

THE IMPACT OF ESG GOVERNANCE ON INNOVATION IN A HOUSEHOLD CHEMICALS COMPANY: THE MODERATING ROLE OF DYNAMIC CAPABILITIES

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Purpose: The main aim of the article was to identify and assess the mechanisms linking ESG governance with dynamic capabilities and innovations in a company operating in the household chemicals industry - ALTAIR Groupe

Design/methodology/approach: The study was exploratory and interpretive in nature. The research strategy employed was an in-depth case study of an organization in the household chemicals industry – GROUPE ALTAIR. Data triangulation was achieved using two complementary qualitative methods: in-depth interviews (IDI) and internal document analysis. The collected data were subjected to content analysis.

Findings: Research indicates that ESG governance does not directly influence innovation, but rather acts as a system of rules, filters, and criteria that triggers a chain of dynamic processes: sensing → seizing → reconfiguring. Only the reconfiguration process—including product redesign, process restructuring, formalization of new ESG structures, transformation of supplier relationships, and implementation of sustainable technologies—materializes previously identified and exploited opportunities in the form of innovation. This means that reconfiguring acts as a direct mediator between resource mobilization (seizing) and innovation outcomes, completing the mechanism consistent with the classic approach to dynamic capabilities.

Research limitations/implications: Due to the qualitative nature of the research conducted through a single case study, there is no basis for generalizing the conclusions to the entire industry. Future research should focus on validating the proposed ESG management–dynamic capabilities–innovation model in a broader organizational context. In particular, case studies and quantitative studies using structural equation modeling could confirm the mediating role of sensing, capturing, and reconfiguration capabilities. Longitudinal studies would also be valuable for examining the temporal and sequential nature of the identified chain reaction mechanism, whereby ESG governance stimulates sensing capabilities, which then trigger the processes of capturing, reconfiguration, and innovation.

Practical implications: The article provides recommendations for managers and decision-makers in the studied industry.

Originality/value: The article broadens the knowledge on the importance of ESG governance and dynamic capabilities for the development of innovation in a household chemicals company.

Keywords: dynamic capabilities, ESG governance, innovation, household chemicals industry, content analysis.

Category of the paper: Research paper, case study.

1. Introduction

Studies conducted across industries and regions confirm a strong, positive relationship between ESG performance and corporate innovation (Wu L. et al., 2025; Wu Y. et al., 2025; Van et al., 2025). Companies with higher ESG scores invest more in R&D, generate more patents, and achieve better sustainability performance (Dicuonzo et al., 2022; Zhou et al., 2023; Chen et al., 2023; Cabaleiro-Cerviño, Mendi, 2024; Tang 2022; De Medeiros et al., 2022; Sanclaudio et al., 2025; Sun, Zhang, 2025; Li et al., 2023; Broadstock et al., 2020). This relationship is particularly strong in manufacturing and other industries with a high environmental impact. Reasons for this include:

- Financial mobilization and access to resources: ESG practices help companies mitigate financial constraints, attract investment, and access the resources necessary for innovation (Tang, 2022; Li et al., 2023; Chen et al., 2023; Wang, Wang, 2024; Xu et al., 2026; Li et al., 2024).
- ESG governance and internal controls: Effective ESG governance and internal controls increase both the quantity and quality of innovation (Sanclaudio et al., 2025; Sun, Zhang, 2025; Wang, Wang, 2024).
- Stakeholder Engagement: ESG-driven companies are more responsive to stakeholder needs, leading to systematic innovation (Cabaleiro-Cerviño, Mendi, 2024; Lee, 2025).
- Supply Chain Collaboration: High ESG performance in customer companies increases the effectiveness of eco-innovation among suppliers, strengthening sustainability throughout the value chain (Huang et al., 2025).

Ownership structure and regulatory frameworks moderate the ESG-innovation relationship. The impact of ESG on innovation is stronger in family firms than in firms with other ownership structures (Sanclaudio et al., 2025; Sun, Zhang, 2025) and in regions subject to significant environmental regulations (Wang, Wang, 2024; Bothongo, Kinyar, 2025). Dynamic capabilities, defined as a firm's ability to adapt to a changing environment and integrate new knowledge, are also a significant moderator of this relationship. Generally, firms with higher dynamic capabilities achieve better ESG and innovation performance (Wang, Zang, 2026; Liang et al., 2025). Consumer preferences for sustainable products may motivate firms to innovate in line with ESG principles, further reinforcing the importance of dynamic capabilities in this context.

The research findings cited above provide valuable insights into the broader relationship between ESG governance, innovation, and dynamic capabilities, but they do not directly apply to the household chemicals industry. Meanwhile, this industry is undergoing significant changes in response to the Sustainable Development Goals (SDGs). Changing consumer preferences and increased regulatory activity are leading industry players to increasingly perceive green innovation as a way to avoid future compliance costs, reduce legal and reputational risk, differentiate products, and build customer loyalty.

Given the importance of the household chemicals industry to the global economy and its transformation toward sustainable development, it is justified to undertake research to understand the mechanisms of innovation in this industry, particularly the moderating role of dynamic capabilities between ESG governance and innovation.

The research problem was formulated as the following question: *What mechanisms link ESG governance with dynamic capabilities and innovation in the household chemicals company Groupe Altair?*

The general objective of this article is to identify and assess the mechanisms linking ESG governance with dynamic capabilities and innovation in a household chemicals company. Specific objectives are:

- O1: Identifying the impact of ESG governance on Groupe Altair's dynamic capabilities.
- O2: Diagnosing the mechanisms of the links between ESG governance, dynamic capabilities, and the process of creating and implementing innovation.

The research questions were formulated accordingly:

- Q1: How does ESG governance influence Groupe Altair's dynamic capabilities?
- Q2: What mechanisms link ESG governance, dynamic capabilities (sensing, seizing, reconfiguring processes), and innovation?

The following section highlights the importance of ESG and dynamic capabilities for the company's innovation. The research methodology, results, and conclusions are then described.

2. The importance of ESG and dynamic capabilities for enterprise innovation

Researchers' opinions on the role of ESG in innovation are divided. Some view this role positively, pointing out that ESG assessment not only supports regulatory compliance and risk management but also acts as a catalyst for strategic, sustainable innovation, enabling companies to improve their competitiveness and resilience (Dicuonzo et al., 2022; Zhou et al., 2023; Chen et al., 2023; Cabaleiro-Cerviño, Mendi, 2024; Tang, 2022; De Medeiros et al., 2022; Sanclaudio et al., 2025; Sun, Zhang, 2025; Li et al., 2023; Broadstock et al., 2020; Bothongo, Kinyar, 2025). ESG ratings provide a company with market connectivity, help reduce information

asymmetry between the company and external stakeholders, and stimulate the adoption of green technology innovations. Rayfield and Unsal (2022) analyzed the relationship between the creation of green patents by companies and environmental violations. Their study found that companies that violate environmental regulations tend to prioritize the creation of green patents in the long run. The high legal costs associated with environmental violations, as well as the associated reputational damage, may encourage companies to implement more green innovations.

There are also studies that present a skeptical stance towards ESG assessments in the context of green innovation. They conclude that implementing and disclosing ESG aspects facilitates greenwashing and public opinion manipulation and may require significant capital investments (Liu et al., 2022; de Silva Lokuwaduge et al., 2022; Yoo et al., 2024). Furthermore, innovation is undermined by excessive or inconsistent ESG activities (Broadstock et al., 2020; Lan, Zhou, 2024; Liu, Wang, 2025; Wu et al., 2025), as well as inadequate corporate governance practices (Amore, Bennedsen, 2016).

For organizations to thrive in a rapidly changing environment, they must possess dynamic capabilities. Teece (2007) divided dynamic capabilities into three repeatable, key strategic processes (so-called microfoundations):

- sensing – the ability to scan the environment and detect opportunities/risks; this includes monitoring regulations, analyzing market and environmental trends, and identifying new technologies;
- seizing – the ability to mobilize resources in response to identified opportunities; this includes making decisions about how to respond to ESG requirements, launching R&D projects, and reallocating resources to new initiatives;
- transformation – the ability to reorganize resources, structures, and processes; this includes, among other things, changing production processes, reorganizing departments, implementing sustainable technologies, and modifying product formulas.

The dynamic capabilities theory arose as a response to the limitations of the RBV (Resource-Based View) model, a resource-based approach to strategic management that assumes that the key to achieving sustainable competitive advantage lies in a firm's internal resources and competencies, not in analyzing the market environment. Dynamic capabilities emphasize the processes and activities that enable firms to renew resources and adapt to environmental changes (Bao-jie, 2010; Dasgupta, Sanyal, 2019; Altintas, 2025). This theory emphasizes the importance of innovation and the ability to organize resources to create new opportunities (Ahmadi, Arndt, 2022; Shevchenko et al., 2020). It assumes that firms must not only possess resources but also develop the ability to transform them in response to market dynamics (Tallman, 2015; Cavusgil, Deligonul, 2024).

Dynamic capabilities significantly influence innovation processes in organizations, especially in dynamically developing industries. They allow companies to recognize opportunities, seize them, and transform their operations accordingly (Hongjia, Bin, 2025;

Jácome et al., 2022). Companies that effectively manage their dynamic capabilities can quickly implement new technologies and innovate their product offerings (Gazzola, 2018; Kien et al., 2016; Fainshtein et al., 2024). The ability to continuously reconfigure resources allows companies to maintain competitive advantage by promoting a culture of incremental and breakthrough innovation (Jácome et al., 2022; Gazzola, 2018). Dynamic capabilities play a key role in increasing a company's competitive advantage. They enable organizations to create and protect intangible assets that contribute to long-term performance (Teece, 2007; Altintas, 2025). Companies with well-developed dynamic capabilities can not only adapt to change but also shape their business ecosystems through innovation and collaboration (Teece, 2007; Cadrazco-Parra et al., 2020). Xu et al. (2025) analyzed how ESG practices contribute to organizational resilience through the mediating role of dynamic capabilities and the moderating effect of embeddedness in social networks, achieved through board members' social capital. The study found that ESG effectiveness significantly enhances firms' dynamic capabilities, thus strengthening their resilience to external shocks. A stronger position in board members' social networks strengthens the link between ESG and dynamic capabilities.

The development of dynamic capabilities can be achieved by investing in the development of employees' skills and knowledge (Altintas, 2025; Jácome et al., 2022), encouraging them to cooperate cross-functionally (Tallman, 2015; Cavusgil et al., 2024) or finally implementing processes that support quick decision-making and resource reconfiguration (Fainshtein et al., 2024; Leyva-Tapia et al., 2024).

3. Methodology

The research conducted for this study adopted a qualitative paradigm, enabling the exploration of practices related to ESG, dynamic capabilities (sensing, seizing, reconfiguring), and innovation. This approach captures the complexity of the corporate context, industry conditions, and employee subjective experiences. The study was exploratory and interpretive in nature, assuming multiple perspectives and contextual determinants of phenomena. The research strategy employed was an in-depth case study.

Research Subject

The study was conducted at an organization in the household chemicals industry – GROUPE ALTAÏR. The choice of this entity was justified not only by the active implementation of ESG principles in daily operations, but also by the high degree of integration of corporate governance with the company's management and development processes.

An additional argument in favor of this company is its systematic research and development activities, enabling the observation of the impact of ESG practices on the process of generating and implementing innovation. The analyzed entity combines the achievement of business goals with responsible management, which creates the opportunity to identify mechanisms through which governance principles support the creation of new product, organizational, and technological solutions.

Access to management staff with knowledge of the company's management processes, ESG strategy, and innovation activities was also crucial. This ensured the ability to obtain in-depth qualitative data necessary to achieve the research objectives. The choice of GROUPE ALTAÏR can therefore be considered purposeful and consistent with the assumptions of selecting a typical case, enabling a detailed analysis of the relationship between ESG governance and the company's innovation performance.

Groupe Altaïr is a French industrial and commercial company operating in the household chemicals sector, founded in Lille, France, in 1946. It currently sells products in 45 countries, with the European market remaining its primary area of activity. Groupe Altaïr employs approximately 490 people and its annual revenues in 2025 were estimated at €190 million (Altaïr Group, ALTAIR Rapport RSE, 2026). The organizational structure is based on a model of distributed business units (Business Units), operating in various countries, including France, Poland, Spain, the Netherlands, and Belgium. Production processes are carried out in specialized industrial plants located in France (two facilities) and in Spain (one facility).

The group's core business is the development, production, and distribution of chemical products, including cleaning agents, surface care products, renovation products, and biocides. Groupe Altaïr's main brands are Starwax, Briochin, Marcel's Green Soap, and KPro.

An important direction of the company's development is the integration of sustainable development principles into its operational and strategic activities. This approach encompasses activities aimed at reducing the negative impact of its operations on the environment, including reducing CO₂ emissions, optimizing the use of raw materials, increasing the share of recycled materials, and eliminating potentially harmful substances (Altaïr Group, Substances Policy, 2024). Social and organizational aspects related to accountability to stakeholders and operational transparency are also taken into account.

Selection of respondents

The selection of respondents was purposive, aimed at obtaining the richest possible data. The respondents were people who are involved in ESG activities, participate in innovation processes, hold managerial positions, are familiar with procedures, processes and mechanisms related to management in the company and are able to describe specific innovation implementation processes (see Table 1).

Table 1.
Characteristics of respondents R1-R8

Respondent Code	Position	Gender M – male F – female	Seniority	Location PL – Poland FR – France
R1	CEO/President/Managing Director	M	30	FR
R2	Marketing & Innovation Director/Group Marketing Department	M	9	FR
R3	Chief Commercial Officer/CCO/Group Commercial Director	M	4	FR
R4	Brand and CSR Communication Manager/Group Marketing Department	F	9	FR
R5	Product Data & Codification Manager/Sales & Operations Planning Manager	M	9	FR
R6	Project Manager/Marketing Department	M	8	PL
R7	Regulatory Affairs Manager/R&D Departmen	F	20	FR
R8	Director of R&D/Regulatory & Compliance Director	F	7	FR

Source: Own work.

The study was based on triangulation of data sources. Two complementary qualitative methods were used: in-depth interviews (IDI) and analysis of internal documents (ESG and CSR policies, environmental and quality reports, operational procedures, R&D and innovation documents, audit and certification reports).

The primary method of data collection was interviews. Between February and April 2026, eight interviews were conducted with CEOs and senior and middle managers. Each interview lasted approximately 60 minutes. The interview script included a set of questions, including:

- 1) Personality questions (position held, tenure at the company, location).
- 2) ESG governance (ESG-related policies, procedures, standards, the role and responsibility of the board, and the impact of the micro- and macro-environment on ESG activities).
- 3) Dynamic Capabilities (Sensing – monitoring the environment, identifying signals and trends, responding to signals; Seizing – making decisions in response to ESG requirements, allocating resources; Reconfiguring – reorganizing, changing processes and technologies influenced by ESG).
- 4) Innovation (types of innovation, innovation process, effects of innovation).

Six interviews were conducted in English, two in Polish. The interview script was pilot-tested to ensure the terminology was understandable to the interviewees. Additionally, the main research constructs, i.e., ESG governance, dynamic capabilities, sensing, seizing, and reconfiguring, were explained during each interview. To ensure the quality of the empirical data, a multi-stage review of the interview transcription and translation process was conducted. The transcripts were verified by comparison with the source recordings. They were then translated from English into Polish, preserving the contextual meaning of the statements. Selected excerpts were also back-translated, which allowed for an assessment of the semantic consistency of the translations with the respondents' original statements.

To ensure the ethical nature of the study, consent was obtained from the company to collect data, participants were anonymized, sensitive data was not disclosed, and respondents were assured of the right to withdraw from the interviews at any stage. The recordings and transcripts obtained during the interviews are stored in a folder on a password-protected company computer.

Description of the Theoretical Model

The theoretical model adopted in this study assumed that ESG governance (X) influences innovation (Y) indirectly through the development of dynamic capabilities (M). This increases the need to seek information (sensing), requires rapid response (seizing), and forces the reconfiguration of resources (reconfiguring). The model assumes the mediation of dynamic capabilities in the ESG governance → innovation relationship (Figure 1).

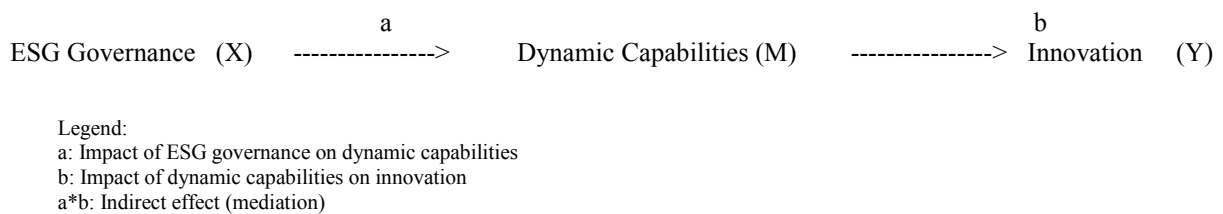


Figure 1. Mediation diagram.

Source: Own work.

"ESG governance" in the model refers to the part of corporate governance focused on managing environmental (E) and social (S) aspects, as well as corporate governance (G). It encompasses activities through which a company ensures accountability, transparency, and ethical conduct in managing its environmental and social impacts, as well as its finances. It combines classic corporate governance principles with broader sustainable development goals. The main aspects of ESG governance and their corresponding practices are presented in Table 2.

Table 2.
Main aspects of ESG governance and corresponding practices

ESG Governance Aspects	Example Practices
ESG Governance Structure	- Designating individuals/teams responsible for ESG. - Clearly allocating roles and responsibilities for achieving ESG goals within the organization.
ESG/Sustainability Strategy	- Setting goals and priorities in environmental, social, and governance areas. - Integrating the ESG/SR strategy with the business strategy.
ESG Policies/ Procedures/ Standards	- Environmental policies (e.g., CO₂ emission reduction, waste management). - Social policies (diversity, employee rights, relations with the local community). - Management ethics (anti-corruption policy, codes of ethics).
Monitoring and Reporting	- Measuring the effectiveness of ESG activities. - ESG reports for key stakeholders. - Audits and external assurance.

Cont. table 2.

ESG Compliance and Risk Management	• Identification and assessment of environmental, social, and governance risks. • Risk mitigation action plans.
Stakeholder Engagement	• Dialogue with key stakeholders. • Incorporating stakeholder opinions into strategic decisions.
Organizational Culture	• Implementing ESG values/principles/standards in the company's daily operations.

Source: Own work.

Data collected through in-depth interviews were subjected to content analysis according to Braun and Clarke (2024). This analysis comprised eight stages:

Stage 1: Transcription: Careful transcription of interview recordings, anonymization of data.

Stage 2: Preliminary reading and notes: First review of all transcripts, creation of analytical memos, and preliminary identification of themes and recurring themes.

Stage 3: Open coding: Assigning data fragments to preliminary descriptive codes.

Stage 4: Deductive coding: Organizing codes, consolidating duplicate codes.

Stage 5: Axial coding: Analysis of relationships between codes. Step 6: Selective Coding: Creating the main narrative themes.

Step 7: Data Triangulation: Comparison of data and information obtained through interviews and analysis of organizational documentation.

Step 8: Building the Research Narrative (Reporting): Writing down conclusions, presenting mediation mechanisms, illustrating process quotes (thick description), and answering the following questions: How does ESG shape dynamic capabilities? How do dynamic capabilities influence innovation? What does this look like in the specific context of the household chemicals industry?

4. Results

Through selective coding (Step 6), six main narrative themes emerged (Table 3), highlighting the roles played by ESG governance in the context of the surveyed company's innovation activities. Content analysis of the interviews indicates that ESG governance shapes the quality of management processes, transparency, strategic orientation, and a company's readiness to respond to environmental and social challenges. Strong ESG governance leads to the strengthening of dynamic capabilities, as it enhances an organization's ability to: detect changes in regulations, technology, and stakeholder expectations (sensing), transform environmental signals into investment decisions, set priorities, mobilize resources (seizing), and, ultimately, reconfigure products, processes, structures, and relationships with partners (reconfiguring). In turn, dynamic capabilities foster innovation.

Table 3.
Main themes of the narrative

Topic	ESG Governance Elements	Dynamic capability as a mediator	Intermediary activities	Innovations	Respondent Statements
ESG as a filter for market interpretation	ESG objectives, ESG KPIs, Green Impact Index, SBTi (Science Based Targets Initiative), customer expectations	Sensing	Monitoring customers, regulations, and environmental trends	Eco-friendly recipes, new packaging, plastic-free/refill products	R1: "The greatest pressure comes from customers. We work with large European groups, such as Castorama, Carrefour, and Rossmann, which have their own strong ESG policies. We feel the pressure from them and see that they care about us being well-regarded in this area". R4: "ESG acts as a strategic filter". R5: ESG enables the company to prioritize sustainable solutions in its decision-making process. R8: "The most important environmental signals are the SBTi project, which aims to reduce emissions, and the Green Impact Index, an indicator that demonstrates the company's environmental protection efforts towards consumers".
ESG as a criterion for project selection	Formalization of decisions, innovation committee, ESG KPIs, risk analysis	Seizing	Environmental scoring, business case, project goals, prioritization	Fewer innovations, but more significant, ESG-compliant ones	R2: "All innovations and product improvements must align with these three pillars. At the same time, innovation projects must deliver economic benefits to support the company's growth and long-term development". R3: "At each stage, the project is assessed based on performance, profitability, financial viability, and ESG contribution". R6: "ESG ensures that decisions are analyzed not only in terms of profitability, but also environmental compliance and the impact on the company's long-term image".
ESG as an impulse for product reconfiguration	Compliance, chemicals policy, LCA, certifications	Reconfiguring products	Reformulation, elimination of toxic substances, increasing the share of recyclate, life cycle assessment	Natural products, Ecolabel/Ecocert, recycled packaging	R5: "The latest innovations include: new production workshop and development of ECOLABEL/eco-friendly product recipes, recycled or lighter packaging, new raw materials".

Cont. table 3.

ESG as an impulse for process reconfiguration	Emission reduction, responsible sourcing, audits, transparency	Reconfiguring processes	Multimodal transport, change of suppliers, digitalization of documents, dosing optimization	Reducing waste, emissions, costs, increasing efficiency	R1: "We use a dedicated application, and most of our document flow is electronic. This saves paper, time, and energy. In recent years, solutions such as hybrid systems and investments in carports with solar panels have also emerged, which reduce energy consumption from external sources". R6: "We have implemented the ClickUp project and task management system, which streamlines communication and allows for monitoring task completion".
ESG as a mechanism for cooperation	Stakeholder relations, partnerships, suppliers	Seizing + reconfiguring relationships	Co-creation, co-branding, supplier selection, collaboration with laboratories	Open innovation,	R2: "...we have innovations developed internally, utilizing our laboratories and industrial capabilities. Secondly, we have co-creation with suppliers, where we ask them to develop a product for us because they have specialized knowledge. Thirdly, we have co-branding, where a partner has a good product and we contribute our commercial capabilities, so we develop together". R8: "The company is looking for partnerships aimed at reducing its carbon footprint".
ESG governance as a mechanism for shaping the quality of decisions	Management accountability, audits, reporting, compliance	Seizing	Additional reflection, environmental and regulatory risk analysis	innovations are introduced slowly but have high value	R3: "...ESG credibility takes years to build and can be lost very quickly. Therefore, decisions must balance economic pressures with long-term sustainability commitments".

Source: Own study based on research.

Respondents repeatedly emphasized that ESG governance is changing the way market signals are interpreted. Requirements imposed by Carrefour, Castorama, and Rossmann, the EcoCert system, the Green Impact Index, REACH monitoring, and CLP monitoring all support the earlier detection of innovation opportunities. R1 indicates that customer requirements are the first signal to initiate product changes, while ESG leads companies to interpret them more broadly, taking into account environmental impact. R3 indicates that the Green Impact Index has become an internal compass for product development. The assessment is based on an analysis of over 50 criteria covering the entire product life cycle, including: composition and biodegradability of the formula, origin of raw materials, CO₂ emissions, water consumption, packaging (weight, recycled content, recyclability), transport, and production

conditions. This is confirmed by Groupe Altaïr's sustainable development strategy, which stipulates that ESG (Environmental, Social, Governance) principles will be integrated into key management processes and innovation activities. ESG is considered a key factor in determining the development of products, processes, and stakeholder relations. This strategy is based on three fundamental pillars: Planet, Employees, and Consumers. In the Planet area, activities focus on reducing the negative impact of operations on the climate and natural resources, in particular by reducing CO₂ emissions and improving the environmental profile of products. The Employees pillar emphasizes the role of working conditions, skills development, and shaping organizational commitment. In the Consumers area, the importance of product safety, quality, and transparency is emphasized (Groupe Altaïr CSR Report 2024, Groupe Altaïr Manifesto: Corporate Social Responsibility. Our Commitments to Sustainable Development. Internal Company Document, 2024).

In the company's management model, ESG does not function as a separate area of activity, but rather as an element integrated with core organizational processes. In the environmental area, particular importance is assigned to reducing the carbon footprint across the entire value chain (scopes 1, 2, and 3 emissions), in line with international decarbonization guidelines, including the global Science Based Targets Initiative (SBTi). In governance, formalized management mechanisms, including codes of conduct, compliance procedures, and internal control systems, including whistleblowing solutions and anti-corruption policies, play a significant role. In the social area, the role of organizational culture and human capital development is emphasized.

ESG governance does not automatically generate innovation. First, it influences decision-making. R3 describes that every project has an ESG rating and is assessed by an innovation committee. Projects with a weak ESG profile struggle to achieve priority. Respondents repeatedly emphasized that a new product is not solely an R&D project. It becomes a project of the marketing, purchasing, finance, logistics, and compliance departments. Thus, ESG governance is a mechanism for collaboration, both internally and externally. The innovation process includes product lifecycle analysis, the implementation of eco-design principles, and the final evaluation of solutions. The company's innovation activity encompasses both product and process innovations. Key directions of innovation include the development of more environmentally friendly product formulas, the elimination of selected chemicals (e.g., through the use of internal lists of restricted ingredients), increasing the share of recycled materials in packaging, and reducing the use of plastics.

Interviews indicate that ESG governance forces the formalization and reconfiguration of processes. Evidence includes the emergence of electronic document flow, eco-friendly logistics processes, a change in means of transport, and new packaging processes. R1 describes the transition to multimodal transport, a change in logistics provider, and the elimination of plastic fillers. Analysis of organizational documentation confirms this statement. ESG principles have been incorporated into strategic documents and management systems, and responsibility for

their implementation has been decentralized and assigned to various management levels. At the same time, ESG requirements are being extended to business partners, including through codes of commercial relations covering environmental protection, business ethics, and supply chain responsibility. The company's operations emphasize the operationalization of ESG goals through the use of measurable indicators (KPIs) and analytical tools. Solutions that enable the assessment of the environmental impact of products throughout their life cycle, such as the Green Impact Index, are particularly important. These tools support decision-making processes and enable the incorporation of environmental criteria into product design.

ESG governance is considered a mechanism for ensuring the quality of decisions. Respondents R1, R3, R4 note that although ESG governance may slow down decisions, it also fosters the creation of significant innovations.

5. Synthetic Conclusions

The relationships revealed in the axial coding revealed three mediating mechanisms (Table 4). ESG governance, in particular its elements: ESG strategy, KPIs for monitoring the achievement of ESG goals, SBTi objectives, stakeholder management, and sustainable reporting, positively impact sensing. They enhance the organization's ability to detect changes in regulations, technology, and stakeholder expectations. Based on the identified signals, investment decisions are made, projects are prioritized, and resources are allocated (M1: Sensing → Seizing). These decisions lead to the reconfiguration of processes (e.g., multimodal transport, supplier switching, document digitization, dosing optimization), technologies (e.g., reformulation, elimination of toxic substances, increasing the share of recycled material, life cycle assessment), relationships with partners (e.g., co-creation, co-branding, supplier selection, collaboration with laboratories), and organizational structures (M2: Seizing → Reconfiguring). Reconfiguration enables the development of new products, processes, technologies and organizational solutions (M3: Reconfiguring → Innovation).

Table 4.
Mediation mechanisms

Mediation	Relation	Mechanism
	ESG Governance → Sensing	ESG enhances an organization's ability to detect changes in regulations, technology, and stakeholder expectations.
M1	Sensing → Seizing	Identified signals serve as the basis for investment decisions, project prioritization, and resource mobilization.
M2	Seizing → Reconfiguring	These decisions lead to the reconfiguration of processes, organizational structures, technologies, and relationships with partners.
M3	Reconfiguring → Innovation	Reconfiguration enables the development of new products, processes, technologies, and organizational solutions.

Source: Own study based on research.

Based on the identified mediation mechanisms, an integrated theoretical model was constructed (Figure 2). It presents a mediation mechanism in which ESG governance influences innovation through three dynamic capability processes: sensing, seizing, and reconfiguring.

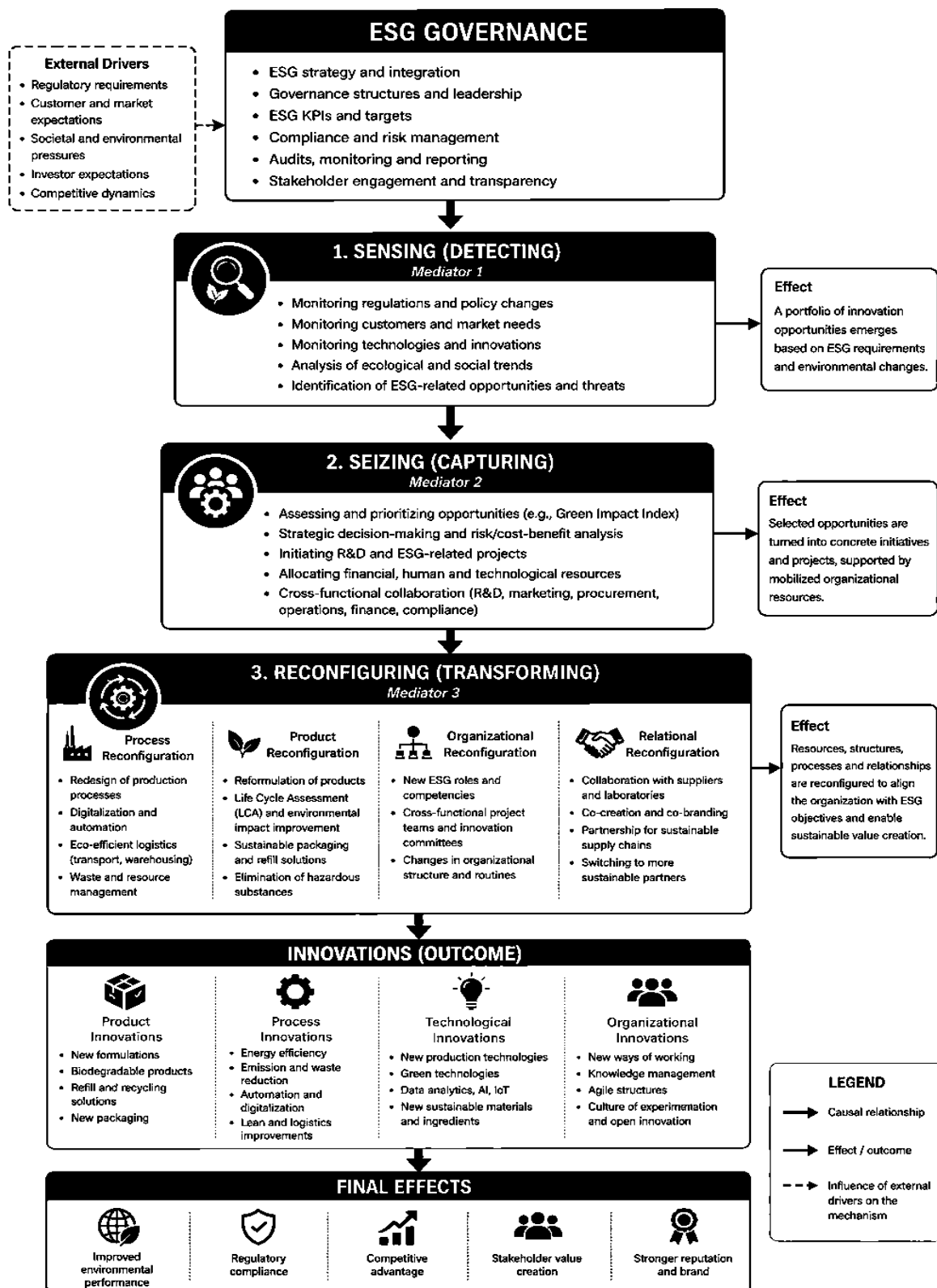


Figure 2. Integrated theoretical model.

Source: Own study based on research.

In summary, ESG governance does not directly influence innovation, but rather acts as a system of rules, filters, and criteria that triggers a chain of dynamic processes: sensing → seizing → reconfiguring. Only the reconfiguration process—including product redesign, process reengineering, formalization of new ESG structures, transformation of supplier relationships, and implementation of sustainable technologies—materializes previously identified opportunities in the form of innovation. This means that reconfiguring acts as a direct mediator between resource mobilization (seizing) and innovation outcomes, completing the mechanism consistent with the classic approach to dynamic capabilities.

The development of dynamic capabilities results in sustainable innovations that are compliant with regulations, market-reliable, and strongly aligned with customer expectations. Finally, it is worth mentioning that the sensing, seizing, and reconfiguring processes occur in parallel and iteratively. The boundaries between them are fluid, allowing the organization to simultaneously identify new opportunities, make decisions about their utilization, and reconfigure its resources and processes.

Research findings indicate that ESG management can have negative consequences for a company's decision-making and innovation processes. One of the most significant limitations is the increased time taken to make decisions. This stems from the need to consider a broader set of criteria, such as environmental compliance, social impact, stakeholder expectations, reputational risk, and corporate governance requirements. Decisions that were previously based primarily on economic and technological criteria now require additional analysis, consultation, and approvals.

A second negative consequence is increased organizational costs. Implementing ESG requires developing systems for monitoring, reporting, auditing, and documenting company operations. This includes the costs of hiring specialists, using external consulting services, implementing measurement tools, and adapting processes to regulatory requirements. As a result, some financial and human resources that could be directly allocated to research and development are instead allocated to implementing ESG requirements.

Another significant problem can be the increase in bureaucracy. Extensive compliance procedures, reporting obligations, and multi-step approval processes can limit an organization's flexibility. In practice, this means that innovative projects must undergo a greater number of formal assessments, committees, and oversight processes. This can slow down the pace of experimentation, hinder the rapid testing of new solutions, and weaken the organization's ability to respond to market changes.

ESG management can also exacerbate risk aversion. Fearing negative stakeholder assessments, regulatory risk, or accusations of greenwashing, companies may avoid projects that are more radical, uncertain, or difficult to clearly assess in terms of their environmental and social impact.

The negative impact of ESG can also be seen in the number of innovations implemented. If every project must meet numerous environmental, social, and governance criteria, some potential initiatives may be rejected at an early stage. This is particularly true for projects that are technologically or commercially promising but do not align with ESG criteria. As a result, a company may limit its innovation portfolio, reducing the diversity of experiments and potential development directions.

6. Conclusion

The conducted research enabled us to solve the research problem and achieve the established research goals. We identified the impact of ESG governance on dynamic capabilities in a company operating in the household chemicals industry, and we identified the mechanisms of connections between ESG governance, dynamic capabilities (sensing, seizing, and reconfiguring), and innovation. Due to the qualitative nature of the research, conducted through a single case study, there is no basis for generalizing the findings to the entire industry.

Further research is needed to deepen our understanding of the mechanisms linking ESG governance, dynamic capabilities, and corporate innovation. Initially, it is advisable to conduct quantitative research on a larger sample of companies representing various economic sectors. The use of structural equation modeling (SEM) would enable us to verify the proposed theoretical model and assess the strength and direction of the relationship between ESG governance, dynamic capabilities, and innovation outcomes. Confirming the mediating role of the capabilities of sensing, seizing, and reconfiguring resources would be particularly important.

Another avenue of research should be longitudinal studies, allowing for the observation of changes occurring in companies over several years. This approach would enable us to analyze the sequential nature of the processes in which implementing ESG governance principles leads to the development of dynamic capabilities, and subsequently to the emergence of product, process, organizational, and marketing innovations. Such studies could also identify time lags between the implementation of specific ESG practices and the achievement of innovation outcomes.

It is also worthwhile to expand the scope of research to include analysis of contextual moderators. Factors such as company size, ESG maturity level, R&D intensity, an organizational culture that supports innovation, top management commitment, the level of company digitalization, as well as regulatory pressure and stakeholder expectations may be of particular interest. These factors can either strengthen or weaken the impact of ESG governance on the development of dynamic capabilities and innovation outcomes.

Another important area for further research is the analysis of feedback loops. Future research could verify whether achieved innovations contribute to the further development of ESG practices and the strengthening of an organization's dynamic capabilities. This would allow for a better understanding of the bidirectional nature of the relationship between ESG and innovation.

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