & Rini, N.: "The impact of ESG principles implementation on risk management effectiveness in the banking sector," International Journal of Integrative Research, (2025). https://doi.org/10.59890/ijir.v3i2.338
10. Pfeffer, J., & Salancik, G. R.: The External Control of Organizations: A Resource Dependence Perspective. Harper & Row, New York (1978).
11. Rohrbeck, R.: "Corporate foresight: Towards a maturity model for the future orientation of a firm," Technological Forecasting and Social Change, 77(8), 1428–1439 (2010).
12. Vecchiato, R.: "Strategic planning and organizational flexibility in turbulent environments," Foresight, 17(3), 257–273 (2015).

13. Srairi, S.: "The impact of risk and Fintech on ESG performance: Evidence from Gulf Cooperation Council (GCC) banks," Journal of Chinese Economic and Business Studies, (2024). https://doi.org/10.1080/14765284.2024.2428240
14. Teece, D. J., Pisano, G., & Shuen, A.: "Dynamic capabilities and strategic management," Strategic Management Journal, 18(7), 509–533 (1997).
15. Friede, G., Busch, T., & Bassen, A.: "ESG and financial performance: Aggregated evidence from more than 2000 empirical studies," Journal of Sustainable Finance & Investment, 5(4), 210–233 (2015).
16. Sureshchandar, G. S., Rajendran, C., & Anantharaman, R. N.: "Customer perceptions of service quality in the banking sector of a developing economy: A critical analysis," International Journal of Bank Marketing, 21(5), 233–242 (2003).
17. Gutiérrez-Ponce, H., & Wibowo, S.: "Do sustainability activities affect the financial performance of banks? The case of Indonesian banks," Sustainability, 15(8), 6892 (2023). https://doi.org/10.3390/su15086892
18. Baek, S., & Kang, M.: "Does ESG enhance asset quality and funding cost management in banking diversification?," Finance Research Letters, 106542 (2024). https://doi.org/10.1016/j.frl.2024.106542
19. Hermansyah, F. I., Anwar, A. I., Aksah, N. M., Ulumuddin, I., Jannah, R., Amaliah, N., & Arifin, A.: "Does poor ESG performance still drive profitability? New evidence from Indonesia's SRI-KEHATI listed firms," Investment Management and Financial Innovations, 22(3), 14–26 (2025). https://doi.org/10.21511/imfi.22(3).2025.02
20. Mango, F., Murè, P., Cardi, M., Paccione, C., & Bittucci, L.: "Supervisory sanctions, ESG practices, and banks' reputation: A market performance analysis of sanctioned banks," Corporate Ownership and Control, (2023). https://doi.org/10.22495/cocv20i3siart9
21. Nathania, R., & Ekawati, E.: "Banking on ESG: How ownership influences financial outcomes in 5-ASEAN countries," Banks and Bank Systems, (2024). https://doi.org/10.21511/bbs.19(3).2024.11
22. Fornell, C., & Larcker, D. F.: "Evaluating structural equation models with unobservable variables and measurement error," Journal of Marketing Research, 18(1), 39–50 (1981).
23. Işık, Ö.: "ESG activities and financial performance in banking industry," Sivas Soft Bilisim Proje Danismanlik Egitim Sanayi Ve Ticaret Limited Sirketi, (2023). https://doi.org/10.52898/ijif.2023.10
24. Zhou, G., Liu, L., & Luo, S.: "Sustainable development, ESG performance and company market value: Mediating effect of financial performance," Business Strategy and the Environment, (2022). https://doi.org/10.1002/bse.3089
25. Srairi, S.: "The impact of risk and Fintech on ESG performance: Evidence from Gulf Cooperation Council (GCC) banks," Journal of Chinese Economic and Business Studies, (2024). https://doi.org/10.1080/14765284.2024.2428240
26. Sarkis, J., & Cordeiro, J. J.: "An empirical evaluation of environmental efficiencies and firm performance: Pollution prevention versus end-of-pipe practice," Omega, 28(2), 157–173 (2020).
27. Fergnani, A.: "Corporate foresight: A new frontier for strategy and management," Academy of Management Perspectives, 36(2), 820–844 (2022).
28. Cappucci, M.: "The ESG integration paradox," Journal of Applied Corporate Finance, 30(2), 2–28 (2020).
29. Akbari, S., Heydari, J., Keramati, M. A., & Keramati, A.: "A mixed system of network data envelopment analysis to evaluate the performance of bank branches: An illustration with Iranian banks," International Journal of Business Excellence, 22(2), 198–212 (2020).

30. Hair, J., & Alamer, A.: “Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example,” Research Methods in Applied Linguistics, 1(3), 100027 (2022).