

Adaptive Survival Strategies Amid Energy Transition and Price Volatility: Case Study of PESTEL Integration - SWOT and Dynamic Capability in PT ABC Coal Traders

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Abstract. This study aims to test and formulate adaptive survival strategies for medium-scale coal trading companies in Indonesia that face price volatility, energy regulation, and global market uncertainty. Using the case study of PT ABC (an independent trader without mining assets), a qualitative approach was applied through a semi-structured FGD of two 120-minute sessions with six internal informants (four core management, one administrative staff, and one field staff). The analysis was carried out sequentially: PESTEL assessed external pressures, SWOT mapped strengths and weaknesses, and then Dynamic Capabilities and McKinsey 7S evaluated the organization's adaptation readiness. The results show that PT ABC excels in supply network and operational flexibility but is weak in internal governance and HR structure. A defensive strategy is recommended: operational efficiency, strengthening of organizational functions, and asset-light limited export expansion. This study enriches the literature by integrating an external-internal framework for independent commodity traders and opens up research space on the relationship between adaptive organizational structure and the success of survival strategies in the transitional fossil energy sector.

Keywords: Adaptive Survival Strategy, Energy Transition, Price Volatility.

INTRODUCTION

Indonesia's coal industry is in a complex transition phase. On the one hand, fossil energy such as coal continues to be pressured by the global energy transition agenda, shifts in international financing, and public perception related to environmental issues. On the other hand, domestic needs have actually increased. National coal demand is projected to rise from around 240 million tons in 2024 to 280–300 million tons by 2030, in line with the needs of Steam Power Plants (PLTU), metal smelters, and the cement industry. This condition creates strategic ambiguity for business actors: whether to prepare to exit the industry or to consolidate their position (Putra & Mulyantini, 2021).

In this context, domestic coal trading companies that are not integrated with mines or downstream facilities face a strategic dilemma (Dychkovskyi, Falshtynskyi, Ruskykh, Cabana, & Kosobokov, 2022). PT ABC is a real example of a medium-scale business that operates in a liquid asset model, with no fixed investment in mining, infrastructure, or heavy assets. The company operates only 14 employees, covering procurement, logistics, administration, and sales functions. PT ABC's coal sales volume varies depending on market opportunities, with average transactions ranging from 500,000 to 700,000 tons per year in short-term and spot contract schemes (Kurtmollaiev, Fjuk, Pedersen, Cuthbertson, & Kokkinou, 2018). Despite being flexible, the company faces significant pressure from DMO regulations, price fluctuations, limited human resources, and increased competition from large-scale traders and miners who are beginning to penetrate the domestic market directly (Helfat & Peteraf, 2019).

Until now, there remains a gap in empirical studies that specifically examine the survival strategies of independent traders in the Indonesian coal industry, especially those using a

simultaneous external-internal integrative analysis framework (Teece, 2018a; Teece, 2018b). Most studies focus on large mining companies, multinational corporations, or macro energy policies (Vasileva & Nikolova, 2021). Therefore, the case study of PT ABC is important not only to provide practical solutions but also to contribute a theoretical framework to the literature on adaptive strategies in the fossil energy sector (Kurtmollaiev, Pedersen, Cuthbertson, & Kokkinou, 2020).

The main problem of this study lies in the strategic gap faced by independent coal traders in Indonesia in dealing with the dynamics of the global energy transition and domestic market volatility. Independent traders like PT ABC face multiple layers of pressure: (1) increasingly stringent and unpredictable energy regulations, (2) extreme post-pandemic coal price volatility, (3) competition from large mines that are starting to sell directly to end consumers, and (4) limited resources to adapt to changing technologies and ESG standards. The urgency of this research is high considering that many medium-scale independent traders have the potential to be eliminated from the market if they do not have the right adaptive strategies, even though they play an important role in the domestic coal supply ecosystem.

Previous research on Indonesia's coal industry has generally focused on large mining companies (Suhartini & Nugroho, 2024; Setiawanta et al., 2019) or macro energy policy analysis (Nasution & Azzahra, 2021). Studies on the survival strategies of commodity companies mostly use single-framework approaches such as Porter's Five Forces or simple SWOT analysis (Haryadi, 2020). There are significant gaps in the literature that specifically examine independent coal traders using an integrated analysis approach that combines external (PESTEL), internal (SWOT), organizational capabilities (McKinsey 7S), and dynamic capabilities analysis in a single research framework. Most of the research has also not explored the unique characteristics of the asset-light business model in the context of Indonesia's commodity industry.

The novelty of this research lies in: (1) a specific focus on independent coal traders that has received little attention in the Indonesian academic literature, (2) the use of an integrated analytical framework that combines PESTEL-SWOT-McKinsey 7S-Dynamic Capabilities in one cohesive study, (3) an in-depth exploration of the asset-light business model in the commodity industry that is undergoing a structural transition, (4) the development of adaptive survival strategies specific to characteristics of non-asset-heavy companies in the energy sector, and (5) empirical contributions to the literature on dynamic capabilities in the context of Indonesian medium-sized enterprises.

The objectives of this study are: (1) to analyze the external factors that affect the sustainability of independent coal traders through the PESTEL framework; (2) to map the company's internal strengths and weaknesses using SWOT analysis; (3) to evaluate the readiness of organizations to adapt through McKinsey 7S and Dynamic Capabilities; and (4) to formulate an integrated adaptive survival strategy for medium-scale coal independent traders.

The benefits of the research include: theoretical contributions in the form of enrichment of the literature on survival strategies in the commodity sector with an integrated approach; practical benefits for independent trader management in designing adaptive strategies; guidance for policymakers in understanding the dynamics of independent traders in national energy ecosystems; and the basis for the development of advanced research on asset-light

strategies in the transition industry.

RESEARCH METHOD

The research approach in this study was qualitative, using a single case study method with PT ABC as the main unit of analysis. The selection of a qualitative approach was based on the characteristics of research aimed at understanding the complex phenomenon of adaptive survival strategies in the specific context of the Indonesian coal industry. The study population consisted of all medium-scale independent coal traders in Indonesia, while the sample was selected purposively with the following criteria: (1) independent traders without mining assets, (2) transaction volume of 500,000–1,000,000 tons per year, (3) operating for at least 5 years, and (4) having adequate access to internal data. PT ABC was chosen because it met all the criteria and was willing to provide access to the necessary research.

The data collection technique used semi-structured Focus Group Discussions (FGDs) in two sessions of 120 minutes each, involving six internal informants from PT ABC: four core management members (president director, operations manager, finance manager, logistics manager), one administrative staff, and one field staff. In addition, an in-depth interview was conducted with one external resource person (a senior coal trader with more than 10 years of experience). Secondary data were obtained from the company's internal documents, industry reports, and related regulations.

Data analysis was carried out sequentially using four frameworks: (1) PESTEL to identify macro external factors, (2) SWOT to map internal-external strategic positions, (3) McKinsey 7S to evaluate organizational readiness, and (4) Dynamic Capabilities to assess adaptability. The validity of the data was maintained through source triangulation (internal-external) and member checking with key informants.

RESULTS AND DISCUSSION

External Environmental Analysis (PESTEL)

The PESTEL analysis was used to identify macro pressures that affect PT ABC's business continuity as a domestic coal trading company. Data were obtained from internal group discussions (*FGDs*) involving four core managers of PT ABC, one administrative staff, one field staff, and interviews with one external source, namely a senior coal trader who has more than 10 years of experience in the domestic and export markets. The results of the analysis are summarized as follows

Political

1. Domestic political stability is relatively maintained, but the 2024–2025 political year leaves uncertainty about the direction of national energy policy after the transition of government.
2. The government's prioritized downstream and energy security policies shift the role of traders, as they encourage producers to sell directly to smelters or factories.
3. The withholding of foreign exchange from exports (DHE) for 1 year, as well as the increase in royalty rates, pressured cash flow flexibility and business margins, especially for non-producing companies.
4. Global politics, such as US-China tensions and the embargo on Russia, also affect trade patterns and coal price competition.

Economics

1. The volatility of international coal prices after the 2022 surge began to drop drastically from the end of 2023 to 2025, eroding margins.
2. Volatile rupiah exchange rates, domestic inflation, and high logistics costs add operational risks for traders.
3. The dependence of the export market on two large countries (China and India) creates a high risk of market concentration.
4. Domestic demand tends to be stable with the potential to rise gradually until 2030, becoming an opportunity for export market substitution.

Social

1. Awareness of ESG (Environmental, Social, Governance) has increased sharply, especially from financing, industrial buyers, and NGOs. Reputation and access to financing increasingly depend on sustainability performance.
2. Public opinion on the coal industry is increasingly critical, especially related to environmental issues and social conflicts in mining areas.
3. The younger generation and new workforce are starting to stay away from the coal industry because they are considered not in accordance with sustainability values.

Technological

1. Mine automation and digitalization are growing, such as the use of IoT, drones, FMS, and real-time logistics monitoring.
2. Digital trading platforms (coal marketplaces, e-logistics, digital contracts) are starting to be used by large buyers for efficiency, which can threaten conventional trading models.
3. Technology lags in small and medium companies such as PT ABC is a challenge if they are not transformed immediately.

Environmental

1. Carbon emission regulations are getting stricter both domestically and internationally, driving down demand from global buyers, especially in Europe, Japan, and Korea.
2. Extreme weather due to climate change causes logistical disruptions, mine flooding, and uncertainty in delivery schedules.
3. The demands of green compliance and environmental certification are starting to become prerequisites in the supply chain for companies that want to maintain social licenses.

Legal (Legality / Regulation)

1. The complexity of mining and trading licensing is a burden, especially for non-producer traders who have to adjust to mining regulations.
2. Sudden changes in regulations, such as DMOs, progressive royalties, and export governance, demand rapid legal and administrative adaptability.
3. Law enforcement on the environment and taxation is increasingly tightened, increasing the potential for legal risks if not anticipated with good compliance.

Internal Analysis (SWOT)

SWOT analysis is used to map the strengths, weaknesses, opportunities, and strategic threats faced by PT ABC. Data was collected through focus group discussions (FGDs) with internal teams. The results of the analysis are presented as follows:

Strengths

1. Strong network of industrial miners and buyer relations, especially for the medium-low

calorie coal segment (GAR 3400–4200).

2. A liquid asset business model that is flexible and adaptive to market changes without a long-term investment burden.
3. Agile and multitasking management team, enabling quick response to opportunities and operational constraints.
4. Coordination ability with logistics vendors and independent surveyors, strengthening the control of supply timeliness at the lowest logistics prices as well as quality and buyer trust.
5. Relatively clean transaction portfolio legally and logistically, building a reputation among industry partners.

Weaknesses

1. Not yet having a modern management system: Accounting, tax, and financial management is still conventional and has not been digitized.
2. High reliance on informal relationships in transactions, which makes businesses prone to personal risks and is not replicative.
3. It does not yet have an integrated digital system for contract management, logistics, and reporting.
4. Lack of internal coordination: Trading activities are often not integrated between lines due to the lack of regular meetings or project reporting systems.
5. Fluctuating management loyalty: Management often handles personal projects outside of PT ABC because it is not structurally or financially tied to the long term. Strategic leadership has not been fully focused because the owner has limited involvement in long-term development.

Opportunities

1. Growth in domestic demand from the smelter, cement plant, and captive power plant sectors in the metal industry.
2. Flexible supply gaps in the domestic market, especially in the small-medium volume segment that are not targeted by large players.
3. The potential to strengthen strategic business relationships, such as partnerships with mine owners, stockpiles, port operators, or logistics services.
4. The increased demand for transparency in coal quality provides space for companies with strong verification services (Wang & Ahmed, 2017).

Threats

1. Competition from new traders who have affiliations with large mines or international networks and are starting to enter the domestic market, especially smelters.
2. Fluctuations in global and domestic coal prices affect margins and buyers' purchasing decisions.
3. Government policies that change rapidly, especially related to DMO, exports, and logistics reporting obligations.
4. Rising ESG standards and sustainability pressures make financing or long-term cooperation more selective.

SWOT Conclusion:

PT ABC has advantages in operational flexibility, proximity to the mine-buyer network, and the ability to maintain quality. But the main challenges are organizational structures that are not ready to grow, informal dependencies, and external pressures that cannot be controlled.

To survive, PT ABC needs to lock in core strengths while selectively closing gaps in organizational weaknesses.

Organizational Evaluation (McKinsey 7S)

The McKinsey 7S framework is used to evaluate PT ABC's internal organizational readiness in the face of external pressures and execute adaptive defense strategies. These seven elements are interconnected and determine the effectiveness of strategy implementation:

Structure

PT ABC's organizational structure is flat and informal. With only 14 employees, the company does not have a structured division of functions in writing. Decisions are largely based on informal communication between personnel, and there is no standard periodic reporting system.

Implications: This structure is indeed agile, but it becomes an obstacle when transaction volume increases or when companies need to run multiple projects in parallel.

Systems

PT ABC does not yet have a modern management system. Financial, tax, contract, and logistics management is still carried out manually or semi-digitally (based on Excel and WhatsApp). There is no ERP system, CRM, or logistics monitoring software.

Implications: Reliance on conventional systems increases the risk of errors, data loss, and makes it difficult to integrate information between functions (Zhang, Wang, & Li, 2022).

Leadership Style

The leadership style at PT ABC is participatory but unstable. Owners are open to management initiatives, but their involvement is limited. There is no formal communication of long-term directions, so visions and priorities may change depending on short-term needs.

Implications: Inconsistent strategic leadership leads to a lack of continuity of direction and a lack of long-term execution of initiatives.

Staff

Most of the staff are multitasking and come from operational backgrounds. Loyalty is relatively good but fluctuates because there are no long-term structural or financial ties. Some management members are involved in external projects that are not directly related to PT ABC.

Implications: The risk of losing focus and high productivity due to HR not being fully concentrated in the company's development.

Skills

The team has advantages in transaction execution, field communication, and industry networking. However, managerial skills, process digitization, and strategic planning are still limited. There is no routine training or competency-based human resource development.

Implications: Strong operational capabilities but not yet supported by the managerial and digital skills needed to survive in an increasingly complex market.

Strategy

PT ABC's initial strategy was focused on trading low- to medium-calorie domestic coal. There are no formal strategy documents, and the new export plan is in the exploration stage. The strategy is still reactive to market conditions.

Implications: Without an explicit strategic direction, PT ABC only survives opportunistically and is prone to losing positions when the market changes rapidly.

Shared Values

Shared values within the company have not been explicitly defined. Work practices tend to be pragmatic, based on personal closeness and experience. No work culture or company values are thoroughly communicated and internalized.

Implications: The lack of shared values makes long-term work alignment weak and dependent on specific informal figures.

McKinsey 7S Conclusion:

The structure, systems, and staff at PT ABC show high flexibility but are not ready to grow or face new complexities. The absence of a modern management system, weak strategic direction, and the absence of standardized common values are the main obstacles. To survive adaptively, it is necessary to strengthen the organization selectively, without eliminating the typical flexibility of small companies.

Dynamic Capabilities Analysis

The Dynamic Capabilities framework was developed by Teece (1997) and describes the ability of organizations to systematically detect opportunities, respond to them (seizing), and change internal structures or processes (transforming) in order to maintain a competitive advantage in a rapidly changing environment.

In the context of PT ABC, the analysis of these three capabilities resulted in the following findings:

Sensing (Detecting Opportunities and Threats)

PT ABC has a solid sensing capability thanks to a combination of field network and internal competence. Close relationships with mine owners, industrial buyers, and surveyors allow PT ABC to get early information about tenders, new plant plans, or short-term supply needs.

In addition, one of the management members plays an active role as a coal analyst, who routinely monitors price trends, energy policies, and export-import dynamics maps.

Challenge: Although sensing is relatively strong in terms of quality, there is still a need for documentation and coordination systems so that information does not just stop at individuals but can be converted into strategic collective decisions.

Seizing (Capturing and Executing Opportunities)

PT ABC is quite quick in taking short-term opportunities, for example securing spot contracts with buyers or supplying mines in urgent conditions. However, the execution of this opportunity is still highly dependent on a specific individual, without an SOP or supporting structure.

Challenges: Without good systems and coordination between functions, great opportunities are difficult to capture collectively and repeatedly.

Transforming (Adapting Structure and Process)

PT ABC's ability to carry out internal transformation is relatively low. There are no formal initiatives to update the work system, organizational structure, or human resource development. The digitalization project has not been underway, and the division of labor has never been systematically reviewed.

Challenges: Without structured transformation efforts, companies risk stagnating or failing to anticipate major changes in the industry.

Dynamic Capability Conclusion:

PT ABC has sensing and seizing capabilities on a micro scale through networking and

operational agility, but it does not yet have a strong foundation for sustainable organizational transformation. To survive in the medium term, companies need to start building data-driven sensing systems, collective decision-making, and internal change mechanisms that don't rely solely on individuals.

Synthesis and Formulation of Adaptive Survival Strategies

The results of the external analysis (PESTEL) show that PT ABC operates in a highly dynamic industrial ecosystem, with pressures stemming from energy regulations, price fluctuations, as well as increasing open competition from large players, including mine-affiliated traders and international networks. Meanwhile, from the internal side, PT ABC has the main strengths in the form of a solid supply and buyer network, an asset-light business model, and a strong sensing ability through a combination of field information and internal market analysis. However, structural and systemic weaknesses are also real, such as the absence of a modern management system, a loose organizational structure, and the absence of a documented and agreed strategic direction (Seo, Jang, & Kim, 2021; Sohn, Tang, & Jang, 2014; Yusop, 2018).

Based on the evaluation of the organizational structure through McKinsey 7S and the dynamic capabilities of Teece (1997), PT ABC's survival strategy needs to be designed adaptively by paying attention to three different time horizons. The short-term strategy (6–12 months) is focused on operational continuity and cost efficiency (Agboola & Bekun, 2022; Wang, 2020). PT ABC needs to maintain a base volume with existing buyers in the smelter and captive coal-fired power plant sectors, maximize the strength of the mining network and independent surveyors, and avoid fixed investment commitments such as warehouses or stockpiles. Logistics management should also be project-based and flexible pricing negotiations. Meanwhile, strengthening internal coordination can start with simple policies such as weekly meetings and cross-functional reporting using lightweight digital tools (e.g. Google Sheets).

For the medium term (1–3 years), the strategy is directed at the consolidation and systemization of the organization. This includes the development of a simple digital management system, formalities in strategic relationships (mines, surveyors, port operators), and the drafting of minimum SOPs for key functions such as contract negotiation and logistics. Efforts to improve sensing also need to be enhanced through market intelligence documentation, while key management loyalty can be strengthened through incentive schemes and informal succession plans. This step will reduce the company's reliance on individual figures and create operational continuity.

The long-term strategy (>3 years) is focused on long-term sustainability and flexibility. PT ABC is advised to maintain coal trading activities as the company's main cash engine, but with a long-term orientation towards network-based trading without direct operational burdens. Export market diversification can be explored selectively, especially to emerging countries such as Bangladesh or Vietnam that still have open coal markets. In addition, companies can explore forms of synergies such as project alliances or consortiums with other logistics partners or traders, without the need to make capital investments. In the long-term framework, it is also necessary to develop a realistic exit strategy and not close the opportunity to make PT ABC a passive holding entity with a revenue-sharing model from projects run by partners.

The essence of this whole strategy is to defend intelligently: not aggressive but vigilant,

not expansive but quick to seize relevant opportunities. By maintaining its position as a transparent, agile, and strong reputation for execution and quality, PT ABC has the potential to fill strategic space amid the pressure of the energy industry transition.

CONCLUSION

The adaptive survival strategy for PT ABC reflects the coal industry's ongoing structural transition and market volatility, emphasizing the need for an efficient, controlled approach rather than constant growth. PT ABC's strategy prioritizes simplicity, core business focus, and adaptability, leveraging its flexibility as a mid-sized player unable to compete with large companies on resources but able to respond quickly to environmental changes. In the long term, the company should develop realistic sustainability and transition scenarios, including a gradual exit strategy aligned with national energy policies, possibly transforming into a network orchestrator managing partnerships instead of direct trading. The study contributes theoretically by demonstrating the value of integrating external (PESTEL), internal (SWOT and 7S), and dynamic capability analyses in survival strategy design for non-asset-heavy commodity companies. Future research should explore strategic adaptation patterns of small independent traders further, enriching understanding beyond the predominant focus on large mining firms.

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