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Crafting Company Strategic Objectives Using Three-Dimensional Model

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Abstract

Balanced Scorecard (BSC) and Sustainable Development Goals (SDGs) are two frameworks that have gained considerable attention in recent years, particularly in the context of organizational sustainability and shared value creation for the stakeholders including local communities. The Balanced Scorecard (BSC) is a strategic management methodology aims to achieve a balance between financial performance and non-financial goals and objectives, while ensuring that the organizational objectives aligned with the business strategy developed by Robert Kaplan and David Norton. Sustainable development has become a global concern as the world faces environmental and social challenges. The United Nations' SDG provide a framework for addressing these challenges, but implementing the SDGs into an organization's strategic planning can be challenging. This paper proposes a new model called the three-dimensional model (3D model), which combines the SDGs with the BSC to help organizations integrate sustainability into their strategic planning. The proposed 3D model provides a practical approach to organizations seeking to create long-term value while also addressing environmental and social challenges.

Keywords: strategic objectives, balanced score card, SDG, shared value, 3-dimensional model

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Introduction and previous research

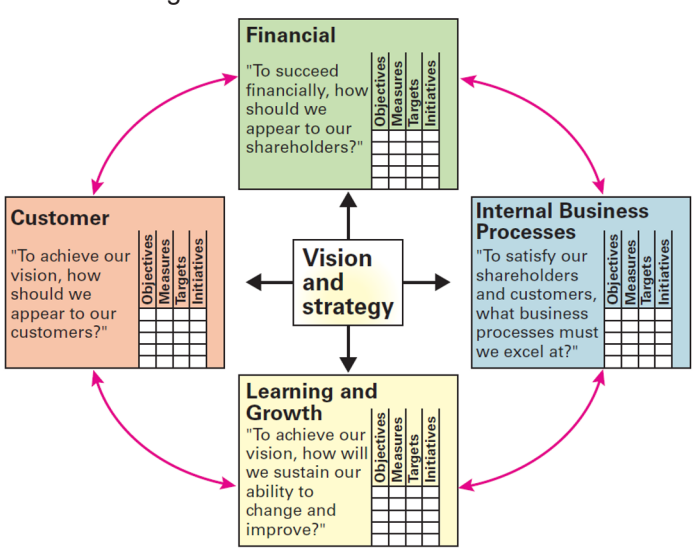
Need for the integration of sustainability and triple bottom line concepts into BSC. In the present business landscape, organizations face growing pressure from stakeholders to adopt sustainable and environmentally conscious business practices (Global Reporting Initiative, 2018). Consequently, companies are shifting towards a strategic approach to integrate sustainability concerns into their strategies (Hristov et al., 2021). Many organizations now consider corporate environmental and social impact as a primary objective, on par with economic performance (Burchman, 2018). Additionally, there is an increasing need for organizations to seek assistance in meeting their strategic sustainability goals due to the incremental nature of technological advancements towards sustainability (Geissdoerfer et al., 2018).

The integration of sustainable development and the Triple Bottom Line (TBL) concept into the Balanced Scorecard (BSC) framework has gained significant attention in recent years. This literature review aims to provide an overview of the key themes, developments, and findings in research that explore the linkages between the BSC, sustainable development, and the TBL.

The BSC was initially introduced by Kaplan and Norton in the early 1990s as a framework for balancing financial and non-financial metrics (Kaplan & Norton, 1992). It evolved from a simple measurement system to a strategic management tool encompassing multiple perspectives such as Financial, Customer, Internal Processes, and Learning & Growth (Kaplan & Norton, 1996). Researchers have explored the conceptual foundations and theoretical underpinnings of the BSC, highlighting its role in linking strategy with performance (Hoque, 2014).

The original BSC argued for a scorecard of measurements balanced between financial and non-financial metrics. The non-financial metrics were grouped into “perspectives” named Customers, Internal Processes, and

Figure 1. The Balanced Scorecard



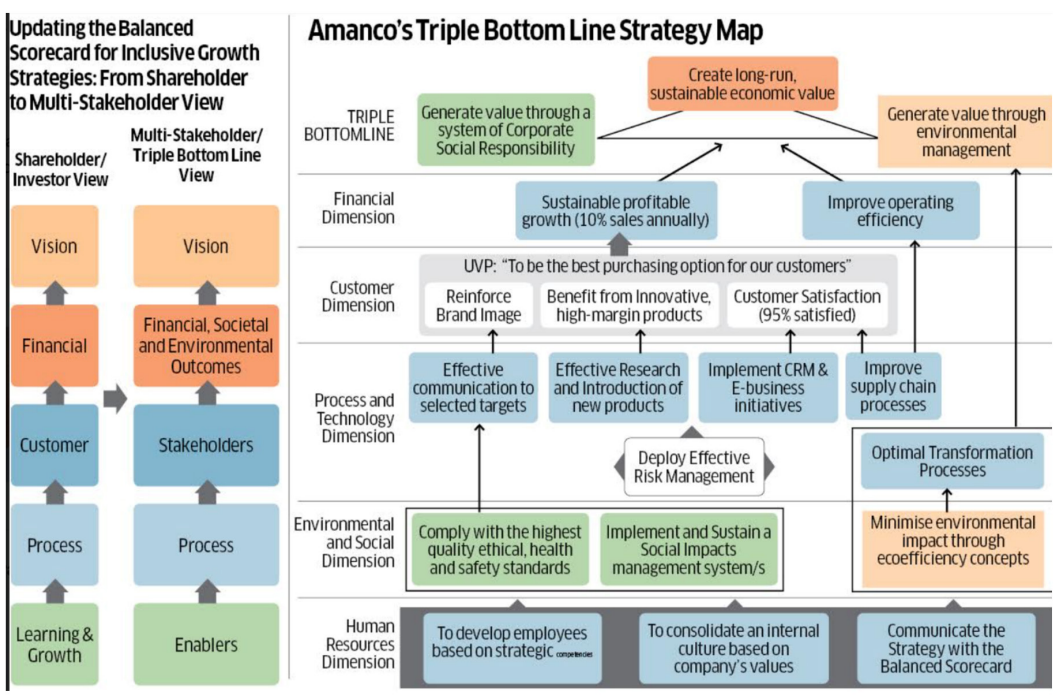
Source: Kaplan & Norton, 1992

Learning & Growth. Objectives and measures in the four perspective structure could be linked to describe the cause-andeffect relationships in a profitable strategy. For example, a company with a vision to achieve the highest market share in its industry needs to achieve certain financial outcomes including increased revenue and a scalable cost structure. Revenue growth requires that a business attract its target customers with a compelling value proposition. To deliver that value proposition at the right cost, it must excel at a variety of internal processes, including innovation. Finally, to perform those internal processes exceptionally well, a high-performance workforce must be recruited, retained, trained, motivated, and be supported by appropriate technologies and an aligned corporate culture.

The strategy map was introduced by Kaplan and Norton (2000) as a critical element to address the weaknesses of the BSC in strategy execution, particularly the need for a clear linkage to strategic processes. Previous studies have extensively examined BSC and strategy maps in various industry contexts (Yüksel and Dagdeviren, 2010; Rabbani et al., 2014; Kala and Bagri, 2016; Falatoonitoosi et al., 2012). However, the BSC has faced criticism (Benet et al., 2019;) Robert S. Kaplan David McMillan (2022) recently updated the BSC and strategic map into a new BSC template for multi-stakeholder triple bottom line strategies (Figure 2) and organizations adopts such as Amarco.

The execution phase of strategy has been criticized for low administrative awareness, an increasing failure rate, and diminished prospects for higher corporate performance (Strohhecker, 2016). The Balanced Scorecard (BSC) has emerged as a widely recognized and integrated performance evaluation technique (Tawse and Tabesh, 2023). It enables the creation of a strategy

Figure 2. Amarco's Triple Bottom Line Strategy Map



map, communication of an organization's strategy to stakeholders, and adherence to strategic processes (Kaplan and Norton, 1992; Valmohammadi and Sofiyabadi, 2015). The adoption of a BSC enhances an organization's ability to successfully implement its strategy and improve performance (Kaplan and Norton, 1996). Jassem et al. (2022) emphasize the necessity of incorporating social and environmental concerns into a basic BSC approach for sustainable business practices. Moreover, Kaplan and Norton (1996) suggest that different situations may require one or more perspectives, and the BSC has the potential to include environmental and social factors in the overall management plan.

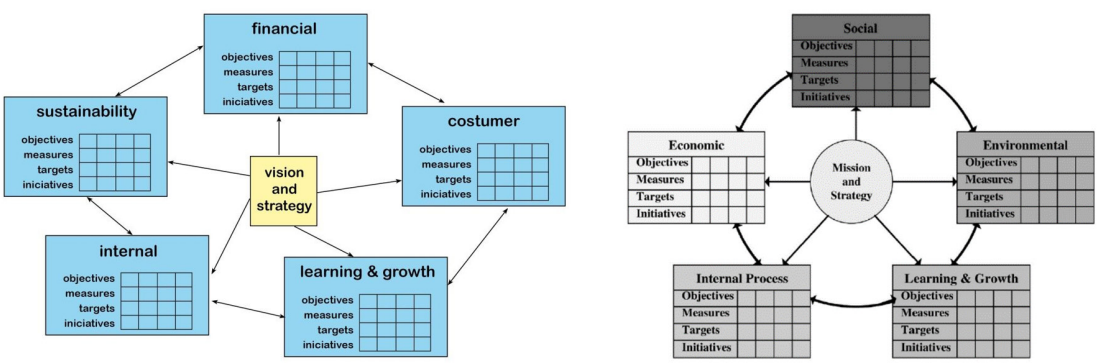
To address sustainability concerns, the Sustainability Balanced Scorecard (SBSC) framework was developed by adding a sustainability perspective to the BSC. It serves as a valuable tool for managing sustainability (Chai, 2009). Various approaches have been explored by researchers to incorporate sustainability into the traditional BSC, such as adding a specific sustainability perspective, partially or fully integrating sustainability indicators, or expanding the core BSC (Hristov et al., 2021; Mio et al., 2021; Hansen and Schaltegger, 2018; Figge et al., 2002). However, scholars differ in their opinions on the most effective SBSC architecture to achieve sustainability performance goals (Jassem et al., 2022; Hansen and Schaltegger, 2016).

SBSC that adds a fifth perspective to the BSC, as suggested by Kaplan and Wisner (2009), Hansen and Schaltegger (2018), Kalender and Vayvay (2016), Figge et al. (2002), and Rabbani et al. (2014). To effectively implement any BSC framework, a strategy map must be developed. The strategy map represents the "performance model" linked to an organization's strategic vision and illustrates the interrelationships among different performance criteria (Kaplan and Norton, 2000). It explores the cause-and-effect relationships that drive value creation for customers and shareholders while achieving strategic goals (Quezada et al., 2022).

Methodology and research

This study focuses on new strategic management method so called “Three-Dimensional Model” (Figure 4) which aims to integrate of SDG or sustainability concepts of long term goals into BSC as a third dimensions rather than fifth perspectives of the original BSC (concluded in SBSC)

Figure 3. Balanced Scorecard with the Fifth Category



Source: Rabbani, 2014

Figure 4. Proposed Framework - Three Dimensional Model

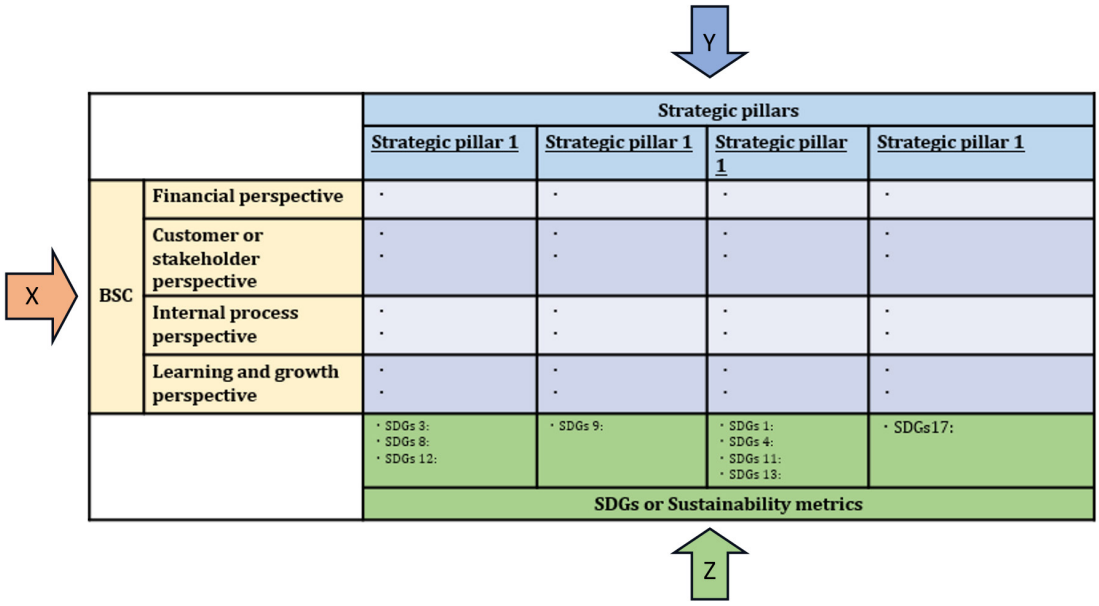
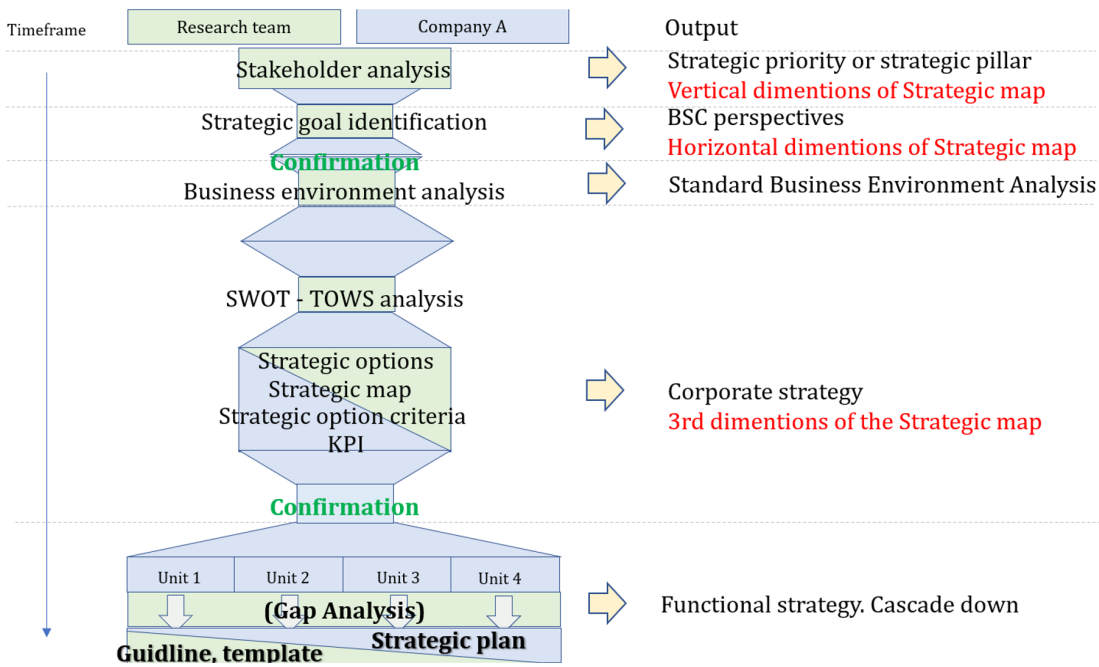


Figure 5. Research Team Working Framework



or using triple bottom line as an strategic pillars (concluded in TBL). The Y dimensions represent strategic pillars, previously identified as priorities. The X dimensions correspond to the original Balanced Scorecard (BSC) perspectives. Lastly, the Z dimensions represent sustainability metrics, preferably aligned with the Sustainable Development Goals (SDGs).

Crafting a strategic plan is a complex

process that involves a series of analyses, including stakeholder analysis, strategic goal identification, and examination of the organization's internal and external business environments. This process also includes the development of a strategic map and a balanced scorecard, followed by cascading all strategic goals into key performance indicators (KPIs) for each of the organization's units. These steps were systematically conducted in the chosen company in accordance with the work plan illustrated in Figure 5.

Findings

Stakeholder analysis

In the stage of identifying the strategic pillars and conducting stakeholder analysis for the chosen company, the following critical factors or guidelines are considered:

- Development Guidelines of Mongolia,
- Relevant Legislation for Activities in the Sector,
- Strategic Pillars of Major Global Mining Companies,
- Policies and Programs Developed by the Mongolian Government, including:
  - "Vision-2050" Long-term Development Policy (2020),
  - Mineral Law (2014, 2017),
  - Policy Document on Industrial Development (2015),
  - Policy Document on Ecological Issues (1997).

The Strategic Action Plan of the Government of Mongolia for 2020-2024 (2020) should also be taken into account. To ensure an objective determination of key terms, a cluster analysis should be conducted, with results presented in Figure 6. Based on the findings of this analysis and the strategic pillars identified in the policy documents, it can be concluded that the main strategic directions are "Production," "Research and Innovation," and "Sustainable Development." Each company may, however, define its own strategic pillars based on its specific activities, achievements, and future plans.

Strategic priorities of major global mining companies

When selecting the main directions of the strategy, the following initial documents serve as a basis:

Figure 6. Hierarchical Cluster Analysis of Policy Documents

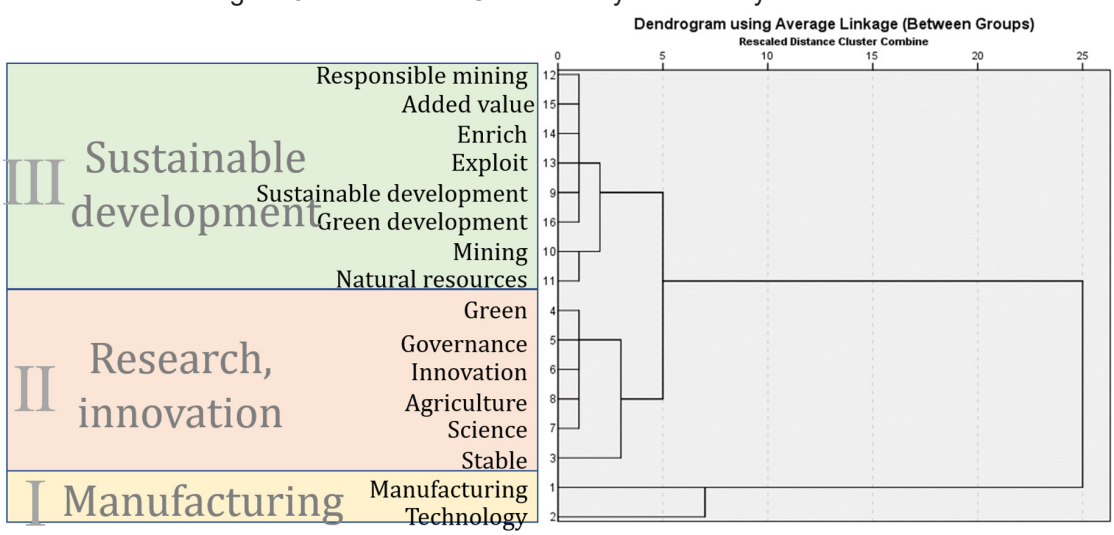


Table 1. Strategic Priories of Top Mining Companies Included in Responsible Mining Index 2020, conducted by research team

				Strategic pillars			
List	Names	SDG integration / Sustainability report	ESG	1	2	3	4
1	Anglo American	✓	✓	Technology & digitalization	Sustainability		
2	AngloGold Ashanti	✓	✓	Safety	Environment	Health	Community & Governance
3	Antofagasta	✓		People	Safety and sustainability	Competitiveness	Growth
4	ArcelorMittal	✓	✓	Health and safety	Product innovation	Environment	Climate change
5	Banpu	✓		Greener	Smarter	Sustainablity	
6	Barrick Gold Corp	✓	✓	Asset quality	Operational excellence	Sustainable profitability	
7	BHP	✓	✓	Best culture and capabilities	Best commodities	Best assets	
8	Buenaventura	✓	✓	Safety	Community relations	Environment	
9	Bumi Resources	✓		Shareholder's value	Innovation	Growth	
10	China Shenhua	✓	✓	N/A			
11	Coal India	✓		N/A			
12	CODELCO	✓	✓	People & Organization	Digital transformation	Sustainability	Ethics & Transparency
13	ERG	✓	✓	Growth / Sales	Diversification	Solar energy	Legacy
14	Evraz	✓	✓	Health, Safety, Environment	Human Capital	Customer focus	Asset Development
15	Exxaro Resources	✓	✓	Ensuring sustainability of business	Portfolio optimization	Operational excellence	Capital allocation priorities
16	First Quantum Minerals	✓	✓	Economically viable investments	Technically appropriate ope	Environmentally sound pra	Socially responsible actions
17	Fortescue	✓	✓	Balance sheet strength	Long term sustainability	Growth and development o	Return to shareholders
18	Freeport-McMoRan	✓	✓	Global industry leader (Reputation)	l operator (Operational exce	World class developer (Soc	Block cave leader (Innovation)
19	Glencore	✓	✓	Be leader in enabling decarbonization	Meet demand for metals in	Responsibly meet the energy needs of today	
20	Gold Fields	✓	✓	Capital discipline	Safe operational delivery	Portfolio management	Innovation
21	Grupo México	✓	✓	N/A			
22	Industrias Peñoles	✓	✓	To ensure profitable growth (Profit)	Company's performance (S	To have people to ensure t	To be a Competitive Producer (
23	MMG	✓	✓	Growth	Transformation	People	Reputation
24	Navoi MMC	✓	✓	Employees	Innovation and R&D	Social investment	Economic Stability and Product
25	Newcrest Mining	✓	✓	Safe and sustainable business	The best people	Outstanding operation	Leadership in Innovation and C
26	Newmont	✓	✓	Health and Safety	Operational excellence	Growth	People
27	NMDC	✓		Community	Finance	Partnership	Communications
28	Nordgold	✓		People	Environment	Operations	
29	Orano	✓	✓	Communities	Climate	Competencies	Customer Growth
30	Peabody Energy	✓	✓	Growth	Operational excellence	Generating cash	
31	Polymetal	✓	✓	Robust performance	Delivering growth	Securing the future	Governance and sustainability
32	Rio Tinto	✓	✓	Safe responsible and profitable busine	Enable long term economic	Pioneering for human progress	
33	RUSAL	✓	✓	ESG	Unlocking the resource bas	Downstream upgrade	Digitalization
34	Sibanye-Stillwater	✓	✓	Value based culture	Safety and operational exce	Optimizing capital allocatio	Value-accretive growth
35	Teck	✓	✓	Renewing our technology infrastructur	Accelerating and scaling aut	Connecting data systems to	Empowering our employees
36	Vale	✓	✓	Safety and operational excellence	New pact with society	Base Metals transformation	Discipline in capital allocation
37	Vedanta Resources	✓	✓	Operational excellence	Reserve our license to oper	Optimize capital allocation	Delivering on growth opportun
38	Zijin	✓	✓	Growth	Production capacity	Transformation towards ad	Innovation and technology

- Main Directions of the Balanced Scorecard (BSC) used by major international companies (Table 1),
- Opinions from the Company's Stakeholders.

In recent years, major mining companies have been aligning their strategies with the Sustainable Development Goals (SDGs) and publishing reports on their progress. The SDGs have been in effect since 2015, following the completion of the Millennium Development Goals over a 15-year period. During the 70th United Nations General Assembly in 2015, the 17 goals and 169 targets of the SDGs were adopted, with implementation beginning on January 1, 2016, worldwide. To ensure alignment between the UN's SDGs and the mining sector's objectives, the following two main documents have been developed:

- UNDP - Mapping Mining to the SDGs: An Atlas (2016). This document emphasizes collaboration among all stakeholders in the sector to achieve the SDGs. It provides a comprehensive overview of the mining sector's potential contributions and challenges related to the SDGs, using knowledge and examples of sustainable development.
- Responsible Mining Foundation - Mining and the SDGs: 2020 Status Update. This report, even a decade after the start of the SDGs, highlights the importance of understanding how companies are implementing the goals and what actions they are taking. It underscores the mining companies' contributions to the SDGs and the impact of the COVID-19 pandemic on the sector.

Table 2. Keyword analysis of strategic priorities of top mining companies, conducted by research team

No	Keywords	Frequency
1	Growth	14
2	Innovation	12
3	Safety / health	10
4	Operational excellence	9
5	Sustainability	8
6	Environment	7
7	ESG	4
8	Technology	4
9	Climate	3
10	Digitalization/Digital	3
11	Community	3
12	Cash	2
13	Finance	1
14	Competitiveness	1

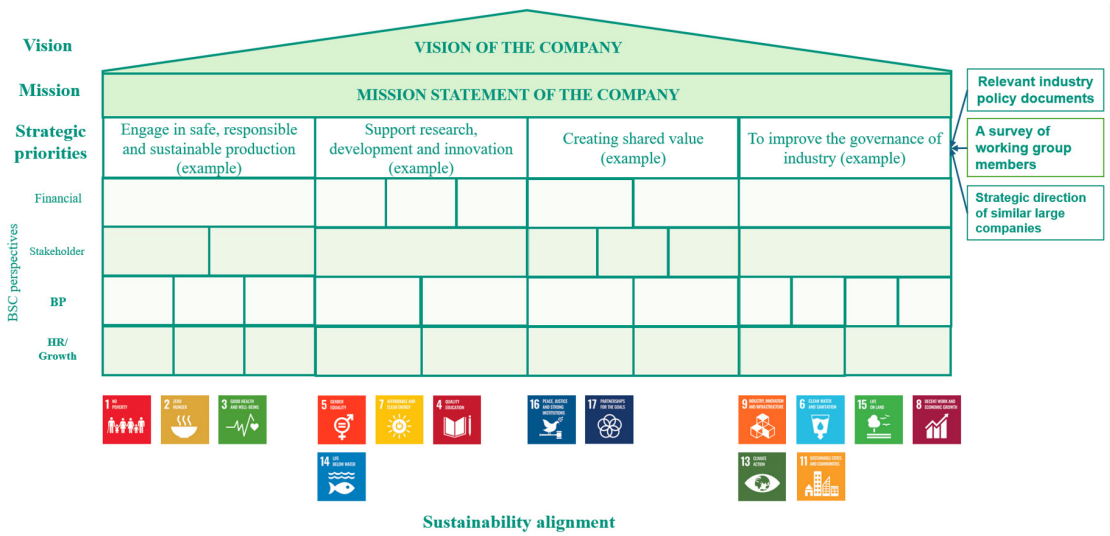
In 2020, the strategies of 38 major mining companies operating in Thailand were examined to determine their alignment with the SDGs. These findings were presented via online platforms and websites, along with relevant reports, to foster discussions and comparisons. The following observations were made:

- All companies are incorporating sustainable development into their operations and addressing environmental, social, and governance (ESG) investments.
- All companies are aware of sustainable mining practices and are actively taking steps to align with the SDGs.

Strategic map and cascading

The subsequent stages of our research are held in confidence due to the sensitive nature of our investigation. The remaining aspects of our study are detailed in Figure 7. It's important to note that vision and mission statements can vary among organizations. To identify strategic priorities, we conducted a thorough analysis that considered industry policy documents, feedback from key stakeholders, and best practices observed in leading companies within the industry. The strategic mapping process involved close collaboration with industry experts and engagement with top and middle management in the organization to gain a comprehensive understanding of both external market dynamics and internal capabilities.

Figure 7. Model Illustration, conducted by research team



Conclusion

In conclusion, the Balanced Scorecard (BSC) has maintained its position as the primary framework for companies' strategy execution and management-by-objectives systems over the past three decades. By adapting to reflect the evolving role of businesses in society, the BSC and Strategy Map perspectives are poised to remain powerful tools for organizations in enhancing their strategy execution practices well into the future.

Moreover, our proposed "Three-Dimensional Model" alongside the BSC and strategic maps demonstrate their suitability and relevance within the Mongolian business environment, effectively capturing its changing dynamics.

Moving forward, there is potential for further exploration into topics such as the changing nature of the modern era, dynamic capabilities, a systems perspective, and digital transformation. These areas of study could provide valuable insights into optimizing strategy execution practices and adapting to the evolving business landscape.

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