

Key Performance Indicators in Entities with Environmental, Social, and Governance (ESG) Actions: A Single Case Study of a Company Operating in Southeastern Tocantins State

José Luiz Nunes Fernandes¹, Barbara Adria Oliveira Farias Fernandes²

^{1,2}State University of Tocantins (UNITINS)



Article History:

Received: 01/04/2026

Accepted: 01/05/2026

Published: 23/05/2026

Corresponding Author:

José Luiz Nunes
Fernandes

Abstract

In the south-eastern part of the state of Tocantins, specifically in the city of Almas, a significant business investment emerged, by regional standards, namely Aura Minerals Inc. In this context, this research aimed to identify the results reported by Aura Minerals regarding the application of Key Performance Indicators (KPIs). Indicators in measuring ESG actions. Through exploratory research with a qualitative and documentary approach, the financial and non-financial reports of Aura Minerals as of December 31, 2024, were duly consulted. The results identified that sustainability, social, and governance actions are positive, a reality that allows us to express that Aura Minerals has carried out actions committed to ESG requirements.

Keywords: Aura Minerals. Key Performance Indicators. Financial and non-financial reports.

Article Citation: J. L. N. Fernandes, & B. A. O. F. Fernandes (2026). Key Performance Indicators in Entities with Environmental, Social, and Governance (ESG) Actions: A Single Case Study of a Company Operating in Southeastern Tocantins State. **IRGS Journal of Multidisciplinary Research and Studies (IRGSJMRS)**, Vol-1(Iss-1), 6-15.

1. INTRODUCTION

Selecting and monitoring performance indicators are critical tasks, after all, we get what we measure. If we can't measure, we can't manage and, consequently, we can't improve. In this scenario, Key Performance Indicators (KPIs) are indicators chosen by companies whose purpose is to identify the level of achievements and, with that, compare them with pre-established goals and, in this comparison, determine the deviation and the respective level of performance (Caldeira, 2017).

Social and Environmental practices is crucial. Governance (ESG) in investment decisions contributes to improving corporate performance and commitment to social responsibility, which can ensure positive results (Slivastav & Hangendorff, 2016; Konnth & Lueg, 2022; Capelli, Ielasi, & Russo, 2021).

The three terms Sustainability, Social and Corporate Governance, or in English Environmental, Social and Governance and Environmental, Social, and Governance (ESG) are intrinsically intertwined, as the pillar focused on environmental sustainability includes issues related to climate change, carbon emissions, resource efficiency, and biodiversity (Irigaray & Stocker, 2022). The social pillar measures the company's commitment and effectiveness in managing the community at large, maintaining diversity and equality in its workforce, and offering training opportunities (Saxena et al., 2023). Finally, the governance pillar captures the company's systems and processes aimed at ensuring that its directors act in accordance with the interests of shareholders, as well as involving the establishment of committees, compensation policies, and other actions aimed at effective management (Saxena et al., 2023).

In the southeastern part of the state of Tocantins, specifically in the city of Almas, a significant business investment has emerged for regional standards, known as Aura Minerals Inc., also known as "Aura Minerals," "Aura," or "Company," which is a gold and copper production company focused on the operation and development of mining properties in the Americas.

Given this, this research has the following guiding question: What results have been reported by the company Aura Minerals regarding the application of Key Performance Indicators? Indicators in How can we measure the results of ESG actions? Therefore, the objective of this work is to identify the results reported by the company Aura Minerals regarding the application of Key Performance Indicators. Indicators in measuring ESG actions.

The research is justified when Porter (1986) states that the essence of competition is relating the company to the environment in which it operates. The author goes further when he says that external forces are significant for companies, and these directly affect organizations, and that the basic point lies in the different abilities of companies to deal with them, with external forces.

It is noted that many investors have difficulty evaluating companies that adopt ESG measures. This is because there are still many difficulties in obtaining adequate and standardized data. This creates difficulties in comparing companies, as the collection and analysis of ESG information end up being costly and difficult to quantify (Amel-Zadeh and Serafeim, 2017). Furthermore, it is argued that ESG practices are gaining increasing importance as key indicators of sustainable performance; moreover, the Latin American region faces a lack of research analyzing the specific

relationship between these criteria. Therefore, exploring this gap provides insights for governments, investors, and managers, and contributes to the development of more conscious, transparent business strategies aligned with the environmental and social challenges faced by Latin America (Firmino & Peixoto, 2024).

Furthermore, the research is in line with the goals of the Sustainable Development Goals (SDGs) included in the 2030 Agenda, a global pact signed during the United Nations Summit in 2015, especially SDG 8, which deals with decent work and sustainable economic growth, as well as SDG 9, which deals with goals aimed at inclusive and sustainable industry.

2.THEORETICAL FRAMEWORK

2.1 Environmental, social and governance (ESG)

Although the term ESG was first used in the early 21st century, the concept was more recently boosted by the publication of the BlackRocky shareholder letter (2022), this company being one of the largest global investors with approximately USD 9 trillion in assets, whose purpose was to draw attention to the financial risks of climate change and to support governance that assists the stakeholders of companies (Ferreira Neto, 2024).

In addition, this perspective on results and the inclusion of non-financial items, such as the environment, business sustainability, corporate integrity, community relations, image, among others, to the concept of results, and the association of all these factors with financial indicators and market risk assessment, that is, as Spitzreck (2021) understands it, when he says that ESG is no longer a discussion separate from the business. Currently, market and stock exchange analysts have incorporated ESG issues into valuation models.

It is observed that ESG is commonly confused with environmental sustainability, and thus considered synonymous. This thinking reduces the whole to only a part, a fact that weakens the concept, but it is possible to state that environmental sustainability is a component or part of ESG (Alves, 2024). Furthermore, the integration of social responsibility and sustainability practices has caused significant changes in the internal dynamics of organizations, intensifying the demand for transparency in the sustainable actions adopted (Savegnago et al. 2022).

Different Latin American authors have brought forward ideas to dissociate growth from human needs. Although human rights may not be financially relevant, they are sustainably relevant (Larrinaga, 2023). Sustainability is therefore intrinsically linked to ESG, especially as observed by Sridharan (2018), who states that there is increasing stakeholder pressure for corporate sustainability actions and practices, making organizational performance on ESG issues increasingly relevant. It is also noteworthy that ESG indicators function as effective tools for risk management, institutional reputation, and organizational credibility (Abdi et al., 2022).

2.1.1 Competitiveness of companies that adopt ESG practices – The state of Tocantins

On the other hand, Porter (1986) explains that the main goal of national competitiveness is to improve the standard and quality of life of the population, through the expansion of entrepreneurial capacity, and this occurs when companies become progressive and manage to outperform their competitors, therefore, competitive.

From a profitability standpoint, or due to the absence of explicit and binding rules on the subject, within a perspective of

standardizing rights in a social context focused exclusively on companies, it is understood to be essential that companies establish programs aimed at protecting individuals, under penalty not only of suffering possible legal consequences, but also of enduring reputational risks that could undermine their very existence in the consumer society (Cardia, 2021). In light of the above paragraph, it is understood that ESG programs should go beyond the norm, bringing a competitive and profitable advantage, and this advantage resides, also and primarily, in the daily lives of workers (Polido, Barbato & Moura, 2019).

It should be noted that in 2024, the Ranking of Competitiveness of Brazilian States was published. This work was carried out by the Center for Public Leadership (CLP), a non-profit institution whose purpose is to develop political leadership and promote good governance practices (CLP, 2024). This institution is the creator and manager of the Ranking of Competitiveness of Brazilian States.

CLP understands that the State Competitiveness Ranking is a powerful tool for guiding the actions of state governments and supporting the development of evidence-based policies, thus contributing to the challenge of building a state with high socioeconomic standards. At the same time, the State Competitiveness Ranking can be a very useful tool for the private sector in guiding investment decisions, establishing attractiveness criteria on a relative basis among the states.

The ranking used bibliographic research as its methodology, through works that address competitiveness, both nationally and internationally. Indicators considered fundamental for promoting the competitiveness of Brazilian states were selected, distributed across 10 thematic pillars: Infrastructure, Social Sustainability,

Public safety, education, fiscal soundness, efficiency of the public administration, human capital, environmental sustainability, market potential, and innovation.

The results showed São Paulo in 1st place, Santa Catarina in 2nd, Paraná in 3rd, and the Federal District in 4th. Regarding the Northeastern states, Paraíba, in 12th place, became the representative, followed by Ceará in 14th place. As for the Northern region, the state of Amazonas, in 11th place, was the leader of the region.

In 2023, the state of Tocantins ranked 15th and maintained that position in 2024. However, in relation to the states in the North region, Tocantins is second only to Amazonas and ahead of Rondônia, Pará, Acre, Amapá, and Roraima.

On the other hand, in the context of performance evaluation, Cunha et al. (2015) stand out when they state that the advancement of the ESG agenda is aligned with the Sustainable Development Goals (SDGs), proposed in 2015 by the United Nations (UN). Furthermore, ESG financial and non-financial reports have become essential instruments for promoting transparency, risk management, and strengthening institutional image (Bukari et al., 2024; Samy El-Deeb et al., 2023).

For decision-makers, it is opportune to know the results achieved, compare them with previously defined goals, compare them with industry values, understand their evolution over time, and perceive their trends; this generates indisputably valuable information (Caldeira, 2017). In this sense, and based on relevant literature, and without intending to be exhaustive, verifiable ESG action items were created.

Table 1. Verifiable sustainability practices

Sustainability Practices	Authors
--------------------------	---------

1. Dissemination of sustainability initiatives.	Larrinaga, (2023); Alves, (2024).
2. Existence of a program to reduce energy consumption.	Atchabahian (2022); Cardia, (2022).
3. Does the company have a program to reduce... CO2 emissions	Atchabahian (2022); Cardia, (2022).
4. There are alternatives for adopting clean or renewable energy.	Atchabahian (2022); Cardia, (2022).
5. The company has regenerative economy initiatives.	Atchabahian (2022).

Source: Prepared by the authors (2025).

Table 2. Verifiable practices of social actions

Social Practices	Authors
1. Dissemination of social practice actions	Larrinaga, (2023); Alves, (2024).
2. Possessing program(s) aimed at protecting individuals.	Cardia, (2022).
3. Possessing programs that promote connection and integration among workers.	Abid, Ahmed, Elahi, & Ilyas, (2020).
4. Possessing programs that promote civility and a sense of justice among employees.	Paschoal, (2008); Juniper, (2011);
5. Does the company have preventative programs against internal discrimination, such as moral and sexual harassment?	Abid, Ahmed, Elahi, & Ilyas, (2020); Atchabahian (2022).

Source: Prepared by the authors (2025).

Table 3. Verifiable Governance Practices

Governance Practices	Authors
1. The company discloses its governance practice actions.	Larrinaga, (2023); Alves, (2024).
2. The company discloses other governance information besides its financial reports.	Brazilian Institute of Corporate Governance (IBGC, 2021)
3. The company ensures the economic and financial viability of the business in the short, medium, and long term.	Brazilian Institute of Corporate Governance (IBGC, 2021)
4. Has the company made investments in intangible assets?	McKinsey & Company, (2022).
5. The company has given due importance to the role of leadership in what is called corporate governance.	Monteiro et al. (2021).

Source: Prepared by the authors (2025).

The intention in Tables 1, 2, and 3 was to highlight ESG actions and their respective originators, which could be targets for parameters or achievement goals, and therefore, could be compared with actual achievements.

2.1.2 Financial Reports and ESG Disclosures

Regarding accounting reports and the disclosure of ESG actions, Ferreira et al. (2021) go further by stating that Accounting is a social science aimed at providing information to various users, whether internal or external to companies. This information should present the economic-financial and socio-environmental impacts resulting from the transactions carried out, so that users can assess the effects of these transactions on the entity's performance.

Given this, there is a new demand from stakeholders for environmental and social information, that is, non-financial information that is not structured in conventional accounting, also called sustainability information, which represents a novelty for accounting (Ricci et al., 2023).

In this scenario, it is noteworthy that the prevailing understanding is that accountants are the professionals who possess the knowledge, capacity, and skills to use accounting mechanisms as a tool for change in a new era, the era of sustainability, in which economic information is not the only focus of discussion for companies (Roberts et al., 2021).

To meet the needs of leaders and managers who are no longer focusing solely on short-term financial factors, as business performance must encompass environmental, social, and governance issues (Saxena et al., 2023; Romão & Callado, 2020). This is especially true because the growing concern with environmental factors, stemming from stakeholders, influences the company's image (Hinojoza - López et al., 2020).

Given that There are aspects involving costs and time that impact the return and market perception of practices and returns, both financial and non-financial, related to ESG. However, it is possible to identify an understanding that prompts reflection when Silva, Almeida & Leite Filho (2024) state that sustainability requires

long-term practices, while financial indicators are mainly focused on a shorter period of time.

2.2 Keyperformance indicators (KPI)

In the process of monitoring performance, the function of indicators is to ascertain the result so that it can be compared with pre-established goals and correct possible variations. In this sense, Francischini and Francischini (2017) understand that the objective is the expected resolution of a problem that the manager faces in their daily routine; furthermore, for the performance measurement system to be effective, it is necessary to have a clear understanding of the requirements expected by internal and external clients. Moreover, the manager will realize that it is not simple to focus on

relevant problems; they, the manager, have to solve them and must rely on data collection sensors and data processing tools, which allow them to obtain information to highlight these problems.

Key Performance Indicators shows that monitoring a few indicators is essential so that the manager can focus the investment of time and resources to act on the productive process that he manages; in short, too much information is a hindrance (Francischini and Francischini, 2017).

Caldeira (2017) states that Key Performance Indicators (KPIs) are key indicators chosen by the company. Caldeira (2017) goes further when explaining the underlying concepts of KPIs as shown in Table 4 below:

Table IV – Explanations of concepts underlying KPIs

Concepts	Explanations
Goal	It quantifies the desired objective, eliminates subjectivity, and reinforces commitment.
Result	It represents the result achieved by the company in a given period of time.
Detour	It expresses the difference between the established goal and the result actually achieved.
Performance	It is the way the result is presented when comparing indicators with different
	units of measurement.
Assessment	It is a qualitative assessment obtained based on the performance/deviation ratio, e.g., exceeds expectations, meets expectations, does not meet expectations, on alert, etc. which enables communication of the performance level.

Source: Adapted from Caldeira (2017).

Next, Caldeira (2017) presents, without exhausting the subject, possible indicators that can be applied and measured, whose results, however, it should be noted that, for the purpose of

performance analysis, they must be compared with previous periods:

Table V – KPI Indicators

FINANCIAL Indicators	What is it for?	How is it calculated?	Where to find the information	Polarity
Return on equity	It represents the equivalent of the maximum rate of remuneration obtained from equity capital invested in the company	Net Income/Equity	Demonstration of Statement (DRE) and Balance Sheet	Positive: the larger the volume, the better.
Net sales profitability	Indicator to identify the viability of the business.	Net income/Revenue	Demonstration of Result of Exercise (DRE)	Positive: the higher the value, the better.
Financial autonomy	It indicates how much equity capital finances the assets.	Equity/assets	Balance Assets	Positive: the higher the value, the better.
CONSUMPTION ENVIRONMENTAL Indicators	What is it for?	How is it calculated?	Where to find the information	Polarity
Specific energy consumption	It represents the total energy consumed by the company from various sources.	Consumption of energy / production volume	In the production management department	Negative: the lower the value, the better.
Specific water consumption	The indicator shows water consumption by	Water consumption/volume of	In the production management department	Negative: the smaller the
	ton produced	production		value, better.
Specific quantity of solid waste	This represents the total amount of solid waste generated in kg during the production process.	Quantity waste (kg) / Production volume (tons)	In the production management department	Negative: the lower the value, the better.

Source: Adapted from Caldeira (2017).

Francischini and Francischini (2017) also present indicators, without exhausting them, that can be applied and measured,

whose results, for the purpose of performance analysis, should be compared with previous months

Table V – KPI Indicators

FINANCIAL Indicators	What is it for?	How is it calculated?	Where to find the information	Polarity
Composition of Costs	It represents the proportion of variable costs in relation to total costs	Total costs variables / total costs	Cost area	The better. bigger,
Composition of labor costs	Verifies labor management in relation to total costs.	Labor cost construction / variable costs	Cost area	The better. younger,
Working hours and total costs	Check the impact of salaries on costs. Totals	Hours Theoretical/Cost of MO	HR Department	The better. bigger,
Average price Unit	Check if the price offered by the company meets market demand.	Total Revenue/Output Real	Cost area	The better. bigger,
Allocation of Capital	The composition of non-current assets when compared to total assets.	Active not Current assets / Total assets	Quality control area, tool shop etc...	The better. bigger,
Productivity of non-current assets	Check the application in non-current assets in relation to	Theoretical capacity/Asset not	Controller	The better. bigger,
	productive capacity	current		

Source: Adapted from Francischini and Francischini (2017).

Francischini and Francischini (2017) remind us that for each indicator there is a responsible sector, which shows that company management requires integration between areas and clarity in objectives to be achieved. Furthermore, John Doerr (2019) recalls Yogi Berra 's famous phrase: "When you don't know where you're going, you may not get anywhere." Following this, the proposal is to learn more about Aura Minerals Inc., or "Aura Minerals," or simply "Aura" or "Company," which is a gold and copper production company focused on the operation and development of mining properties in the Americas, and which has established a subsidiary in the city of Almas, in southeastern Tocantins.

2.3 The Mining Company in the city of Almas, TO

Initially, it is worth highlighting that the Almas region (TO) is recognized as a gold-bearing district due to the various occurrences of gold mineralization in the region and in different geological contexts (SILVA, 2018). The Municipality of Almas (TO) informs that the municipality is located in the southeast of the State in the region known as Serra Gerais and has an area of 4,013.2 km², Porto Alegre do Tocantins and Rio da Conceição are its neighboring municipalities. It has an altitude of 432 meters and is located a distance from the capital of the State of TO Palmas is 310 km long and has 7,586 inhabitants.

The economic, financial, and social boom that has hit the once peaceful town of Almas is noteworthy, as in December 2021 a gold mining project was launched in the municipality. The undertaking was licensed by the company Aura Mineral, which anticipated investments of R\$375 million. The mining company's operational activities take place just 15 km from the city, and the site is expected to encompass all phases of production (BITTENCOURT, 2022). Aura Mineral is a mining company that states it seeks to develop and operate gold, copper, and base and precious metal projects in the Americas (Auraminerals, 2025).

It's possible to highlight the project's relevance to the southeastern region of Tocantins, Aura Minerals Inc. points out that it is a

publicly traded company whose common shares are traded on the Toronto Stock Exchange – Canada's largest city – and also on the São Paulo Stock Exchange – Brazil, Bolsa Balcão (B3). Aura's headquarters are located in Craigmuir. Chambers, Road Town, Tortola, British Virgin Islands. Aura maintains its administrative headquarters through its subsidiary Aura Technical Services Inc., at 255 Giralda Ave, Suite 6W102, Coral Gables, FL 33134, United States of America. Aura Minerals, with shares traded on the National Stock Exchange. Association of Securities Dealers Automated Quotations (NASDAQ), in July 2025 recorded increased liquidity, appreciation of its shares and significant returns through dividend distribution, in addition to planning business expansion and revenue growth for the next four years (Your Money, 2025). Among the various investments made by the company in Brazil, the Aura Almas Mineração SA ("Almas") – Almas Gold Project in Brazil (the "Almas Mine") stands out. This is an open-pit gold mine located in the state of Tocantins, Brazil (Auraminerals, 2025).

Aura Almas Mineração states on its website that its mission is to find, mine, and supply the most important and essential minerals that allow the world and humanity to create, innovate, and prosper. The company's vision is to be one of the most reliable, responsible, respected, and results-oriented mining companies. Its values emphasize that people come first, and consequently, respect, care, and management focused on ethics and innovation. In the context of advancements, Aura Mineral published its sustainable growth plan, which highlights (Auraminerals, 2025):

- 1. High-Quality Assets and Projects:** generating value with high-quality assets and developing projects with expansion potential.
- 2. Robust Financial Statements:** more comprehensive accounting reports that go beyond just the numbers.
- 3. Strong Team and Culture:** a group of employees committed to the company.

Aura Almas is an open-pit mining operation with ore processing using the CIL system and is located in Almas - TO, a volcano

sedimentary sequence. Paleoproterozoic. Almas is one of the largest and least explored greenstones. Belts in Brazil. Aura owns 198,471 hectares of mineral rights in the region, representing a significant growth opportunity, as most of the gold produced in Brazil and worldwide comes from mineralization hosted in Greenstone. Belts: Western Australia, West Africa, Guyana, Canada (Abitibi) and the Iron Quadrangle (MG) (Aura minerals ,2025).

The three main gold deposits of the Almas Project – Paiol, Cata Funda and Vira Saia – are located along a 15 km long corridor of the Almas Greenstone. Belt, which harbors numerous occurrences of orogenic gold. The mining method for all deposits is open-pit. The first deposit explored was Paiol, and production will be supplemented.

In future years, the ore will be processed by the Cata Funda and Vira Saia deposits. The ore is beneficiated in a plant that has a classic CIL circuit implemented near the Paiol pit. In February 2021, Aura Minerals began construction activities on the project (Aura minerals, 2025).

Aura published a sustainability report in 2024 as part of its commitment. With transparency and corporate responsibility in mind, this 2024 Sustainability Report presents the main initiatives and results of Aura Minerals (Aura) in the period between January 1st and December 31st, 2024. Sustainability at Aura is divided into 4 areas of action, forming the acronym EESG (Employees, Environment, Social and Governance), prioritizing employees in the organizational strategy. This report will be duly analyzed at the appropriate time for this research.

3. METHODOLOGICAL PROCESS

Research is defined as the rational and systematic procedure that aims to provide answers to proposed problems. In this sense, research is required when there is not enough information available to answer the problem (Gil, 2025).

The tendency towards classification is a characteristic of human rationality. It allows for better organization of facts and, consequently, their understanding. This research has the characteristics of basicresearch as it aims to fill the gap by identifying the results reported by the company Aura Minerals regarding the application of Key Performance Indicators (KPIs). Indicators in measuring the results of ESG actions. However, it is also applied research when it encompasses.

studies designed to solve problems identified within the societies in which the researchers live (Gil, 2025). According to its objectives, this is an exploratory study, as its purpose is to provide greater familiarity with the problem, in order to make it more explicit. Regarding the methods employed, the research is qualitative, but it is also a bibliographic study with a documentary bias, and this occurs when, in particular, the financial and non-financial reports of Aura Minerals are duly consulted. This secondary data, especially the financial data, will be extracted from the accounting statements of Aura Almas prepared on December 31, 2024.

Based on the bibliography that underpins this research, randomly selected parameters were created, which will make it possible to evaluate and measure the actions through Key Performance Indicators (KPIs). Indicators used by Aura Minerals as shown in:

Table VI – KPI Indicators and Evaluation of Aura Minerals

Key Financial/Non-financial	Sustainability	Positive/negative	Social	Positive/negative	Governance	Positive/Negative
	Specific quantity of solid waste	P	Compose labor cost calculation	P	Return on equity	P
	Consumption specific energy	P	Profitability net sales	P	Financial autonomy	P
	Consumption specific to water	P	Working hours and total costs	P	Allocation of Capital	P

Source: Prepared by the authors (2025).

To the carefully viewing Table VI above, it is possible to analyse and identify the results of Aura Minerals in relation to the application of Key Performance. Indicators for measuring the results of ESG actions.

4. RESULT ANALYSIS

Next, the financial and non-financial information extracted from the documents posted by Aura Minerals will be duly analysed using the previously suggested KPIs; furthermore, the Key Performance Indicators show that monitoring a few indicators is essential for the... a manager to focus their investment of time and resources on acting in the production process they manage, in short, too much information gets in the way (Francischini and Francischini, 2017).

4.1 Key Financial and Non-Financial Factors – Sustainability

4.1.1 - Specific quantity of solid waste

Remember that this KPI is calculated by dividing the quantity of solid waste (kg) by the production volume. The data is collected from the production management, and the ideal indicator is achieved by lowering the value, as the result is better.

The information regarding the numerator of the fraction (quantity of solid waste in kg) in the financial and non-financial reports of Aura Minerals (Alma) is not presented in a quantitative format; however, it is worth highlighting when the company states that all Aura units manage waste through the Solid Waste Management Program, which establishes clear guidelines for operational control and the adoption of best practices at all stages of the process — from generation to final treatment.

Given the lack of quantitative data regarding waste generated from production, this KPI, in terms of its analysis, becomes incomplete; however, we identified the existence of a program focused on waste management. from this indicator. This finding prompts reflection when one recalls Silva, Almeida & Leite Filho, (2024), who state that sustainability requires long-term practices, while financial indicators are mostly focused on a shorter period of time.

4.1.2 – Specific energy consumption

This indicator represents the total energy consumed by the company from various sources. This result is calculated using the fraction: energy consumption / production volume. The information was extracted from the production management, and ideally, the lower the indicator, the better the scenario in relation to ESG practices. The result of this fraction is shown as follows:

Energy consumption = 10.419 = 0.19

Production volume: 54,129 ounces of gold

It is observed that the indicator is close to “zero”, therefore synergistic with what the theoretical framework on the subject points out. In this context, Caldera (2017) says that for the decision-maker, knowing the results achieved, comparing them with the previously defined goals, comparing them with the sector's values, understanding their evolution over time and perceiving their trend generates information of indisputable value.

4.1.3 Specific water consumption

This indicator measures water consumption per ton produced, and the ideal result is a lower value, a better indicator. The fraction below expresses this indicator:

Water consumption = 21.201 = 0.39

Production volume: 54,129 ounces of gold

It is observed that the numerator of the fraction is monetary but the denominator is not; in this sense, there is a new demand from stakeholders for environmental and social information, that is, non-financial information that is not structured in accounting, also called sustainability information, which is presented as a novelty for accounting (Ricci et al., 2023).

It is also observed that the result of this indicator is in agreement with what the theory predicts, as it is close to zero, which can be understood as meaning that there is accurate sustainability management in the relationship between water consumption and ton of gold produced.

4.2 Key Financial and Non-Financial – Social

This indicator relates to how the company treats its workforce, its human resources, its employees, and in this sense, it analyzes the consumption of resources and labor:

4.2.1 - Composition of labor costs

This indicator verifies the relationship between labor and total costs and is calculated using this fraction: labor cost/variable costs. This information is abstracted from the cost accounting area, and the lower the result, the better, as demonstrated below:

Labour cost = 132,030 = 94

Variable costs 1,401

This indicator demonstrates that labour costs represent 94 times the variable costs, such as the materials used in gold production. Therefore, it can be understood that Aura Almas has a significant

number of people working in the gold mine, when compared to the variable costs, a positive reality.

In the scenario described above, Larrinaga (2023) is cited when he states that although human rights may not be financially relevant, they are sustainably relevant. Sridharan (2018) complements this by saying that there is increasing pressure from stakeholders for corporate sustainability actions and practices, so that the performance of organizations in ESG matters has become increasingly relevant. It is also highlighted that ESG indicators function as effective tools for risk management, institutional reputation, and organizational credibility (Abdi et al. 2022).

4.2.2 – Net Profitability from Sales

This indicator makes it possible to identify the viability of the business and results from the Net Income/Revenue ratio. This data is extracted from the accounting statement called the Income Statement, and a positive relationship occurs when the value is higher, indicating better performance.

As demonstrated:

Net Profit = 120,328 = 0.26

Revenue 454.103

The result can be interpreted to mean that net income corresponds to 26% of revenue earned, therefore costs, expenses, and taxes consumed 74% of revenue. This finding, originating from accounting information, confirms that accountants are the professionals who possess the knowledge, capacity, and skill to use accounting mechanisms as a tool for change in a new era, the era of sustainability, in which economic information is not the only focus of discussion for companies (Roberts et al., 2021).

Spitzes (2021) is cited when he states that ESG is no longer a discussion separate from business. Currently, market and stock exchange analysts have incorporated ESG issues into valuation models.

4.2.3 – Working Hours and Total Costs

The indicator that relates working hours to total costs allows visualization of the impact of salaries on total costs. This indicator is calculated by the ratio of working hours to labor costs. This data is obtained from the HR department, and the ideal indicator shows that the result is positive, in the sense that the higher the better, as demonstrated below:

Working hours = 288000 = 1.80

Labor cost 159,528

From the above result, it can be deduced that the number of hours worked has a representativeness of 1.80 when related to the cost of labor; in other words, the total cost of labor is not directly related to the hours of the workforce. In the context of the above result, it is possible to highlight Savegnago et al. 2022 when they say that... The integration of social responsibility and sustainability practices has brought about significant changes in the dynamics internal from organizations, intensifying the demand for transparency in the sustainable actions adopted.

4.3 Key Financial and Non-Financial Factors – Corporate Governance

4.3.1 Return on equity

This indicator aims to identify the maximum rate of return obtained on equity capital invested in the company. This rate is calculated using an equation where the numerator is net income and the denominator is equity capital. The data is extracted from the accounting statements called the Income Statement and the Balance Sheet. A positive rate occurs when the net income is higher, as shown below:

$$\text{Net Profit} = 120,328 = 0.28$$

$$\text{Equity capital} = 422,517$$

It can be inferred from the result that equity is being remunerated at approximately 0.28, which is understood to be natural when the company is in its initial phase. It is understood that this indicator tends to increase over the course of the business's management; thus, Silva, Almeida & Leite Filho (2024) state that sustainability requires long-term practices. In this context, Sridharan (2018) says that there is increasing pressure from stakeholders for corporate sustainability actions and practices, so that the performance of organizations has become increasingly relevant.

4.3.2 Financial autonomy

Another indicator that deserves highlighting is Financial Autonomy, which shows how much equity capital is available to finance the company's assets. The result of this indicator is derived from an equation where the numerator is equity capital and the denominator is the total asset value. This data is obtained from the company's Balance Sheet, and a positive result is indicated when it is higher, thus indicating a better outcome, as demonstrated below:

$$\text{Equity} = 422,517 = 0.22$$

$$\text{Assets} = 1,910,548$$

The indicator

The above expresses that total assets represent approximately 22% of the value of equity. In this context, it is possible to recall Spitzes (2021), who says that ESG is no longer a discussion separate from the business. Currently, market and stock exchange analysts have incorporated ESG issues into valuation models.

4.3.3 Capital Allocation

Finally, the Capital Allocation indicator stands out, which expresses the composition of long-term assets in relation to total assets. This indicator is found using the equation: non-current assets divided by total assets, and in the case of an industrial company, the result is positive; the lower the number, the better, as demonstrated below:

$$\text{Non-current assets} = 1,351,069 = 0.70 \text{ Total assets } 1,910,548$$

The indicator signals that 70% of total assets are composed of non-current assets. This is a common indicator when the company operates in the transformation sector, such as Aura Almas. Furthermore, Savegnago et al. (2022), when expressing about the integration of social responsibility and sustainability practices, they say, has provoked significant changes in the internal dynamics of organizations, intensifying the demand for transparency in the sustainable actions adopted. Finally, it is understood that ESG programs should go beyond the norm, bringing a competitive and profitable advantage (Polido, Barbato & Moura, 2019). It is understood that there is sufficient critical mass to direct the research towards the final considerations.

5. FINAL CONSIDERATIONS

It is noteworthy that the objective of this work was to identify the results reported by the company Aura Minerals regarding the application of Key Performance Indicators. Indicators for measuring the results of ESG actions. To achieve the outlined purpose, and based on the bibliography that underpins this research, randomly chosen parameters were created, which made it possible to evaluate and measure the actions through Key Performance Indicators. Indicators used by Aura Minerals.

Based on the measurement of the parameters developed, it is possible to conclude that, in relation to sustainability, social and governance actions, all are positive, a reality that allows us to express that Aura Almas Minerals has carried out actions committed to ESG requirements.

One limitation of this research is that the secondary data was extracted from reports produced by the company Aura Almas, which, although audited, does not provide the desired level of objectivity to the research results.

Finally, further research is suggested with the adoption of a greater number of Key Performance Indicators. Indicators, and thus it will be possible to obtain more robust results when compared with the indicators of this research.

REFERENCES

1. Abdi, Y., Li, X., & Càmara-Turull, X. (2022). Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance in the airline industry: The moderating role of size and age. *Environment, Development and Sustainability*, 24(4), 5052–5079.
2. Alves, R. R. (2024). *The Power of ESG: Why, from Now On, Companies Will Truly Be Sustainable* (1st ed.). Rio de Janeiro: Alta Books.
3. Amel-Zadeh, A., & Serafeim, G. (2017). Why and how investors use ESG information: Evidence from a global survey. *Financial Analysts Journal*, 74, 87–103.
4. Atchabahian, A. C. R. (2022). *ESG: Theory and Practice for True Sustainability in Business*. São Paulo: Expressa.
5. Auramineralis. (2025). Available at: <https://www.auramineralis.com/quemsomos/#culturaaura-360>. Accessed September 19, 2025.
6. Bittencourt, C. (2022). Changes in the legal framework for mining in Brazil: Tension between regulation and deregulation. *Brot für die Welt – Evangelischer Entwicklungsdienst*. Available at: <https://doczz.es/doc/1373686/mudan%C3%A7a-no-marco-legal-da-minera%C3%A7%C3%A3o-no-brasil-tens%C3%A3o-entre>. Accessed September 10, 2025.
7. Bukari, A., Agyemang, A. O., & Bawuah, B. (2024). Assessing the moderating role of ESG performance on corporate governance and firm value in developing countries. *Cogent Business & Management*, 11(1).
8. Caldeira, J. (2017). *100 Management Indicators*. Coimbra, Portugal: Conjuntura Actual Editora S/A.
9. Capelli, P., Ielasi, E., & Russo, A. (2021). Forecasting volatility by integrating financial risk with environmental, social, and governance risk. *Corporate Social Responsibility and Environmental Management*, 28(5), 1483–1495.
10. Cardia, A. C. R. (2022). Companies and Human Rights in the Post-Pandemic Era: Effective Changes or Maintaining Appearances.

11. Cunha, J. G. M. C. da, Deretti, S., & Silva, E. D. da. (2015). Corporate governance and corporate social responsibility: A systematic review of this relationship. *Revista de Ciências da Administração*, 123–140.
12. Doerr, J. (2019). *Measure What Matters: How Google, Bono, and the Gates Foundation Shook the World with OKRs*. Rio de Janeiro: Alta Books.
13. Ferreira, J. C., Santos, T. C. B., First, C., & Bertolini, G. R. F. (2021). Analysis of the economic and financial performance of companies participating and not participating in the ISE portfolio – Corporate Sustainability Index. *Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ*, 26(1), 78.
14. Ferreira Neto, A. S. (2024). *Analysis of ESG Performance Applied to Port Terminals: The Case of the Ponta da Madeira Port* (Master's dissertation). Federal University of Maranhão, São Luís, MA.
15. Firmino, A. L., & Peixoto, F. M. (2025). ESG performance and its impact on greenhouse gas emissions performance in Latin America. *Revista Contabilidade & Finanças – USP*, 36(97), e2089.
16. Francischini, A. N., & Francischini, P. G. (2017). *Performance Indicators: From Objectives to Action – Methods for Developing KPIs and Obtaining Results*. Rio de Janeiro: Alta Books.
17. Gil, A. C. (2025). *How to Prepare a Research Project* (5th ed.). São Paulo: Atlas.
18. Hinojosa-López, J., Ayup-González, J., & Cogco-Calderón, A. (2020). Corporate image and job satisfaction in potential employees of the banking sector. *Research Administrativa*, 125, 1–20. <https://doi.org/10.35426/iav49n125.04>
19. Brazilian Institute of Corporate Governance (IBGC). (2020). *Positive Governance Agenda: Measures for Governance that Inspires, Includes and Transforms*. São Paulo: IBGC. Available at: <https://conhecimento.ibgc.org.br/Lists/Publicacoes/Attachments/24360/Agenda%20Positiva.pdf>. Accessed September 10, 2025.
20. Irigaray, H., & Stocker, F. (2022). ESG: New concept for old problems. *Cadernos EBAPE.BR*, 20(4).
21. Konnth, E., & Lueg, R. (2022). Corporate sustainability and risk management: The U-shaped relationships of disaggregated ESG rating scores and risk in the German capital market. *Sustainability*, 14(9), 5735.
22. Larrinaga, C. (2023). Sustainable accounting: ESG approaches are not enough. *Revista Contabilidade & Finanças – USP*, 34(91), e9042.
23. McKinsey & Company. (2025). *Diversity Matters: Latin America*. Available at: https://www.mckinsey.com/br/~/media/mckinsey/locations/south%20america/brazil/our%20insights/diversity%20matters/diversitymatters_en.pdf. Accessed August 10, 2025.
24. Monteiro, G. F. A., Miranda, B. V., Rodrigues, V. P., & Saes, M. S. M. (2021). ESG: Disentangling the governance pillar. *Revista de Administração – RAUSP*, 56, 482–487.
25. Paschoal, T. (2008). *Well-Being at Work: Relationships with Organizational Support, Axiological Priorities and Opportunities to Achieve Personal Values at Work* (Doctoral dissertation, University of Brasília). Retrieved from <https://repositorio.unb.br/handle/10482/5551>
26. Municipal Government of Almas. (2018). *Municipal Development Plan: Basic Sanitation in Almas*. Almas Municipal Government.
27. Polido, F. B. P., Barbato, M. R., & Moura, N. das. (2019). *Work, Technologies and the Global Challenges of Human Rights: Studies and Critical Perspectives*. Rio de Janeiro: Lumen Juris.
28. Porter, M. E. (1986). *Competition in Global Industries*. Harvard University Press.
29. Ricci, T. G., Geron, C. M. S., Araújo, D. J. C., & César, A. M. R. V. C. (2023). Recommendation of an opportunity for improvement in accounting with the inclusion of an approach oriented towards environmental and social impacts in a municipal sanitation company. In *9th Meeting of Professional Postgraduate Programs in Administration*. FEA/USP.
30. Romão, B. J. P., & Callado, A. A. C. (2020). Relationship between the disclosure of indicators of non-financial performance and the market value of capital companies. In *10th UFSC Congress on Controllershhip and Finance*. Santa Catarina.
31. Roberts, L., Hassan, A., Elamer, A., & Nandy, M. (2021). Biodiversity and extinction accounting for sustainable development: A systematic literature review and future research directions. *Business Strategy and the Environment*, 30(1), 705–720. <https://doi.org/10.1002/bse.2649>
32. Samy El-Deeb, M., Ismail, T. H., & El Banna, A. A. (2023). Does audit quality moderate the impact of environmental, social and governance disclosure on firm value? Further evidence from Egypt. *Journal of Humanities and Applied Social Sciences*, 5(4), 293–322.
33. Savegnago, C. L., Gomez, S. da R. M., & Corte, M. G. D. (2022). The 2030 Agenda in Brazilian federal universities: An exploratory study. *Revista Humanidades e Inovação*, 9(14), 227–238.
34. Saxena, A., et al. (2023). Technologies empowered environmental, social, and governance (ESG) in the Industry 4.0 landscape. *Sustainability*, 15(1).
35. Your Money. (2025). Available at: <https://www.seudinheiro.com/2025/empresas/auramineral-aura33-desponta-com-aforca-da-nasdaq-e-ouro-nas-maximas-julw/>. Accessed September 23, 2025.
36. Silva, M. A. O. (2018). *Mineral growth in pressure shadows: An example for the Paíol deposit, municipality of Almas, Tocantins (TO)*. 24th UnB Scientific Initiation Congress and 15th DF.
37. Silva, C. M., Almeida, S. R., & Leite Filho, P. A. (2024). Influence of non-financial indicators and voluntary ESG disclosure on the market value of entities. *Journal of Administration, Accounting Sciences and Sustainability*, 14(2).
38. Slidharan, V. (2018). Bridging the disclosure gap: Investor perspectives on environmental, social & governance (ESG) disclosures. *Master of Environmental Studies Capstone Projects*, 72. Retrieved from https://repositorio.upenn.edu/mes_capstones/72
39. Slivastav, A., & Hagendorff, J. (2016). Corporate governance and bank risk-taking. *Corporate Governance: An International Review*, 24, 334–345.

40. Spitzzeck, H. (2021). A sustainability dead? Long live ESG. In Session 1: Is ESG a Trend? [E-book]. FDC, pp. 4–9. Available at: https://ci.fdc.org.br/AcervoDigital/Ebooks/2021/ESG%201/Sess%C3%A3o1_ESG.pdf. Accessed August 7, 2025.