

## SUSTAINABILITY AWARENESS IN INDONESIA'S OIL AND GAS SECTOR



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### Abstract

PT XYZ, the largest oil and gas producer in Indonesia, demonstrates its commitment to sustainability through initiatives such as a zero-flaring target and renewable energy projects. However, its ESG Risk Rating increased from 20.7 to 26.7 (medium risk), indicating challenges in managing environmental and social aspects that may relate to internal sustainability awareness. This study evaluated the sustainability awareness of working-level employees using the levers of control framework, with a focus on belief systems and stakeholder theory. A mixed-methods approach was employed, combining quantitative data from surveys of 75 employees and qualitative insights from semi-structured interviews with management. The analysis covered understanding of sustainability concepts, belief systems implementation, and awareness of the triple bottom line dimensions. Findings showed that belief systems communication had enhanced awareness to a moderately high level, though broader and more systematic education is needed to strengthen awareness across the organization.

## INTRODUCTION

In recent decades, sustainability has evolved from a peripheral concern to a central strategic imperative for businesses across sectors. Organizations are now expected not only to pursue financial performance but also to demonstrate accountability in social and environmental domains (Özer et al., 2024). This shift was largely driven by global public awareness, policy interventions, and stakeholder pressure—fueled by environmental advocates such as Sir David Attenborough and Greta Thunberg, as

well as binding agreements like the Paris Agreement (Gbangbola & Lawler, 2020). As a result, companies increasingly adopt frameworks such as the Triple Bottom Line (Nogueira et al., 2025).

The Triple Bottom Line emphasizes that companies must balance profit, planet, and people to ensure long-term sustainability. Corporate Social Responsibility (CSR) programs served as its practical implementation (Arviana & Wibisono, 2023). Beyond compliance, sustainability was also increasingly framed as a business case, where addressing social and environmental challenges simultaneously generated economic value (Schaltegger et al., 2019). This perspective reinforces stakeholder theory by positioning sustainability as both a normative responsibility and a source of competitive advantage.

While many companies have made progress in ESG disclosures and environmental strategies, the internalization of sustainability values among employees remains underexplored (Sen et al., 2023). Much of the existing literature has primarily concentrated on top-level commitments, corporate policies, and reporting frameworks. Furthermore, although organizations frequently referred to the 2030 Agenda and the SDGs in their sustainability reports, the extent of concrete implementation was often limited (Mura et al., 2024). What was frequently overlooked, however, was how these values were understood and enacted at the operational level by employees who were ultimately responsible for executing sustainability initiatives (Garbie, 2015). Evidence from both the Americas and Asia further indicated that increased corporate attention to sustainability had not yet been fully matched by the integration of these values into day-to-day business practices (Okeke, 2021). Taken together, these findings suggest a persistent gap between strategic intent and employee-level implementation.

In Indonesia, this transition is formalized through national regulations such as Law No. 16/2016 and Presidential Regulation No. 59/2017, which underscore alignment with the Sustainable Development Goals (SDGs). Sustainable development constitutes a critical global imperative for contemporary business practices, necessitating not only the pursuit of economic objectives but also the careful consideration of environmental and social consequences. Achieving this balance is essential for ensuring long-term corporate resilience, aligning business strategies with societal expectations, and contributing to the broader agenda of global sustainability (Hu & Zeng, 2024). For industries with significant environmental footprints, such as oil and gas, the pressure to internalize sustainability is even more pronounced. According to Statistics Indonesia, the mining sector was the second-largest emitter of greenhouse gases in the country, emphasizing the urgent need for systemic change in corporate practices (Statistik, 2024).

The excessive use of fossil fuels generates pollutants that not only pose a global concern due to waste accumulation but also increase the risks of air and water contamination, leading to the spread of severe diseases (Haruna et al., 2023). If not properly managed, emissions from fossil fuel combustion can have severe environmental consequences. Environmental degradation was an inherent outcome of oil and gas exploitation (Mohd Noor, 2021), with numerous documented cases of oil spills, land degradation, fires, occupational accidents, and water and air pollution. The release of unused gases affects the ozone layer, while CO<sub>2</sub> emissions contribute to the greenhouse effect, accelerating global warming and climate change. This places primary responsibility for emission mitigation on production management.

In this context, PT XYZ illustrates how sustainability efforts are operationalized in Indonesia's oil and gas sector. As one of the nation's major fossil fuel producers, the industry contributes a significant portion of national carbon emissions, amounting to 16,144 Gg CO<sub>2</sub>e, second only to agriculture, forestry, and fisheries (Statistik, 2024). Globally, fossil fuels contributed to nearly 87% of energy consumption, with natural gas accounting for 25% of the total energy supply (Association, 2025). This underscores the need for the sector to adopt sustainability principles to mitigate environmental impacts and promote responsible business practices.

PT XYZ offers a relevant case for examining the gap between corporate sustainability commitments and operational execution. Although the company has advanced in sustainability disclosure and emission reduction strategies, the extent to which sustainability principles are embedded at the employee level remains unclear. Empirical evidence showed that operational workers often lacked clarity about CSR responsibilities due to ambiguous communication and inconsistent procedures (Kwarto et al., 2023), whereas most studies continued to focus on governance and reporting, leaving

frontline awareness largely underexplored (Burhany et al., 2024). To address this gap, this study applies levers of control, emphasizing belief systems as mechanisms that communicate core values and foster long-term behavioural commitment (Simons, 1994). Strategic vision, understood as top management's perspective on long-term objectives and the optimal product–market–customer concept, guides the embedding of sustainability into organizational practices (Thompson et al., 2022). When internalized, belief systems can align corporate strategies with employee behaviour. However, few empirical studies have examined their role in driving sustainability internalization in resource-intensive and high-risk industries such as oil and gas, where behavioural alignment is critical to success.

Accordingly, this research integrates Simons' framework with stakeholder theory to examine how belief systems influence sustainability awareness among operational-level employees at PT XYZ. By focusing on employees as primary social stakeholders, the study aims to offer both theoretical and practical insights into how internal mechanisms can reinforce ESG objectives in complex industrial environments. In line with stakeholder theory, organizations are expected to balance financial goals with social and environmental responsibilities (Julita et al., 2025). Based on stakeholder theory, companies operated not only for the benefit of shareholders but also provided benefits to society and the environment (Freeman, 2010). Stakeholders gave full support to companies that carried out Triple Bottom Line disclosure practices effectively, thereby enabling the achievement of long-term value creation (Arviana & Wibisono, 2023). Company management, therefore, needs to be aware of the expectations of stakeholders, who are currently not only focused on profit or financial performance (Lina and Devyanti, 2024).

Based on the above discussion, the study is guided by two primary research questions. First, to what extent are sustainability values internalized by operational-level employees at PT XYZ? Second, how do belief systems influence sustainability awareness within the organizational context of a high-risk and resource-intensive industry? Furthermore, to guide the empirical investigation, belief systems are treated as the independent variable, while sustainability awareness among employees serves as the dependent variable.

As Indonesia's largest oil and gas producer, PT XYZ plays a significant role in both national energy security and environmental sustainability. While its operations contribute substantially to state revenue, the company also bears responsibility for addressing environmental impacts such as emissions, spills, and pollution. In response, PT XYZ has set ambitious targets, including zero flaring by 2030 and CO<sub>2</sub> emission reductions of 28,444 tons in 2023, supported by solar energy initiatives.

Table 1. ESG Risk Rating PT XYZ

Material ESG Issues	Risk Score			
	2021	2022	2023	2024
Carbon products and services	4.3	4.8	4.7	5.9
Carbon-own operations	4.5	4.3	3.6	4.5
Emissions, effluents and waste	6.5	3.0	2.1	3.5
Occupational health and safety	2.0	2.5	2.5	3.4
Business ethics	0.7	0.8	0.7	3.3
Water use-own operations	-	-	-	2.9
Community relations	2.2	2.1	2.3	1.8
Data privacy and cybersecurity	-	-	-	0.8
Corporate governance	1.3	1.0	0.8	0.7
Human capital	1.5	0.7	0.2	0.1
Land use and biodiversity	0.6	-	-	-
Bribery and corruption	2.4	2.3	2.2	-
Resource use	1.2	0.7	1.7	-
<b>Risk Score</b>	<b>27.2</b>	<b>22.2</b>	<b>20.7</b>	<b>26.9</b>

Table 1 shows the ESG Risk Rating of PT XYZ, released by Morningstar Sustainalytics in 2024. It reflected the efforts coordinated by the company's Sustainability Committee and was expressed in its ESG Risk Rating of 26.9.

Despite these strategies, comprehensive internal awareness remains essential to fully embed sustainability values at the operational level (Garbie, 2015). The success of sustainability initiatives depends not only on strategic planning but also on the depth of employee understanding and commitment (Bhuiyan et al., 2025, Cao et al., 2024). While corporate commitments were well documented, empirical evidence on how such values were internalized and acted upon by employees, especially in high-impact sectors such as oil and gas, remains limited.

The findings of this research are expected to provide practical recommendations for strengthening awareness across organizational levels. These insights can inform corporate decision-making, particularly in aligning operational practices with ESG strategies and national sustainability targets. Ultimately, the study contributes to advancing both academic understanding and corporate practice related to sustainability awareness in resource-intensive industries.

To further contextualize the analysis, stakeholder theory frames corporate responsibilities beyond shareholders, emphasizing accountability to employees, communities, and the environment. Employees, as primary social stakeholders, are critical in operationalizing sustainability, while companies are expected to deliver both financial returns and social value (Carroll et al., 2016).

Despite growing scholarly attention, previous studies often overlooked how belief systems function in high-risk, resource-intensive industries. Much of the literature examined lower-risk sectors where environmental constraints were less pressing. In contrast, oil and gas operations face higher environmental stakes, requiring deeper cultural shifts and integration of sustainability values. While prior research conceptually linked belief systems to sustainability (Hermawan et al., 2021, Widener, 2007), few empirical studies examined their role in shaping sustainability awareness within operational settings of high-risk industries. This study fills that gap by empirically assessing how belief systems influence employee awareness in a sector where aligning behaviour with ESG goals is complex yet critical.

Sustainability awareness refers to the knowledge, understanding, and consciousness of sustainability concepts and their implications for decision-making and behaviour (Gericke et al., 2019, Ramadhan, 2022). High awareness enables individuals to recognize the environmental and social consequences of their actions, evaluate alternatives, and choose options that minimize negative impacts. In organizations, such awareness helps employees align their work with broader sustainability objectives and can be fostered through training, clear policy communication, and leadership modelling. Awareness served as the foundational stage that initiated positive actions, which in turn fostered the development of sustainable behaviour (Karmagatri & Casteillo, 2023).

However, awareness alone may not translate into consistent action without supportive organizational environments. Continuous education, experiential learning, and visible leadership commitment are critical to embedding awareness into daily routines (Gulzar et al., 2023, Mantau & Benitti, 2025). When employees perceived that sustainability was valued, rewarded, and integrated into performance expectations, they were more likely to internalize it as part of their professional identity, transforming awareness from a passive state into an active driver of change (Setyaningrum, 2023). Ultimately, these conditions lead to the achievement of long-term organizational sustainability and performance, both of which are influenced by green human capital and employee environmental awareness (Pratiwi et al., 2025).

Finally, aligning business operations with the Triple Bottom Line reflects growing global expectations for corporate responsibility. In high-impact sectors such as oil and gas, internal awareness and cultural integration are critical for translating technical sustainability measures into long-term behavioural commitment. Accordingly, this study adopts the belief systems component of Simons' levers of control framework, alongside stakeholder theory, to evaluate sustainability awareness within PT XYZ. The conceptual framework applied in this research is presented in Figure 1.

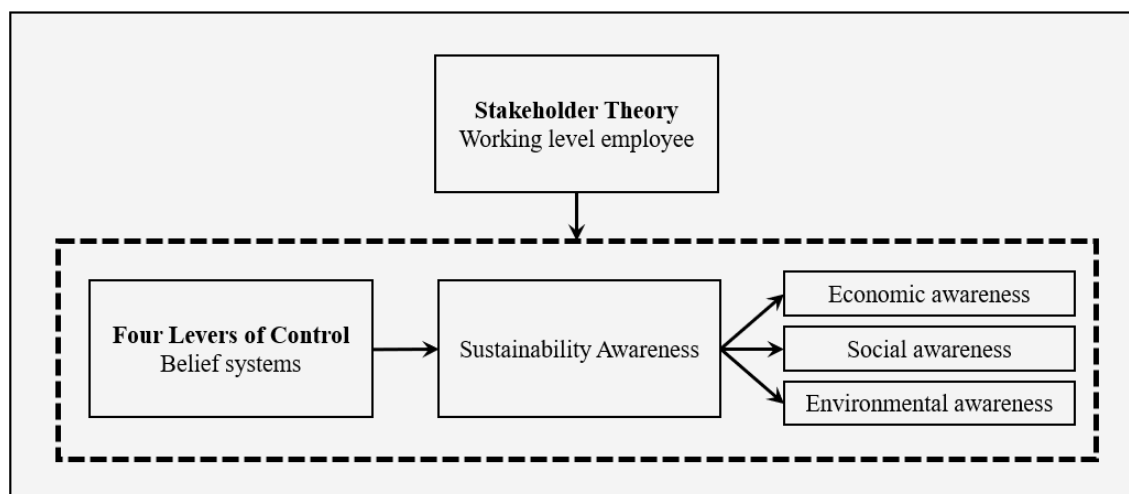


Figure 1. Conceptual Framework

Figure 1 illustrates belief systems as part of the four levers of control framework, depicted as a key mechanism influencing employees' understanding and awareness of the company's sustainability practices. Belief systems communicate the organization's core values, vision, and strategic direction, thereby fostering a shared understanding and commitment to sustainability principles. When these values are effectively understood and internalized, employees are more likely to demonstrate higher awareness of sustainable practices. Sustainability awareness is further elaborated into three main dimensions: economic, social, and environmental awareness.

As the theoretical foundation underpinning the overall framework, stakeholder theory emphasizes that employees are primary social stakeholders who not only experience the impacts of corporate policies but also play a critical role in the successful implementation of sustainability strategies. Therefore, employees' understanding and active engagement are essential to embedding sustainability values into daily operational behaviour.

## METHOD

This study employs a mixed-methods approach that integrates both quantitative and qualitative data collection and analysis techniques. A sequential explanatory design was selected, allowing the researcher to first identify patterns through survey data (quantitative) and subsequently explore underlying managerial insights through interviews (qualitative). This sequence was intended to enhance both the interpretation and contextualization of results (Sekaran & Bougie, 2016).

The research was conducted at PT XYZ, one of the largest oil and gas companies in Indonesia, with nationwide operations. PT XYZ was selected based on its strategic importance, the maturity of its sustainability reporting, and its active involvement in ESG-related programs such as decarbonization, biodiversity protection, and community development. Compared to other companies in the same sector, PT XYZ demonstrates more structured sustainability initiatives and has publicly committed to aligning with the SDGs and the Triple Bottom Line. These factors provide a compelling basis for selecting PT XYZ as a relevant and information-rich site for investigating sustainability awareness and the influence of belief systems.

Quantitative data were collected from 100 operational-level employees through a structured questionnaire distributed via email and WhatsApp groups. The questionnaire consisted of 30 items covering five dimensions: general sustainability, economic sustainability, social sustainability, environmental sustainability, and belief systems. A pilot test indicated that completing the questionnaire required only about 7–10 minutes. This duration was considered efficient, as the ideal completion time for online surveys is approximately 10 to 15 minutes (Revilla & Höhne, 2020), thereby minimizing respondent fatigue and avoiding disruption to work schedules.



Respondents were given two weeks to complete the survey, with 82 submissions received by the deadline. A data screening process was conducted to assess quality and engagement, resulting in the exclusion of seven responses due to uniform Likert scale patterns. One respondent consistently selected scale 4, while six consistently selected scale 5, indicating potential response bias (Podsakoff et al., 2003). The final analysis was based on 75 valid responses, which served as the foundation for interpreting sustainability awareness at the operational level.

The first question was designed to assess employees' understanding of the concept of sustainability. It consisted of one open-ended item asking respondents to define sustainability within a 200-character limit, thereby reducing the likelihood of excessively long responses. Responses were evaluated using a rubric adapted from resources (Brundtland, 1987) and (Elkington, 1997). To strengthen content validity, the instrument was reviewed by two sustainability scholars and one industry practitioner.

Respondents' answers were categorized into five groups using a scoring rubric, as presented in Table 2. The categorization aimed to evaluate the number of key terms included in each response and to benchmark them against two widely recognized definitions of sustainability: (1) meeting present needs without compromising the ability of future generations to meet theirs, with an emphasis on the responsible management of natural resources (Brundtland, 1987); and (2) the Triple Bottom Line perspective, which emphasizes the interdependence of people, planet, and profit (Elkington, 1997).

Table 2. Sustainability Definition Scoring Categories

Score	Category	Criteria	Assessment Description
1	Not Aligned	Incomplete - Consists of 0–1 elements	The response is overly general, irrelevant, and fails to convey the core concepts of sustainability.
2	Less Aligned	Partially complete – Consists of 1–2 elements	The response only mentions one basic element, such as 'long-term' or 'sustainability', without elaborating on 'needs', 'future generations', or TBL dimensions.
3	Moderately Aligned	Includes the Brundtland Report concept or one dimension of the Triple Bottom Line	The response is not comprehensive but demonstrates emerging understanding, referencing 'future generations' or 'environment' with partial relevance to sustainability.
4	Aligned	Consists of two out of three Brundtland Report elements or Triple Bottom Line dimensions	The response includes 'needs' and 'future generations', and at least two out of three dimensions of the Triple Bottom Line.
5	Highly Aligned	Includes all three Brundtland Report elements and all dimensions of the Triple Bottom Line	The response explicitly states 'current needs', 'future generations', and integrates all dimensions of the Triple Bottom Line.

Questions 2–26 were adapted from previously validated instruments (Anis et al., 2023, El-Shqairat, 2024, Garbie, 2015, Hermawan et al., 2021, Rieckmann, 2017, Sunthonkanokpong & Murphy, 2019) and measured on a 5-point Likert scale ranging from Strongly Disagree to Strongly Agree. These items explored multiple dimensions of sustainability in greater depth, including general, economic, social, and environmental aspects. In comparison, Questions 27–30 focused on the belief systems dimension, assessing the extent to which top management communicates organizational values and strategic vision (Hermawan et al., 2021). While the belief systems items highlight organizational culture and strategic alignment, the sustainability-related items reflect the Triple Bottom Line framework, encompassing economic strategy, social inclusion, and environmental responsiveness.

Qualitative data were obtained through semi-structured interviews with five senior managers representing the departments of Exploration, Development and Drilling, Production, Strategic Planning, and HSSE. These departments were chosen due to their direct involvement in ESG-related processes and their alignment with the company's core operational functions. Respondents were recruited through purposive judgment sampling, focusing on individuals in strategic roles with substantial exposure to the company's sustainability programs and belief systems. The interviews were conducted in May 2025 through a combination of face-to-face and virtual sessions, each lasting between 45 and 60 minutes.

While the participation of senior managers enabled the researcher to capture top-level strategic interpretations of belief systems, this focus also represents a limitation. Sustainability awareness is shaped and enacted across multiple organizational layers; thus, perspectives from middle- and lower-level employees remain underexplored. Future research is therefore recommended to include these groups to provide a more holistic understanding of how sustainability values are interpreted and operationalized throughout the organization.

The interview data were analyzed using a systematic thematic approach. Transcripts were reviewed iteratively to identify recurring patterns, and participants were invited to review summaries of their responses to ensure interpretive accuracy. The researcher also maintained reflective notes throughout the process to minimize bias and enhance transparency. Importantly, the thematic analysis was guided by the belief systems component of the Levers of Control framework and issues in sustainability awareness, which enabled the researcher to explore how the articulation of corporate values by senior management aligned with employee-level sustainability awareness. This ensured that the qualitative findings were not only descriptive but also theoretically grounded.

To enhance internal validity, thematic findings from interviews were triangulated with the results of the quantitative survey. This integration enabled the researcher to assess the consistency between management narratives and employee perceptions. When high scores in belief systems and sustainability awareness were supported by statements from senior management emphasizing the communication of corporate values, they provided strong evidence that belief systems contributed to fostering a sustainability-aware culture. The mixed-methods design thus allowed for robust cross-validation and generated insights that were both empirically grounded and contextually meaningful.

## RESULTS

The questionnaire was distributed to 100 employees across five key functions, with 75 valid responses collected (a 75% response rate). Respondents were predominantly male (79%), aged 31–40 years (48%), and most held Senior Analyst positions (65%). The majority had worked in their current roles for more than five years.

Table 3. Analysis of the Alignment of Respondents' Sustainability Definitions

Level of Response	Score	Number of Respondents	Percentage
Not aligned	1.00	8	11%
Less aligned	2.00	27	36%
Moderately aligned	3.00	14	19%
Aligned	4.00	16	21%
Highly aligned	5.00	10	13%
<b>Total</b>		<b>82</b>	<b>100%</b>
<b>Average score</b>	<b>2.90</b>		

Table 3 presents the analysis of respondents' sustainability definitions. This section contained respondents' open-ended definitions of sustainability, which were scored based on alignment with the Brundtland Report and Elkington's TBL concept. The average score was 2.90, indicating alignment between "less aligned" and "moderately aligned." Only 34% of definitions fell into the aligned or highly aligned categories. Interview data supported this finding, as several Senior Managers stated, *"Employees' understanding of sustainability is still developing and requires further reinforcement, particularly in connecting definitions to practical implications in operations."*

Interview findings provided further context to explain these results. The Senior Manager of HSSE commented, *"If I had to rate employees' sustainability knowledge, I would place it around 2 or 3 out of 5. Most of their awareness came from basic training. That is why I believed sustainability training should be extended to all employees, because it provided essential knowledge and guided their daily activities."* This perspective was echoed by the Senior Manager of Production and Operation, who stated, *"I would rate it around 2.5. To raise awareness, the company had to internalize sustainability knowledge, not just*

through formal training but also through active engagement in everyday work practices.” These qualitative insights corroborated the survey findings and highlighted a need for broader organizational initiatives to embed sustainability into daily behavior and mindset.

Table 4. Results of the Sustainability General Concept Questionnaire

No.	General Understanding of Sustainability	Mean	Median	Min	Max
P2	I understand the concepts of materiality and completeness within the context of sustainability.	3.76	4	1	5
P3	I recognize the importance of sustainable development in the industrial sector.	4.68	5	3	5
P4	I am aware of the accountability statements issued by the Board of Commissioners.	3.52	4	1	5
P5	I understand that the company has an adequate risk reporting system in place.	4.05	4	2	5
P6	I am aware that the company publishes a Sustainability Report.	4.03	4	1	5
P7	I have sufficient knowledge regarding the sustainability-related awards received by the company.	3.61	3	1	5
P8	I am aware that stakeholders are involved in the development of the company's sustainability strategies.	4.20	4	1	5
		<b>3.98</b>			

Table 4 shows the results for the general concept of sustainability, where quantitative data indicated good awareness of sustainable development in the dimension of general understanding of sustainability (mean = 3.98). In particular, respondents strongly recognized the importance of sustainability in the industry (mean = 4.68), yet demonstrated relatively lower awareness of the accountability statements issued by the Board of Commissioners (mean = 3.52).

These quantitative findings were reinforced by qualitative insights from management. The Senior Manager of Strategic Planning explained, “*The company considered ESG important by establishing 10 sustainability focus areas adapted from the SDGs, which were then divided into three categories. Each category had its own work programs, along with indicators and monitoring mechanisms assigned to accountable functions for each aspect. An annual review was conducted to evaluate the fulfillment of these sustainability focus areas.*”

Furthermore, regarding the accountability statements by the Board of Commissioners, he stated, “*The Board of Commissioners conveyed sustainability messages through townhall meetings, email broadcasts, and visual media like banners. I thought this was a good initiative by the company to remind everyone that it had a focus on sustainability.*” Similarly, the Senior Manager of Production & Operation noted, “*The messaging was mostly delivered through broadcasts. Sustainability was cascaded from the holding company to the operational level through programs like Decarbonization. However, I felt that the engagement with employees was still lacking.*” These perspectives highlight a communication gap: while sustainability values are formally disseminated, the depth of employee engagement with those values appears limited. This aligns with the levers of control framework, which emphasises that belief systems must be communicated not only formally but also interactively to inspire genuine commitment and behavioral change. A lack of dialogic communication can result in employees perceiving sustainability as a compliance requirement rather than an integral part of daily operations (Broccardo and Mauro, 2024, Dong et al., 2024).

The findings suggested that strengthening two-way communication through participatory workshops, cross-functional ESG task forces, and peer-led sustainability champions could improve employees’ understanding of governance-related aspects of sustainability, particularly the accountability statements from the Board of Commissioners. Such initiatives would help close the gap between the high awareness of sustainability’s importance in the industry and the lower comprehension of specific governance elements, fostering stronger alignment between corporate messages and employee understanding at all levels.



Table 5. Results of the Economic Sustainability Questionnaire

No.	Economic Sustainability	Mean	Median	Min	Max
P9	My company has business strategies aimed at sustaining competitiveness in the global market.	4.23	4	2	5
P10	I believe that economic factors are essential to sustainable development.	4.20	4	2	5
P11	My company demonstrates sustainability in its product and business decision-making processes, as publicly claimed.	4.05	4	2	5
P12	The company's energy use strategies contribute to cost efficiency.	4.25	4	2	5
P13	The company has implemented sustainability-based cost management practices.	4.07	4	2	5
P14	The company takes responsibility for the products it produces.	4.44	4	3	5
		<b>4.21</b>			

Table 5 presents a high average awareness of economic sustainability (mean 4.21). These quantitative results were reinforced by qualitative insights obtained from senior managers, illustrating how economic sustainability is operationalized across the company.

The Strategic Planning Senior Manager explained that sustainability strategies had been embedded not only into the medium-term work plan (2025–2029) but also into the company's long-term strategic outlook (2030–2034). As he noted, *"The spirit of the annual work plan is to ensure year-on-year growth, which we pursued by coordinating with technical functions to ensure that reserves could be produced in the current year. We also hoped the Exploration team would discover additional resources."*

In line with this strategy, the Production Senior Manager emphasized the integration of decarbonization and cost-efficiency goals, stating, *"The company had begun integrating the Decarbonization program with optimization initiatives. Starting in 2024, ESG-related programs were linked to optimization efforts through ESG-tagged budgeting. For example, the company aimed to reduce emissions by shifting fuel usage from diesel to gas."*

Similarly, the Exploration Senior Manager highlighted leadership's strategic direction, stating, *"The current President Director was highly visionary. He instructed us to develop effective and efficient work programs by drilling fewer wells with larger reserves. This approach reduced capital expenditures compared to the previous year while increasing production output."* These qualitative findings complement and contextualize the quantitative results, illustrating how management initiatives and strategic alignment with ESG principles are internalized at the operational level. This integration of perspectives enhances the reliability of the findings and provides a more nuanced understanding of the company's economic sustainability practices.

In particular, the high score for product responsibility (mean 4.44) indicated that employees perceived the company as highly committed to ensuring the quality, sustainability, and environmental responsibility of its products and operations.

This perception was supported by qualitative insights from senior managers. The Exploration Senior Manager agreed that the company's drilling strategy, focusing on fewer wells with larger reserves, demonstrated a deliberate effort to improve operational efficiency while minimizing environmental impact and waste generation. This approach reflected a strong commitment to sustainability principles and responsible resource management.

Table 6. Results of the Social Sustainability Questionnaire

No.	Social Sustainability	Mean	Median	Min	Max
P15	My company maintains positive relationships with broader society and local communities.	4.17	4	2	5
P16	My company actively promotes and encourages diversity and inclusion.	4.37	4	3	5
P17	My company ensures basic needs and quality of life for employees' families (e.g., healthcare, housing, education, employment, safety).	4.24	4	2	5
P18	My company provides employees with opportunities to participate in training programs.	3.97	4	1	5
P19	My company ensures fair opportunities for career promotion across all employees.	3.65	4	1	5
P20	My supervisor listens to employee input during decision-making and provides constructive feedback.	4.11	4	1	5
P21	I understand the role of education as a catalyst for sustainability.	4.52	5	3	5
		<b>4.15</b>			

Table 6 indicates that social sustainability yielded an average score of 4.15, reflecting overall positive perceptions among employees regarding the company's social initiatives. This was supported by qualitative findings. The Production Senior Manager stated, *"Our KPIs already include aspects of our involvement in social activities, which demonstrate one of the ways the company actively supports both the surrounding community and our own work environment."*

One of the highest-rated items was understanding the role of education in sustainability (mean 4.52). The Production Senior Manager explained that his division had established communities and learning programs to enhance employee capabilities. He added, *"By coordinating with internal stakeholders, these communities actively introduce the oil and gas industry to universities and the public on a quarterly or semi-annual basis."* This indicated that the company showed concern for education as a long-term investment in sustainability.

Further support for the company's social sustainability efforts was noted by the Strategic Planning Senior Manager, who acknowledged, *"The company had made progress in inclusion, encouraged work-life balance, and had given the best remuneration for the employees."* He also mentioned that the company held a monthly Talent Review to support employee career advancement and aspirations.

In addition, the Exploration Senior Manager expressed his support for equal career development by stating, *"I already had a development and improvement plan for them, and I always emphasized that they all had equal opportunities."* However, this intention appeared to contrast with the survey findings, particularly regarding fairness in promotion, which received the lowest average score in this dimension (mean 3.65). This gap between managerial perspective and employee perception highlighted an opportunity for further improvement in promoting equity and transparency in career advancement processes.

Table 7. Results of the Environmental Sustainability

No.	Environmental Sustainability	Mean	Median	Min	Max
P22	Climate change is regarded as a significant source of uncertainty for the company's long-term sustainability.	4.07	4	2	5
P23	Minimizing the negative environmental impact of operations is regarded as an environmentally responsible action.	4.47	5	1	5
P24	My company has established strategies to address climate change.	4.11	4	2	5
P25	My company actively works to reduce the use of toxic substances and radioactive waste.	4.37	4	2	5
P26	I understand the necessity of waste reduction, recycling, and reuse.	4.41	4	3	5
		<b>4.29</b>			

Table 7 shows that environmental awareness received the highest average score (mean 4.29), with the strongest acknowledgement given to minimizing environmental impact (mean 4.47). These quantitative results were reinforced by qualitative insights from senior management, which illustrated how environmental responsibility was operationalized in the company's strategies and programs.

The HSSE Manager explained, *"The potential contributors to climate change are not only decarbonization issues, but also methane gas. We need to rearrange our baseline target and implement a methane management program. We will calculate how much methane we produce, and going forward, the target is to reduce these methane emissions."*

Similarly, the Production Senior Manager stated, *"First, we are implementing a decarbonization program with established KPI targets and a dedicated team to execute it. Second, we have a bioremediation program to restore environments affected by oil spills or waste from company activities. We also have a tree-planting program to rehabilitate our operational areas."*

These qualitative findings provide context for the high quantitative scores, indicating that employees' strong awareness of environmental sustainability is reinforced by concrete initiatives such as methane management, decarbonization with KPI integration, bioremediation, and reforestation. Collectively, these efforts demonstrate a coherent alignment between strategic planning, operational execution, and employees' perceptions of the company's environmental commitment.

Table 8. Results of the Belief Systems Questionnaire

No.	Understanding of Belief Systems	Mean	Median	Min	Max
P27	The organization's values, goals, and direction are conveyed through formal documents (e.g., vision/mission statements, credo, or strategic declarations).	4.57	5	3	5
P28	Senior management actively communicates core organizational values to subordinates.	4.23	4	2	5
P29	Formal statements regarding company values are utilized to build commitment toward the long-term vision of senior management.	4.33	4	2	5
P30	Formal company values are used to motivate and guide employees in identifying new opportunities.	4.10	4	2	5
		<b>4.31</b>			

Table 8 shows that belief systems achieved an average score of 4.31, indicating strong agreement among employees regarding the communication of company values, vision, mission, and their motivational effect. This high score suggests that formal statements and leadership messages are well-received and perceived as influential in shaping employee attitudes and behaviors.

Qualitative findings reinforce this quantitative evidence. Managers consistently. The findings highlighted the top-down influence of leadership, particularly the President Director, in embedding sustainability into the corporate culture. As explained by the Senior Manager of Strategic Planning in the context of general sustainability awareness, *"The Board of Commissioners conveys sustainability messages through townhall meetings, email broadcasts, and visual media like banners. I think this is a good initiative by the company to remind everyone that it has a focus on sustainability."* He further emphasized that belief systems must be communicated consistently to support long-term behavioral alignment, with Change Facilitators across units playing a key role in translating these values into daily practices.

Similarly, the Senior Manager of Production stated, *"The President Director formulated six strategies at the beginning of his tenure, which were then translated into strategic initiatives related to sustainability. These strategic initiatives were cascaded down to the management level, which then routinely monitors them every month online and every three to four months offline. Subsequently, the management communicates them to the working level in the field through the Management Walkthrough program."* These testimonies illustrate how leadership directives are institutionalized through structured communication channels and periodic monitoring, ensuring that belief systems remain an active part of organizational practice.

From the perspective of the Levers of Control framework (Simons, 1995), these practices exemplify the effective use of belief systems to inspire and align employee behavior with the organization's sustainability objectives. Consistent reinforcement of values not only enhances commitment but also fosters a shared understanding of long-term strategic priorities. This alignment between leadership messaging and employee perception strengthens the internalization of sustainability principles, providing a coherent narrative that complements and validates the quantitative findings.

These findings suggest that belief systems serve not only as mechanisms of cultural alignment but also as enablers of the business case for sustainability, linking strategic vision to day-to-day practices that generate value for multiple stakeholders (Schaltegger et al., 2019). This underscores the relevance of stakeholder theory in explaining how operational-level employees, as primary social stakeholders, internalize and enact corporate sustainability commitments.

## DISCUSSION

The findings of this study reveal that the general understanding of sustainability among employees at PT XYZ remains at the level of "less aligned" to "moderately aligned" with established sustainability theories. While most respondents recognize the relevance of sustainability in the industrial sector, their grasp of key principles such as materiality and completeness remains limited. This aligns with observations by Garbie (2015) and Rieckmann (2017), who note that employees often

struggle to translate abstract sustainability concepts into practical work behavior. Such gaps are critical, as insufficient employee comprehension can hinder the internalization of corporate sustainability values Sen et al. (2023) and reduce the organization's capacity to achieve long-term strategic impact. Therefore, a more structured and in-depth educational approach is essential to translate sustainability narratives into operational practice, particularly at the working level, as suggested by Gulzar et al. (2023) and Mantau & Benitti (2025).

Economic sustainability awareness at PT XYZ is notably high, with an average score of 4.21, indicating that employees positively perceive initiatives aimed at cost efficiency, innovation, and accountability. This aligns with Schaltegger et al. (2019), who argue that business cases for sustainability emerge when environmental and social initiatives are simultaneously translated into economic value creation. Similarly, Shmelev & Gilardi (2025) demonstrate that environmental and social investments often enhance long-term competitiveness and risk management by positively influencing financial performance and stakeholder trust. These findings suggest that PT XYZ has effectively communicated the economic relevance of sustainability, thereby encouraging employee buy-in and operational performance, consistent with Widener (2007) insights on the role of management control systems in aligning strategic goals with operational action.

In the realm of social sustainability, PT XYZ demonstrates commendable efforts through diversity initiatives and community outreach. However, the relatively low score of 3.65 on fairness in promotion reveals a disconnect between external inclusivity and internal perceptions of justice. This finding echoes Carroll et al. (2016) and Broccardo & Mauro (2024), who emphasize that perceived inequities can erode employee trust and engagement, thereby weakening the overall effectiveness of social sustainability programs. Addressing equity gaps in career advancement is therefore critical, as fairness and inclusion are central to strengthening employee commitment and preventing sustainability from being perceived as "compliance-driven" rather than genuinely value-driven (Dong et al., 2024).

Environmental sustainability received the highest rating among all dimensions (mean = 4.29), reflecting strong alignment between employee perceptions and organizational goals such as emissions reduction and impact minimization. This finding is consistent with that by Mohd Noor (2021), who stressed that oil and gas operations inherently face greater environmental stakes, thereby requiring heightened responsibility. However, some employees exhibited limited understanding of stakeholder involvement in environmental governance. This gap reinforces the arguments of Schaltegger et al. (2019) and Okeke (2021) that technical measures alone are insufficient; sustainability must also be approached as a multi-stakeholder process that integrates collaboration, accountability, and transparency.

The company's leadership, particularly at the top level, actively communicates its core values through formal documents and regular engagement, thereby fostering a shared organizational direction. The strong average score of 4.31 on belief systems validates this top-down influence, consistent with the conceptualization of belief systems as a lever of control that inspires commitment and long-term orientation (Simons, 1994). These findings echo those of Hermawan et al. (2021), who demonstrated that effective communication of core values strengthens employee sustainability awareness, and of Thompson et al. (2022), who argued that a well-articulated strategic vision shapes employee alignment with organizational sustainability objectives. Accordingly, belief systems operate not only as mechanisms of cultural alignment but also as enablers of the business case for sustainability by linking strategic vision to daily practices that generate value for multiple stakeholders (Schaltegger et al., 2019).

Taken together, these findings reveal a mixed landscape of sustainability awareness at PT XYZ. While belief systems have been effectively deployed to shape a shared value orientation—particularly with respect to economic and environmental pillars—gaps persist in operational understanding and social inclusion. Such discrepancies align with prior studies emphasizing the need for differentiated approaches across sustainability dimensions (Gericke et al., 2019, Ramadhan, 2022). To address these challenges, more structured educational initiatives, inclusive career advancement strategies, and clearer communication of stakeholder roles are necessary to strengthen internal alignment and ensure that sustainability commitments are consistently translated into practice.



The evidence underscores the importance of belief systems not only as cultural anchors but also as mechanisms to strengthen ESG coherence across employee levels. However, the relatively lower score on social equity indicates that top-down alignment is insufficient unless reinforced by inclusive practices and structured knowledge dissemination. This is in line with Setyaningrum (2023), who found that when sustainability is integrated into performance expectations, employees are more likely to internalize it as part of their professional identity. Ensuring both vertical and horizontal alignment of sustainability values will enhance employee engagement, policy implementation effectiveness, and ultimately organizational resilience (Pratiwi et al., 2025).

In summary, while PT XYZ has made notable progress in embedding sustainability principles, further work is required to connect individual awareness with strategic impact. This includes refining educational programs, ensuring fairness and equity in internal processes, and reinforcing stakeholder-inclusive practices. By doing so, PT XYZ will not only strengthen its ESG outcomes but also meet regulatory requirements and stakeholder expectations, thereby securing legitimacy and long-term competitiveness in a resource-intensive and high-risk sector (Burhany et al., 2024, Schaltegger et al., 2019, Sen et al., 2023).

Theoretically, this study extends the levers of control framework (Simons, 1994) and stakeholder theory by demonstrating that belief systems not only anchor organizational culture but also serve as mechanisms for translating sustainability strategies into operational behaviour (Freeman, 2010), thereby addressing the often-overlooked employee-level dimension in high-risk industries (Okeke, 2021, Widener, 2007). Practically, the findings suggest that PT XYZ needs to strengthen sustainability integration through more comprehensive training on materiality and completeness (Gulzar et al., 2023), ensure fairness in career development to reinforce social sustainability (Broccardo & Mauro, 2024), and enhance two-way communication channels to embed sustainability values more effectively at all levels (Dong et al., 2024). These implications highlight that aligning strategic intent with employee awareness is essential not only for improving ESG outcomes but also for securing legitimacy and competitiveness in resource-intensive sectors.

## CONCLUSION

This study concludes that PT XYZ has successfully implemented belief systems that align with sustainability principles, particularly in the economic domain. The high average score in the belief systems dimension reflects the effective internalization of corporate vision, mission, and values. This finding is further supported by qualitative insights from senior managers, which emphasize the critical role of leadership in shaping a sustainability-oriented culture. The systematic dissemination of values through Change Facilitators and functional leaders has reinforced employee commitment and fostered stronger alignment between strategic goals and individual behaviour.

The consistently strong scores across the economic, social, and environmental dimensions demonstrate a robust level of sustainability awareness among operational-level employees. Respondents showed a clear understanding of key sustainability concepts such as cost efficiency, inclusiveness, environmental responsibility, and climate change mitigation. However, some knowledge gaps persist, particularly regarding general sustainability knowledge and awareness of accountability statements by the Board of Commissioners.

Theoretically, this study contributes to the literature on management control systems by reaffirming the relevance of the levers of control framework in high-risk and resource-intensive industries. It demonstrates that belief systems function not only as instruments of strategic alignment but also as drivers of behavioural change toward sustainability goals. In the context of oil and gas, where safety, compliance, and long-term environmental impact are paramount, the findings highlight that belief systems may serve as the most effective lever among the four in cultivating internal commitment to sustainability.

Practically, these findings offer important implications for ESG policy development within Indonesia's national oil and gas sector. Both state-owned and private companies can adopt similar approaches by strengthening leadership-driven belief systems to embed sustainability values across



operational levels. National ESG roadmaps should emphasize the role of communication channels, vision clarity, and functional leadership. Moreover, integrating structured sustainability education programs into daily routines and professional development pathways can enhance long-term organizational capacity to meet both national and international ESG expectations.

Despite its valuable insights, this study has several limitations. The qualitative data were limited to four senior managers, which may not fully capture the diversity of managerial perspectives. In addition, the quantitative sample was skewed toward senior analysts, reducing the generalizability of the findings across broader employee groups. The reliance on self-reported data also introduces the risk of social desirability bias, where respondents may overstate their awareness or alignment with sustainability practices.

Future research should address these limitations by broadening the respondent base to include middle- and junior-level employees and by incorporating behavioural or observational methods to triangulate self-reported data. Scholars are also encouraged to expand the analytical framework by examining other components of the levers of control, such as boundary systems, diagnostic control systems, and interactive control systems and their combined effects on ESG implementation. Furthermore, future studies could explore how sustainability-oriented organizational culture shapes the effectiveness of ESG initiatives.

## REFERENCES

- Anis, I., Gani, L., Fauzi, H., Hermawan, A. A. & Adhariani, D. 2023. The Sustainability Awareness of Banking Institutions in Indonesia, Its Implication on Profitability by The Mediating Role of Operational Efficiency. *Asian Journal of Accounting Research*, 8, 356-372.
- Arviana, N. & Wibisono, M. 2023. The Effect of Fundamental Factors on Triple Bottom Line and Firm Value. *JRAK*, 15, 12-18.
- Association, A. G. 2025. Statistical Review of World Energy.
- Bhuiyan, F., Adu, Douglas A., Ullah, H. & Islam, N. 2025. Employee Organisational Commitment and Corporate Environmental Sustainability Practices: Mediating Role of Organisation Innovation Culture. *Business Strategy and The Environment*, 34, 4485-4506.
- Broccardo, L. & Mauro, S. G. 2024. The Path towards Sustainability: The Role of Internal Stakeholders and Management Accounting in A Dialogic Perspective. *Corporate Social Responsibility and Environmental Management*, 31, 2496-2513.
- Brundtland, G. H. 1987. Our Common Future World Commission on Environment and Development.
- Burhany, D. I., Syarief, M. E., Setiawan, I., Mai, M. U., Ruhana, N., Jamaluddin, M. R. & Amin, H. Assessing The Sustainability Reporting Quality of Oil & Gas Companies in Indonesia and Malaysia: Examining The Influence of Board and CEO Chair Characteristics. *E3S Web of Conferences*, 2024. EDP Sciences, 07005.
- Cao, S., Xu, P., Qalati, S. A. & Wu, K. 2024. Impact of Employee Environmental Concerns on Sustainable Practices: Investigating Organizational Commitment and Job Satisfaction. *Sustainability*, 16, 5823.
- Carroll, A., Buchholtz, A. & Brown, J. 2016. Business & Society: Ethics, Sustainability & Stakeholder Management, 10<sup>th</sup> Edition. *USA: Cengage Learning*.
- Dong, E., Sun, R. & Lee, Y. 2024. Linking Interacting/Engaging Environmental CSR Communication Strategy and Employees' Pro-Environmental Behaviors (PEBS): Mediating Roles of Communal Relationship and Employee Empowerment. *Corporate Communications: An International Journal*, 29, 451-472.
- El-Shqeirat, S. 2024. Assessing The Level of Employees' Sustainability Awareness and Its Effect on Sustainable Development Progression - A Case Study Of Greater Karak Municipality/ Jordan. *Environmental Science & Sustainable Development*.
- Elkington, J. 1997. The Triple Bottom Line. *Environmental Management: Readings and Cases*, 2, 49-66.
- Freeman, R. E. 2010. *Strategic Management: A Stakeholder Approach*, Cambridge University Press.

- Garbie, I. H. 2015. Sustainability Awareness in Industrial Organizations. *Procedia Cirp*, 26, 64-69.
- Gbangbola, K. & Lawler, N. 2020. *Gold Standard Sustainability Reporting A Step by Step Guide to Producing a Sustainability Report*, New York, Routledge.
- Gericke, N., Boeve-De Pauw, J., Berglund, T. & Olsson, D. 2019. The Sustainability Consciousness Questionnaire: The Theoretical Development and Empirical Validation of an Evaluation Instrument for Stakeholders Working with Sustainable Development. *Sustainable Development*, 27, 35-49.
- Gulzar, Y., Eksili, N., Caylak, P. C. & Mir, M. S. 2023. Sustainability Consciousness Research Trends: A Bibliometric Analysis. *Sustainability*, 15, 16773.
- Haruna, A., Tanimu, G., Ibrahim, I., Garba, Z. N., Yahaya, S. M., Musa, S. G. & Merican, Z. M. A. 2023. Mitigating Oil and Gas Pollutants for A Sustainable Environment – Critical Review and Prospects. *Journal of Cleaner Production*, 416, 137863.
- Hermawan, A., Bachtiar, E., Wicaksono, P. & Sari, N. 2021. Levers of Control and Managerial Performance: The Importance of Belief Systems. *Gadjah Mada International Journal of Business*, 23, 237-261.
- Hu, Y. & Zeng, Y. Achieving Sustainable Operations: Challenges, Countermeasures, and The Case of Unilever. SHS Web of Conferences, 2024. EDP Sciences, 01036.
- Julita, J., Iznillah, M. & Andreas, A. 2025. Balancing Sustainability and Profitability: Optimizing Intellectual Capital and Its Challenges in Indonesian Manufacturing Companies. *JRAK*, 17, 33-47.
- Karmagatri, M. & Casteillo, B. 2023. Sustainability Awareness and Attitude to Sustainability Among Entrepreneurial Students: Cultural Analysis and Level Measurement. *Accessed: Oct*, 13.
- Kwarto, F., Nurafiah, N., Suharman, H. & Dahlan, M. 2023. Sustainability Reporting Reliability: An Industry Worker's Perspective in Indonesia. *International Journal of Business*, 28, 1-17.
- Lina, L. & Devyanti, C. 2024. The Influence of Corporate Governance Mechanisms on Carbon Emission Disclosure: Does Green Performacen Matter? *JRAK*, 16, 181-196.
- Mantau, M. J. & Benitti, F. B. V. 2025. The Awareness Assessment Model: Measuring Awareness and Collaboration Support Over Participant's Perspective. *Universal Access in The Information Society*, 24, 785-816.
- Mohd Noor, M. A. M. 2021. Environmental Impacts of Oil Industry: An Overview of The Impacts and Source Management EEEE Environmental Impacts of Oil Industry: An Overview of The Impacts and Source Management. *Environmental Management*.
- Mura, M., Longo, M., Boccali, F., Visani, F. & Zanni, S. 2024. From Outcomes to Practices: Measuring The Commitment to Sustainability of Organisations. *Environmental Science & Policy*, 160, 103868.
- Nogueira, E., Gomes, S. & Lopes, J. M. 2025. Unveiling Triple Bottom Line's Influence on Business Performance. *Discover Sustainability*, 6, 43.
- Okeke, A. 2021. Towards Sustainability in The Global Oil and Gas Industry: Identifying Where The Emphasis Lies. *Environmental and Sustainability Indicators*, 12, 100145.
- Özer, G., Aktaş, N. & Çam, İ. 2024. Corporate Environmental, Social, and Governance Activities and Financial Reporting Quality: An International Investigation. *Borsa Istanbul Review*, 24, 549-560.
- Podsakoff, P. M., Mackenzie, S. B., Lee, J.-Y. & Podsakoff, N. P. 2003. Common Method Biases in Behavioral Research: A Critical Review of The Literature and Recommended Remedies. *Journal of Applied Psychology*, 88, 879.
- Pratiwi, I., Saefudin, A., Sari, G. I., Maliki, B. I., Fauzi, Soenyono, Basrowi & Nuryano, U. W. 2025. Green Human Capital and Organizational Performance: The Role of Employee Environmental Awareness and Sustainable Innovation in Achieving Organizational Sustainability. *Innovation and Green Development*, 4, 100244.
- Ramadhan, L. D. 2022. Pengaruh Sustainability Awareness Terhadap Kinerja Keuangan pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia Periode 2016-2020. *Skripsi-2022*.

- Revilla, M. & Höhne, J. K. 2020. How Long Do Respondents Think Online Surveys Should Be? New Evidence from Two Online Panels in Germany. *International Journal of Market Research*, 62, 538-545.
- Rieckmann, M. 2017. *Education for Sustainable Development Goals: Learning Objectives*, UNESCO Publishing.
- Schaltegger, S., Hörisch, J. & Freeman, R. E. 2019. Business Cases for Sustainability: A Stakeholder Theory Perspective. *Organization & Environment*, 32, 191-212.
- Sekaran, U. & Bougie, R. 2016. *Research Methods for Business: A Skill Building Approach*, John Wiley & Sons.
- Sen, I., Quercia, D., Capra, L., Montecchi, M. & Šćepanović, S. 2023. Insider Stories: Analyzing Internal Sustainability Efforts of Major US Companies from Online Reviews. *Humanities and Social Sciences Communications*, 10.
- Setyaningrum, R. P. 2023. Achieving Employee Environmental Performance through Perceived Organizational Support towards The Environment: A Mediated-Moderation Analysis: A Mediated-Moderation Analysis. *Jurnal Siasat Bisnis*, 17-30.
- Shmelev, S. E. & Gilardi, E. 2025. Corporate Environmental, Social, and Governance Performance: The Impacts on Financial Returns, Business Model Innovation, and Social Transformation. *Sustainability*, 17, 1286.
- Simons, R. 1994. *Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal*, Harvard Business Press.
- Statistik, I. B. P. 2024. Neraca Arus Energi dan Neraca Emisi Gas Rumah Kaca Indonesia 2018-2024. 4, 120.
- Sunthonkanokpong, W. & Murphy, E. 2019. Sustainability Awareness, Attitudes and Actions: A Survey of Pre-Service Teachers. *Issues in Educational Research*, 29, 562-582.
- Thompson, A. A., Peteraf, M. A., Gamble, J. E. & Strickland, A. J. L. 2022. *Crafting and Executing Strategy: The Quest for Competitive Advantage – Concepts and Cases*, New York, NY, McGraw Hill LLC.
- Widener, S. K. 2007. An Empirical Analysis of The Levers of Control Framework. *Accounting, Organizations and Society*, 32, 757-788.