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Economic Value Added Analysis of Portfolio Alignment in the Primary Energy Business of PLN Group and its Impact on PLN Energi Primer Indonesia

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ABSTRACT

In 2022, PT PLN (Persero) holding was established as part of a strategic initiative led by the Minister of State-Owned Enterprises (SOEs) to streamline core businesses within SOEs. This involved the creation of four subholdings: PLN Indonesia Power, PLN Nusantara Power, PLN Energi Primer Indonesia, and PLN Icon Plus. PLN Energi Primer Indonesia (EPI) specializes in providing primary energy and biomass and innovating during the energy transition. However, two subsidiaries, PT Artha Daya Coalindo and PT Pertadaya Gas, are not yet integrated into the PLN Group. To address this, PT PLN (Persero) has tasked PT PLN Energi Primer Indonesia with conducting an alignment study. In parallel, the present study aims to evaluate whether the proposed strategy contributes to Economic Value Added (EVA) within the PLN Group. It employs analytical techniques such as core competency analysis, financial analysis, and heartland matrices. The findings suggest that a strong core competency analysis and stable financial ratios position the company favorably within the heartland matrix, resulting in positive EVA values. Conversely, weak core competency analysis and unstable financial ratios lead to the opposite outcome. In conclusion, the alignment efforts led by PLN EPI should prioritize future business and income generation to strengthen core competency analysis and maintain strong financial ratios, thus ensuring the generation of robust EVA values.

Keywords: Alignment, Portfolio Management, Corporate Finance, Corporate Action, Business Development

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1. Introduction: Alignment Mandate

On April 21, 2020, PLN (Indonesian State Electricity Company) embarked on a strategic transformation under the tagline "Power Beyond Generations." This tagline embodies the commitment to extending the accessibility of energy across generations and fostering the enduring sustainability of PLN as a robust corporate entity. PLN is determined to realize the vision of "Becoming the Leading Power Company in Southeast Asia and the #1 Customer Choice for Energy Solutions." There are four main strategic programs as pillars of the transformation program. In 2021, against a backdrop of dynamic changes in State-Owned Enterprises (SOEs), the Minister of SOEs directed PLN to establish a holding-subholding structure, aimed at refining the focus of its subsidiary businesses. In September 2022, the Minister of SOEs officially inaugurated the establishment of PLN's holding-subholding structure (refer to Figure 1). This restructuring entailed the division of dividing PLN's

subsidiaries into distinct subholdings, namely PLN Indonesia Power and PLN Nusantara Power as generation subholdings, alongside PLN Energi Primer Indonesia (EPI) serving as the primary energy provider subholding.

Figure 1. Holding – Subholding Structure After Legal Establishment

With the establishment of these four subholdings, it is expected that the PLN Group will become stronger, more focused, and better equipped to deliver optimal products and services in the electricity sector, with a heightened emphasis on customer satisfaction. In addition to the significant and strategic initiatives already undertaken or planned, PLN has also introduced Streamline Subsidiary program (Figure 2), a pioneering effort aimed at restructuring its subsidiaries to enhance overall company performance. On October 26, 2018, PLN embarked on its Business Portfolio Mission, formalized through Board of Directors Regulation Number: 1780.P/DIR/2018. This mission, dubbed SOLID (*Securing business sustainability, Optimizing cost efficiency, Leading industry capabilities, Increasing profit contribution, and Developing new edge*), serves as the cornerstone for value creation within PLN's subsidiaries. SOLID is not merely a static goal but a continuous journey, demanding ongoing efforts to structure and augment the value proposition of PLN Group's subsidiaries. Consequently, the process of realignment persists, ensuring alignment with evolving objectives.

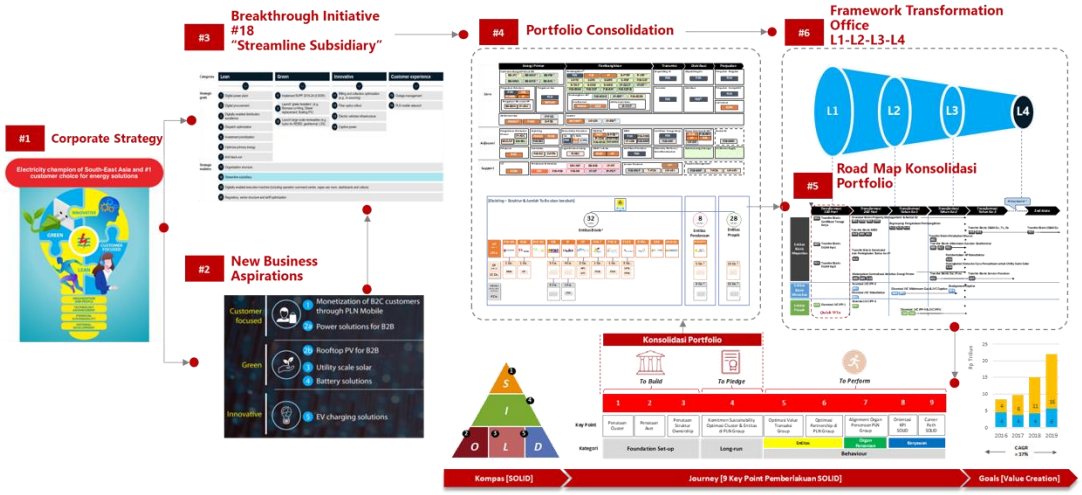

Figure 2. Streamlining Subsidiary Breakthrough Transformation

Through the SOLID mission, the aim is to streamline the portfolio of PLN Group, ensuring that subsidiaries operate within their core competencies and avoid overlapping businesses. Historically, PLN Group has pursued a strategy of concentric diversification, allowing each affiliated company to engage in similar ventures, provided it adds value to the overall group. The CEO of PT PLN (Persero) has taken commendable steps in transforming subsidiary operations by implementing streamlining measures and establishing holding subholdings. However, despite these efforts, there remain two entities under the PLN Indonesia Power

Subholding—PT Artha Daya Coalindo (ADC) and PT Perta Daya Gas (PDG)—engaged in core primary energy management, a domain ideally overseen by PLN EPI.

Figure 3. PLN Group Portfolio Structure

In February 2023, the Chief of Corporate Planning and Development at PT PLN (Persero) sent a letter to the CEO of PLN EPI with reference number: 11797/ORG.00.02/F01010000/2023, dated February 28, 2023. The letter addressed the need for portfolio alignment within PLN EPI. Specifically, PLN EPI was tasked with conducting a study to align ADC and PDG with the primary energy portfolio of the PLN Group, ensuring their synchronization with PLN EPI's mission and core business within the group.

Following the establishment of PLN EPI subholding in 2023, Mr. Iwan Agung Firstantara, the CEO of PLN EPI, outlined a strategic vision for the company to become the leading integrated primary energy company in Southeast Asia. This vision is supported by a stable growth strategy, emphasizing opportunities for LNG and biomass business development. Notably, existing coal supply and gas infrastructure development businesses, currently managed by PT PLN Batubara Niaga (BBN) and PT PLN Energy Gas (PLNEG), mirror the operations of ADC and PDG.

Moreover, future challenges extend beyond primary energy provision, as initiatives for energy transition have gained momentum since 2020. These initiatives seek to reduce reliance on fossil fuels and promote cleaner, more sustainable energy sources, aiming to mitigate greenhouse gas emissions and combat climate change. Consequently, future developments in the primary energy sector are expected to focus on investments in renewable energy sources such as solar, wind, hydro, geothermal, biomass, green hydrogen, and biofuels.

Hence, the existing primary energy management entities within the PLN Group must continue to add value, align with the SOLID mission, and address future challenges by supporting the transition to green energy and reducing carbon emissions, ultimately striving for carbon neutrality.

The problem addressed in this study concerns the financial performance and core competencies of two companies, ADC and PDG. The focus is on identifying areas of improvement to enhance their competitiveness and sustainability. Specifically, the research aims to investigate the factors contributing to the fluctuating Economic Value Added (EVA) of ADC and PDG. Understanding these factors is crucial for PLN EPI's strategic decision-making and ensuring the long-term success of its subsidiaries.

1.1. Research Question

- What is the economic value added (EVA) of portfolio alignment in the primary energy business of PLN Group and its impact on PLN Energi Primer Indonesia?

1.2. Objectives

- Assess the EVA generated by portfolio alignment in the primary energy business of PLN Group.
- Evaluate the impact of portfolio alignment on PLN Energi Primer Indonesia's financial performance.
- Investigate the integration of PT ADC and PT PDG into the PLN Group and its implications for portfolio alignment.
- Analyze the relationship between core competency analysis, financial stability, and EVA in the context of portfolio alignment within PLN Group.

2. Literature Review

2.1. Forms of Alignment Strategies

Acquisition. Acquisition is a recognized form or method of business combination. International Financial Reporting Standard (IFRS) 3 on Business Combinations explains that an entity must determine whether a transaction or other event is a business combination, which requires that the assets acquired and liabilities assumed constitute the business. IFRS defines a business combination as a transaction or other event in which an acquirer gains control of one or more businesses. Acquirers can gain such control in several ways: transferring cash, cash equivalents, or other assets; giving rise to obligations; issuing equity; providing more than one consideration; and, without transferring consideration, including the contract itself.

Figure 4 depicts the acquisition structure, where Company B acquires Company A. Following the acquisition, there is some form of change or impact, manifested through alterations in market share, revenue, profit margins, or other relevant metrics.

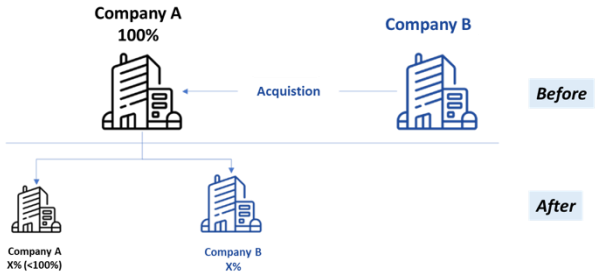

Figure 4. Acquisition Structure

Merger. A merger is a form of business combination explained in Law Number 40 of 2007, resulting in the merging company's termination by law. Upon termination, the assets and liabilities of the merging company are transferred by law to the company that accepts the merger. Shareholders of the merging company become shareholders of the accepting company, and the merging company ceases to exist by law from the effective date of the merger. Globally and according to theory, mergers are classified into three categories: horizontal, vertical, or conglomerate (Gaughan, 2010).

Horizontal mergers lead to increased market power for the combined firm, potentially resulting in anticompetitive effects. Vertical mergers, on the other hand, involve companies with a buyer-seller relationship. For instance, the U.S. eyeglasses industry saw Luxottica, an Italian manufacturer, expand into the U.S. market through a series of acquisitions. Conglomerate mergers occur when the involved companies are not competitors and lack a buyer-seller relationship.

Figure 5 illustrates the merger structure, depicting the merger of Company A and Company B.

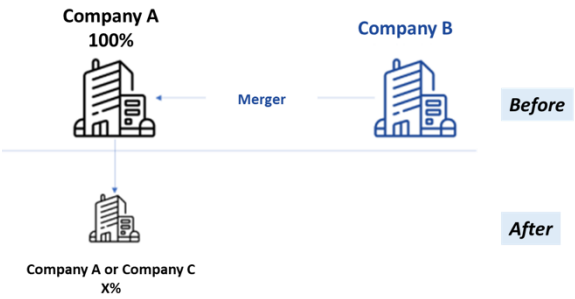

Figure 5. Merger Structure

Spin-Off. Spin-off, or impure separation, occurs when a parent company distributes shares to its existing shareholders in a subsidiary on a pro rata basis (see Figure 6), typically in the form of a special dividend. This process involves the creation of a new entity, known as "Spin-Co," to which certain assets of the parent company are transferred. In return for these assets, the parent company receives shares in Spin-Co, which are then distributed to its existing shareholders (Amir & Ghitti, 2021). In some spin-off transactions, instead of creating a new subsidiary, the parent company may choose to distribute all or most of the shares it holds in an existing subsidiary to its shareholders. This action creates an independent entity that is no longer under the parent's control.

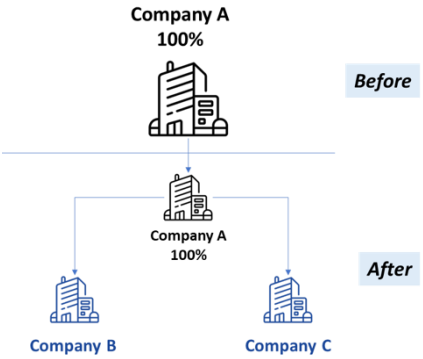

Figure 6. Spin-Off Structure

There are four types of spin-offs: regular spin-off, majority spin-off, equity carve-out spin-off, and reverse Morris Trust spin-off. In a regular spin-off, the parent company distributes 100% of a subsidiary's shares to existing shareholders. In a majority spin-off, the parent company distributes a majority (at least 80%) of a subsidiary's shares while retaining a minority holding of less than 20%, often for tax reasons (see Figure 7). An equity carve-out spin-off involves an earlier equity carve-out of less than 20% of a subsidiary's voting shares, followed by a spin-off. In a reverse Morris Trust spin-off, the parent company sells a group of assets to a third party. To achieve this, the parent company creates a subsidiary and transfers the assets to it. The subsidiary is then spun-off and merged with the third-party buyer.

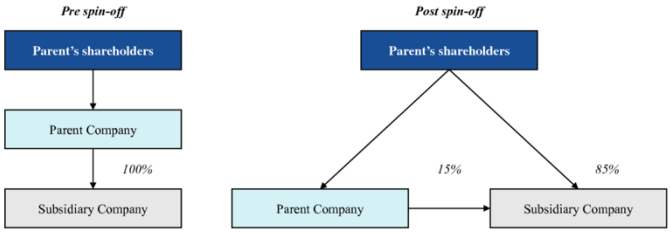

Figure 7. Majority Spin-Off

Split-Off. Split-off, also known as pure separation, is a corporate action in which a parent company distributes shares to split-off subsidiaries to existing shareholders on a pro rata basis in the form of special dividends. Shareholders are presented with a choice between holding shares in the subsidiary or retaining shares in the parent company. Shareholders have two options: (a) to continue holding shares in the parent company, or (b) to exchange some or all of their shares in the parent company for shares in the subsidiary. Figure 8 illustrates the structure of a split-off.

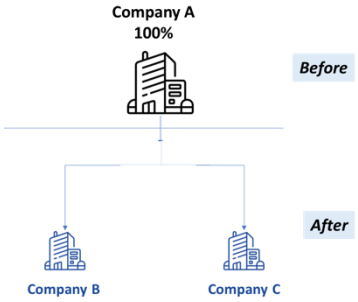

Figure 8. Split-Off Structure

In simpler terms, a split-off involves transferring corporate assets to a subsidiary while shareholders surrender a portion of their stock in the parent company in exchange for controlling stock in the subsidiary. It is a method used to restructure a company's capital. Shareholders participating in a split-off can choose to give up their shares in the parent company to receive shares in the subsidiary instead. Additionally, a split-off offers tax advantages for the parent company when redeeming its stock.

Based on various theories discussed regarding alignment strategies, there are both advantages and disadvantages to consider when making decisions about aligning a portfolio. These pros and cons are summarized in Table 1.

Table 1.
Pros and Cons of Alignment Strategies in Portfolio Management

Alignment Strategies	**Pros**	**Cons**
Acquisition	1. More optimal for growth; 2. It is more optimal for the acquired company to enter new markets; 3. More optimal in creating synergy with investors.	1. Requires cash to buy shares; 2. There is a possibility that the valuation price will be higher because market value is used; 3. The due diligence process is quite long.
Merger	1. Leaner portfolio structure; 2. Focus more on running the business (core activities).	1. Synergy that requires time caused by cultural differences; 2. Growth difficulties if synergy does not occur; 3. No cash out required.

Alignment Strategies	Pros	Cons
Spin-Off	1. Cash free-transaction; 2. Non-reciprocal transaction; 3. The separating company will become an investment holding company; 4. Opportunity for the parent company to divest non-core businesses/assets and focus more on its core activities.	1. Will add a layer below existing shareholders; 2. No business alignment occurs (primary energy supply remains with existing shareholders); 3. The aim is to expand the business, not downsize.
Split-Off	1. Cash free-transaction; 2. Non-reciprocal transaction; 3. Opportunity for the parent company to divest non-core businesses/assets and focus more on its core activities.	1. Will add a layer below existing shareholders; 2. No business alignment occurs (primary energy supply remains with existing shareholders); 3. The aim is to expand the business, not downsize.

2.2. Corporate Strategy Effectiveness

According to Law Number 40 of 2007 concerning Limited Liability Companies, there are four forms of alignment strategies: takeover, merger, separation, and consolidation. These strategies are integral components of corporate strategy or business strategy. Corporate strategy encompasses the strategic approach adopted by multi-business corporations to compete effectively as a collection of diverse businesses. It significantly differs qualitatively from the strategy employed by single-business firms, commonly referred to as "business strategy." The differentiation lies in factors such as the number of businesses involved, their respective goals, the nature of competition, and consequently, the analytical concepts employed. The distinctions between business and corporate strategy are evident in their respective scopes, goals, and competitive landscapes.

According to Puranam and Vanneste (2016), the goal of corporate strategists is to pursue corporate advantage – to create more value from jointly owning a portfolio of businesses than the sum of their value when owned independently. Establishing a successful strategy is pivotal for every corporation, as it can serve as a competitive advantage for the company. Thompson et al. (2013) outline three forms of tests to evaluate the effectiveness of strategies:

The Fit Test: How Well a Strategy Aligns with the Company's Circumstances. A successful strategy must be closely aligned with market conditions, industry dynamics, competitive landscape, the company's market potential, and other relevant business characteristics to be effective. It is essential for a strategy to demonstrate strong alignment with external factors such as the current market environment. However, external alignment alone is not sufficient; a strategy must also exhibit internal fit by aligning with the company's resources, capabilities, and functional activities. These activities may include operations, sales, supply chain management, advertising, and more. Ultimately, a successful strategy is one that is both compatible with external conditions and internally consistent with the company's capabilities.

The Competitive Advantage: Is the Strategy Helping the Company Achieve a Competitive Advantage? Strategies that fail to provide a competitive advantage are unlikely to produce superior results compared to competitors. Moreover, unless this competitive advantage is both substantial and enduring, sustained higher performance is unlikely over an extended period. Companies that employ effective strategies can establish and maintain a sustained competitive edge over their rivals. The strength of a competitive advantage is determined by both its magnitude and longevity.

The Performance Test: Is the Strategy Driving Superior Company Performance? Strong company performance is the hallmark of a winning strategy. Two key performance indicators provide insights into the effectiveness of a company's strategy: competitive strength and market standing, as well as profitability and financial strength. Above-average financial performance or gains in market share, competitive position, or profitability indicate a successful strategy.

Developing and executing a strategy are fundamental activities at the heart of management. In fact, the most revealing and reliable indicators of effective management are a well-crafted strategy and its successful implementation. Therefore, there is strong justification for employing the dual criteria of effective strategy formulation and execution to evaluate a company's management prowess: the more adeptly a company executes its strategy and the more well-conceived its plan, the greater its likelihood of emerging as a market leader. These questions must be addressed when PLN EPI is tasked with adjusting ADC and PDG within the PLN Group.

3. Methodology

3.1. Research Design

This study applied both quantitative and qualitative methods to analyze corporate data owned by ADC and PDG. Quantitative methods were used through the application of analysis tools such as financial analysis, Heartland Matrix, and EVA. Meanwhile, qualitative methods were employed through the involvement of academics and practitioners who provided comprehensive responses and insights into business strategy and competitive advantage.

3.2. Participants

This study employed purposive sampling, resulting in 50 participants. Criteria for selection included participants' backgrounds in academia and practical business management, as well as possessing master's degrees in business administration. The sampling method involved direct coordination with team representatives from ADC and PDG, ensuring access to relevant data and fostering collaboration between researchers and industry professionals.

3.3. Procedure and Data Collection

The procedure for data collection in this study involved several steps to ensure comprehensive analysis and collaboration between researchers and participants. Firstly, the researchers processed corporate data owned by ADC and PDG. Once processed, the data were sent to participants via email, accompanied by guided instructions on how to analyze and interpret the information.

Participants were instructed to carefully review the data provided and apply their expertise in business strategy to conduct thorough analyses. These analyses were not only quantitative, utilizing tools such as financial analysis, Heartland Matrix, and EVA, but also qualitative, drawing on participants' insights and experiences.

After processing the data according to the guided instructions, participants provided their results. These results were then reviewed by the researchers to ensure accuracy and consistency. The final step involved aggregating the participants' responses and calculating average values to derive measures such as the evaluation positioning framework.

3.4. Targeted Companies

PT Artha Daya Coalindo (ADC). PT Artha Daya Coalindo (PT ADC) is a subsidiary of PLN Indonesia Power, established in Jakarta. Initially, the company's share ownership was divided among PT Indonesia Power (20%), PT Desira Pratama Lines (40%), and PT Arthindo Utama (40%). Over time, the share ownership composition has changed, with PT Indonesia Power's share increasing to 80%, while PT Desira Pratama Lines and PT Arthindo Utama's shares have decreased to 10% each (Figure 9). Initially focused on the agribusiness sector, the company quickly expanded into operating services for oil rigs. One of its specialties is tubular and pipe inspection.

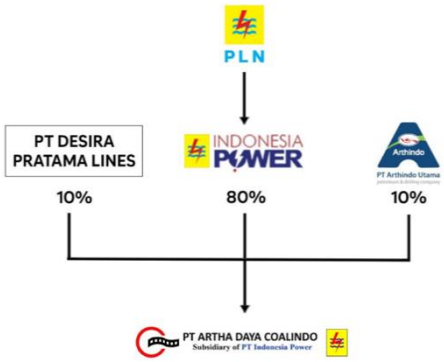

Figure 9. ADC Portfolio Structure

PT ADC offers a range of products and services alongside ongoing projects. These include coal provision, supporting the availability of coal within the PLN Indonesia Power Group environment, particularly for PLTU Suralaya 1-7 and PLTU Kalbar 1. Currently, PT ADC is engaged in a strategic collaboration with PT Indonesia Power and PT GCL IT. Additionally, PT ADC provides biomass provision, supporting the cofiring program by supplying sawdust and rice husk biomass within the IP Group environment. A current project involves a contract with PT Indonesia Power.

Furthermore, PT ADC offers limited port management and coal unloading services within the PLN Indonesia Power Group, serving various power plants such as PLTU Suralaya 1-7, PLTU Banten 1 Suralaya, PLTU Banten 2 Labuan, PLTU Banten 3 Lontar, PLTU Central Java 2 Adipala, PLTU West Java 2 Palabuhan Ratu, and West Kalimantan PLTU 1. A long-term contract with PT Indonesia Power and PT GCL IT is currently underway.

Moreover, PT ADC provides coal transportation services, facilitating the transportation of coal cargo to PT Indonesia Power. A current project involves the provision of coal transportation to PLTU Suralaya using self-unloader vessel type transportation. Additionally, PT ADC offers dredging O&M services to support the sedimentation dredging program in the PLN Indonesia Power Group environment, with an ongoing project contract with PT Indonesia Power.

PT Perta Daya Gas (PDG). PT Perta Daya Gas (PT PDG) was established in Jakarta, with the company's share ownership divided between PT Indonesia Power (35%) and PT Pertagas (65%), as illustrated in Figure 10.

Figure 10. PDG Portfolio Structure

PT PDG offers various products, services, and ongoing projects. One of these projects is the Tambak Lorok Compressed Natural Gas (CNG) Plant, a collaboration with PT PLN Indonesia Power. This facility serves as a natural gas storage facility for the Tambak Lorok Gas & Steam Power Electricity Center (PLGU), aiming to eliminate the use of fuel oil in power plants. Additionally, PT PDG is involved in the Operation and Maintenance (O&M) of Gas Compressor Stations and the Joint Operation (JO) of the Floating Storage and Regasification Unit (FSRU) Karunia Dewata. These projects aim to address the power deficit in Bali Province and ensure the supply of gas to power plants in the region. Furthermore, PT PDG has been assigned by PT PLN Indonesia Power to supply gas for the Sorong 50 MW Gas Power Plant (PLTMG). This project, part of the Government's Quick Win programs, was successfully completed in 2020, with PT PDG building new gas pipeline infrastructure within a short timeframe of 6 weeks.

3.5. Competitive Advantage Analysis

Positioning Evaluation Framework. To ascertain the value and positioning of ADC and PDG and their potential impact on the PLN EPI Group, an evaluation will be conducted. This evaluation aims to provide recommendations for positioning and strategic value using the framework depicted in Figure 11.

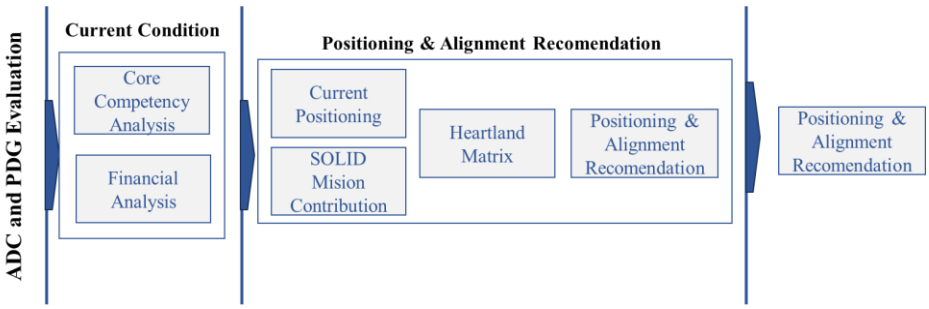

Figure 11. Positioning Evaluation Framework

Core Competency Analysis. Organizational core competency analysis involves identifying and evaluating the key capabilities and skills unique to an organization. These competencies, which encompass a blend of knowledge, skills, and attitudes, are difficult for competitors to imitate and provide a competitive advantage to the company. In the context of evaluating subsidiaries, the organization's core competencies are derived from the PLN EPI core

competency model. This model is based on the primary energy management process chain (Figure 12) and includes supporting and enabling competencies.

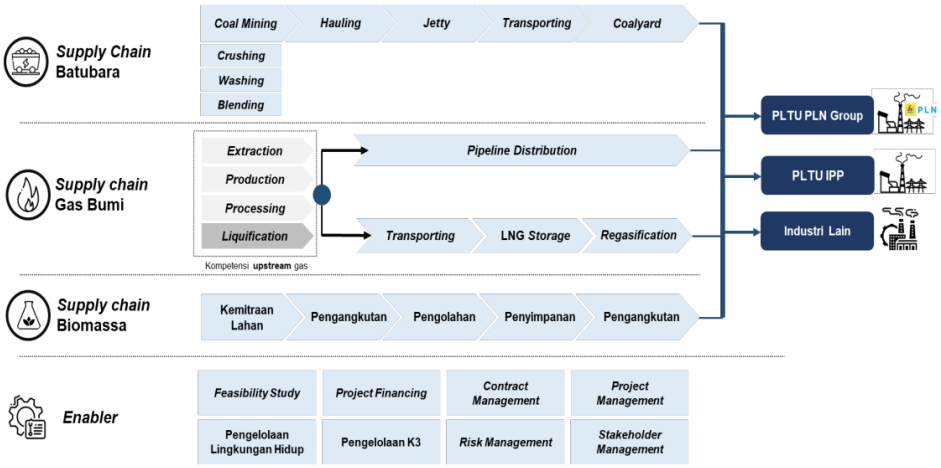

Figure 12. Primary Energy Value Chain

Financial Analysis. Financial analysis involves evaluating the financial performance of a company or organization to assess its financial health. This process includes calculating various financial ratios using information from financial reports such as balance sheets, cash flow statements, and profit and loss statements. The analysis is typically conducted using data from the latest available financial reports, in this case, the 2022 (unaudited) financial reports of each subsidiary.

A liquidity ratio assesses a company's ability to fulfill short-term obligations, utilizing metrics like the current ratio and quick ratio. These ratios are calculated as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \quad (1)$$

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} \quad (2)$$

A solvency ratio evaluates a company's capacity to meet long-term obligations, using metrics such as debt to assets and times interest earned. These ratios are determined by the following equations:

$$\text{Debt to Assets Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}} \quad (3)$$

$$\text{Times Interest Earned Ratio} = \frac{\text{Earnings Before Interest and Taxes (EBIT)}}{\text{Interest Expense}} \quad (4)$$

A profitability ratio measures a company's ability to generate profits, employing metrics such as return on equity, gross profit margin, and net profit margin. These ratios are calculated using the following equations:

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Shareholders}'\text{Equity}} \quad (5)$$

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Net Sales}} \quad (6)$$

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}} \quad (7)$$

An efficiency ratio evaluates a company's utilization of assets and resources, typically assessed through the asset turnover ratio. This ratio is calculated as follows:

$$\text{Asset Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Total Sales}} \quad (8)$$

The Altman Z" score gauges a company's credit strength and overall financial health, calculated using the equation:

$$Z'' = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4 \quad (9)$$

The conclusion drawn from the Altman Z" score is as follows:

- Z” > 2.9: Safe zone
- 1.23 ≤ Z” ≤ 2.9: Grey zone
- Z” < 1.23: Distress zone

Heartland Matrix Analysis. The Heartland Matrix, also known as the Parenting Fit Matrix, integrates the dimensions of added value and subtracted value into a comprehensive tool used to evaluate the relationships between parent companies and their subsidiaries. The Heartland Matrix is primarily focused on assessing the strategic fit between a parent company and its subsidiaries rather than categorizing them based solely on positive and negative effects. Successful parenting within this framework involves aligning the parent company's characteristics with the specific improvement opportunities available within its various business units.

Figure 13 depicts the Heartland Matrix, a visual tool employed in strategic management to assess the relationship between a corporate parent and its subsidiaries. This matrix is divided into four quadrants. The horizontal axis illustrates the spectrum of positive contributions the parent company can offer to its subsidiaries, ranging from low to high. Meanwhile, the vertical axis denotes the range of negative effects the parent company may impose on its subsidiaries, also spanning from low to high.

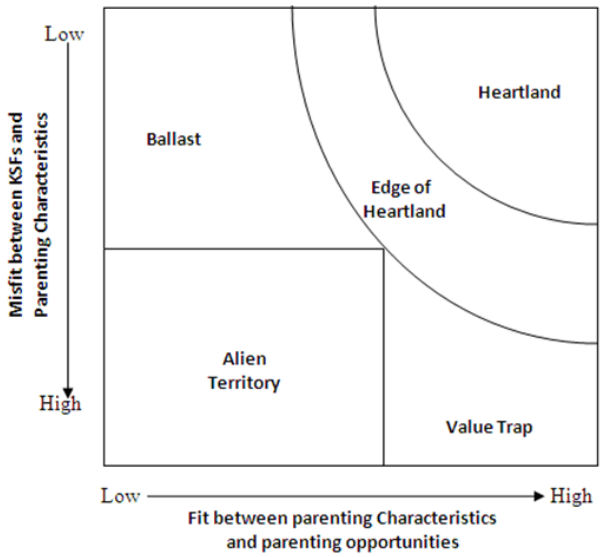

Figure 13. Heartland Matrix

Heartland Businesses should be the priority for all corporate activities as they align closely with the parent corporation's characteristics and strategic factors. On the other hand, Edge-of-Heartland Businesses may exhibit some alignment with the parent, but significant mismatches exist, requiring careful evaluation. Ballast Businesses, while comfortable within the parent corporation, offer limited opportunities for improvement and may become liabilities in rapidly changing environments. Alien Territory Businesses, characterized by poor alignment with the parent and low potential for value creation, should be divested promptly. Lastly, Value Trap

Businesses pose a risk as they may seem compatible with the parent's strengths but actually represent a misfit, potentially leading to significant errors in judgment.

To gauge suitability, two axes are employed: the subsidiary's strategic alignment with the parent company and its contribution to the parent's objectives. Factors such as product offerings, brand image, financial performance, revenue, profit, market share, growth potential, innovation, intellectual property, HR expertise, and potential synergies are assessed to determine the level of alignment and contribution.

3.6. Economic Value Added (EVA)

The economic value added (EVA) is a measure of the dollar surplus value created by an investment or a portfolio of investments. It is computed as the product of the excess return made on an investment or investments and the capital invested in that investment or investments (Behera, 2020).

To determine EVA, this study follows Du et al. (2018) and defines EVA as the net operating profit after tax minus the cost of capital. The underlying concept stems from the idea that investors demand a rate of return that compensates them for the use of their capital or the equivalent of their opportunity cost, taking into account the level of risk undertaken (Stewart, 2013). Stewart (2013) is credited for the concept of EVA, and he calculated it based on an earlier construct known as the residual income method developed. The primary disparity between EVA and residual income (RI) lies in the determination of projected revenues, where EVA incorporates more adjustments to the accounting measure of earnings.

EVA serves as a financial performance metric based on operating income after taxes, the investment in assets required to generate that income, and the cost of investment in assets, often referred to as the weighted average cost of capital. The formula for calculating EVA consists of three key elements: operating income after tax, investment in assets, and the cost of capital (Brewer et al., 1999).

EVA is represented as a dollar amount. When the dollar amount is positive, it indicates that the company has earned more after-tax operating income than the cost of assets employed to generate the income, thereby creating wealth. Conversely, if the EVA dollar amount is negative, it signifies that the company is consuming capital rather than generating wealth.

4. Results

4.1. Competitive Advantage Analysis Results

Core Competency Analysis. Figures 14 and 15 shows the results of core competency analysis for ADC and PDG, respectively. Some key findings emerge from the core competency mapping conducted in ADC and PDG. In ADC, notable competencies lie within the biomass supply chain, highlighting areas of strength within the organization. However, there is a recognized need for ADC to fortify its competence in several areas, including the coal supply chain, contract management, and risk management. These identified areas suggest potential areas for improvement to enhance overall performance and efficiency within the company.

Similarly, in PDG, there is a call to enhance competence in the coal supply chain, contract management, and risk management, mirroring the needs identified in ADC. Additionally, PDG is urged to strengthen its capabilities in the LNG business and midstream business, indicating potential growth opportunities and areas for strategic focus to further advance the company's objectives and competitiveness.

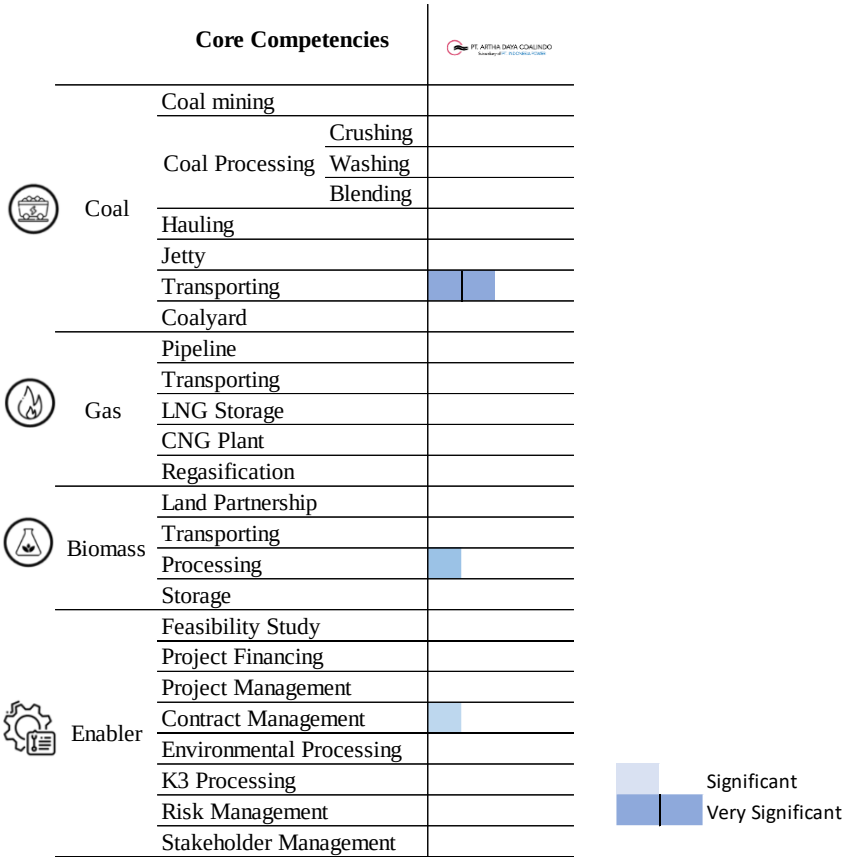

Figure 14. ADC Core Competencies

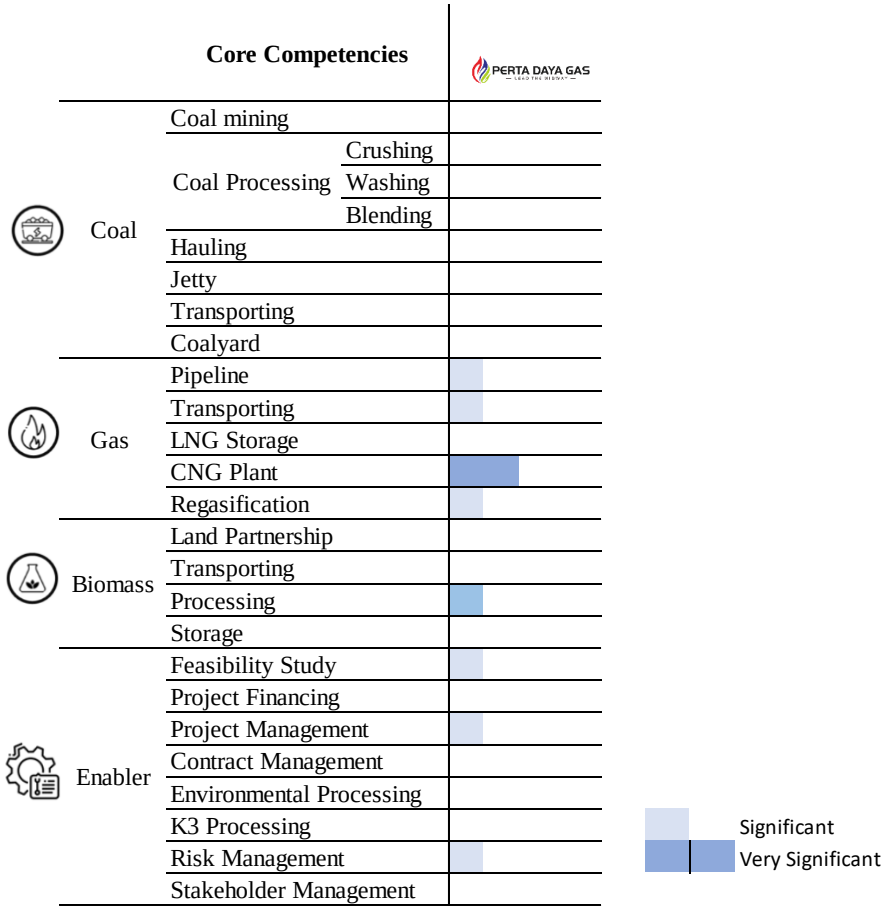

Figure 15. PDG Core Competencies

Financial Analysis. Based on the results of the financial position and ratio analysis depicted in Figures 16 and 17, the revenue for ADC is IDR 2.2 trillion, while for PDG, it stands at IDR 206.3 billion. In addition, Figure 18 illustrates the comparison of financial ratios between ADC and PDG.

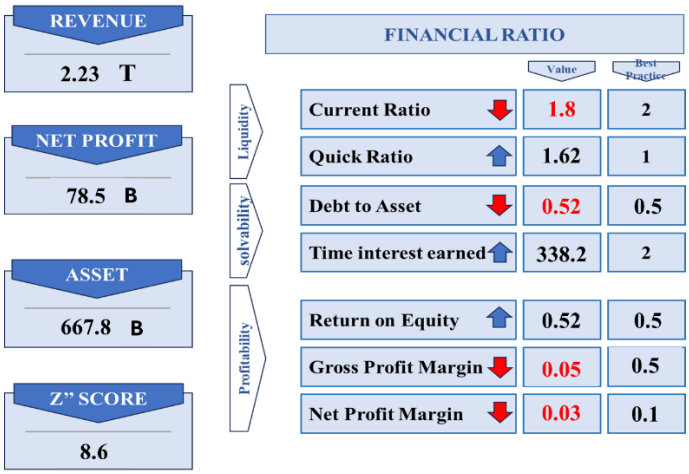

Figure 16. ADC Financial Ratio

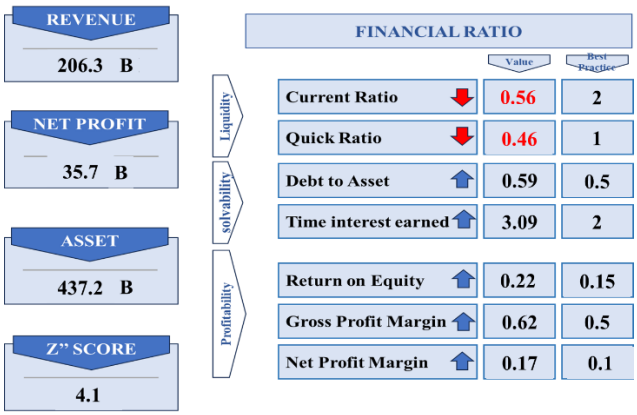

Figure 17. PDG Financial Ratio

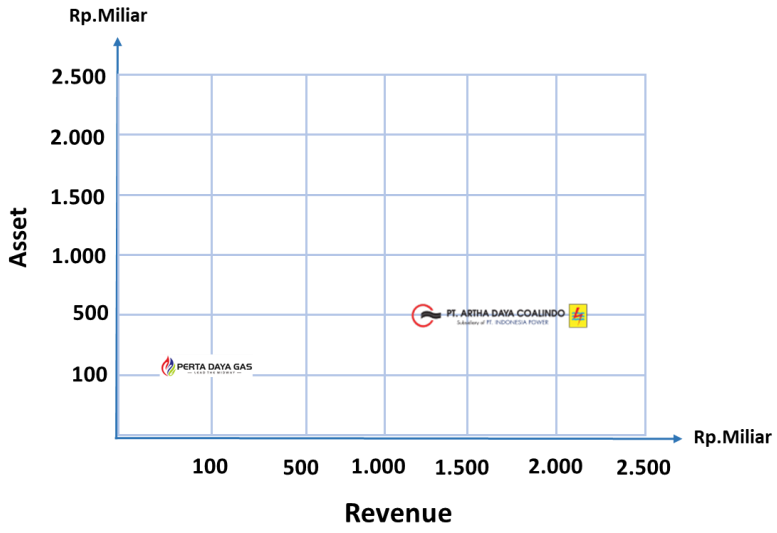

Figure 18. Financial Ratio of ADC and PDG

Heartland Matrix Analysis. Figure 19 displays Hearland Matrix of ADC and PDG, which indicate that PDG has higher strategic fit that ADC. Conversely, the analysis show that contribution fit of ADC is higher than that of PDG. This implies that while there may be some alignment with the parent company's characteristics or strategic factors (as indicated by the strategic fit score in ADC), the level of contribution to the parent company's objectives is relatively low. In addition, in the case of PDG, while there may be some alignment with the parent company's characteristics or strategic factors, the level of contribution to the parent company's objectives remains relatively low.

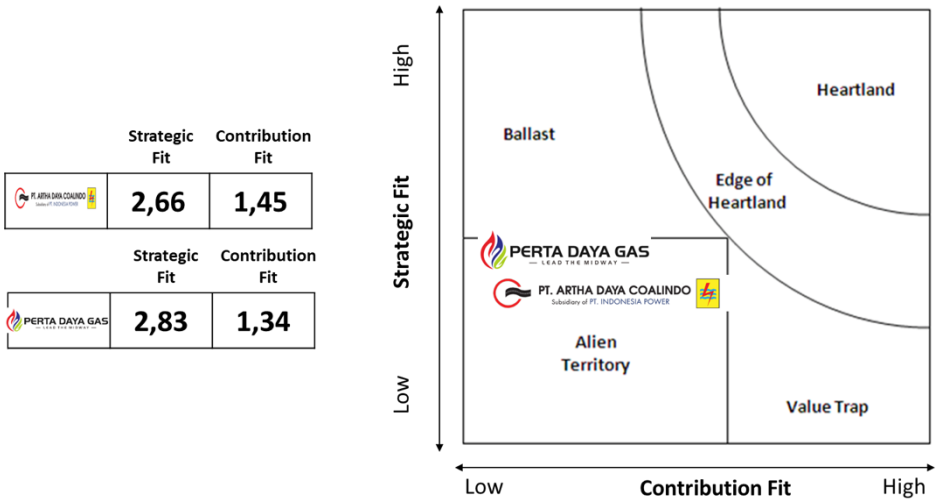

Figure 19. Heartland Matrix of ADC and PDG

Discounted EVA. Based on Figures 20 and 21, the analysis of data for companies ADC and PDG reveals insightful trends regarding their EVA and invested capital over historical and projected periods. For ADC, historical invested capital has shown fluctuation, ranging from 126 billion IDR to 300 billion IDR, paralleled by varied EVA values, including positive instances such as 70 and 44, indicative of generated economic value. However, the 15-year projection presents a concerning trend with EVA turning consistently negative (-50 to -80), despite anticipated increases in invested capital. Conversely, PDG has maintained relatively higher levels of invested capital, ranging from 358 billion IDR to 491 billion IDR historically, with EVA fluctuating between positive and negative values (-0.6 to 23). Nonetheless, the 15-year projection continues to display negative EVA figures (-112 to -114), despite stable invested capital. These findings suggest both companies face challenges in generating EVA, necessitating strategic interventions to enhance financial performance and sustainably create value over the projected period.

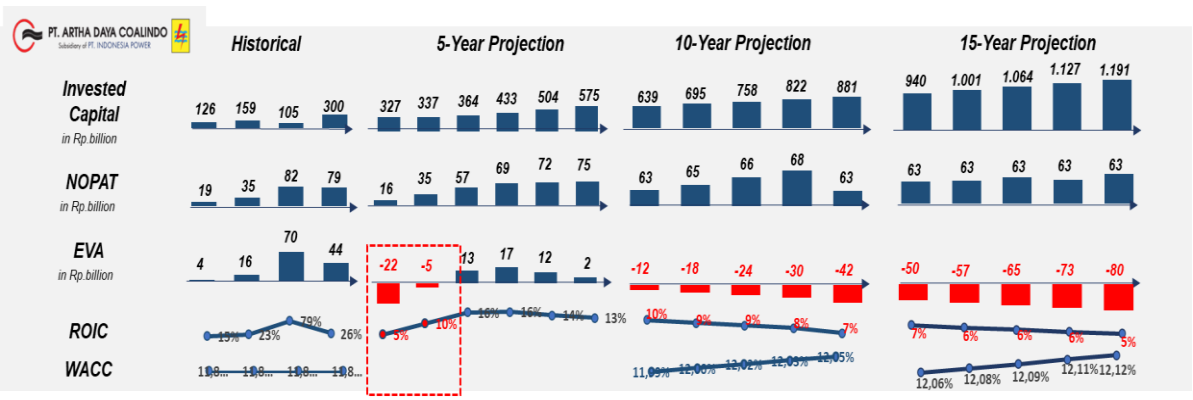

Figure 20. Discounted EVA of ADC

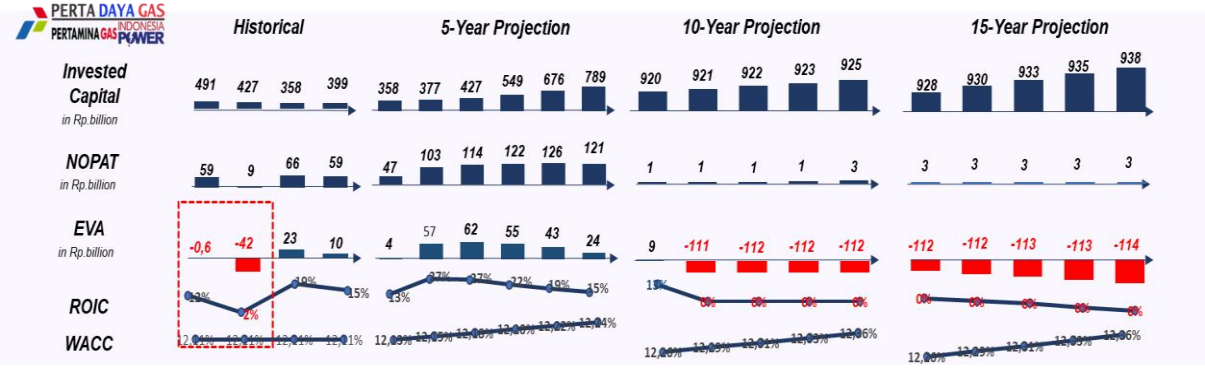

Figure 21. Discounted EVA of PDG

5. Discussion

The competitive advantage analysis reveals a nuanced picture for both ADC and PDG, highlighting specific areas where strategic interventions can significantly enhance their market position and long-term sustainability. ADC exhibits notable strengths within the biomass supply chain, underlining its proficiency in this domain. However, the identified gaps in coal supply chain management, contract administration, and risk mitigation present clear opportunities for improvement. Strengthening these areas not only fortifies operational resilience but also diversifies the company's resource base, mitigating risks associated with overreliance on a single resource (Han & Um, 2024; Katsaliaki et al., 2022; El-Naggar & Ali 2023). Furthermore, the alarming trend of consistently negative EVA projections necessitates a multifaceted approach towards financial optimization, encompassing cost containment measures, operational efficiency enhancements, and potentially revisiting capital allocation strategies (Tripathi et al., 2022; Subedi & Farazmand, 2020).

Similarly, PDG's analysis reveals promising growth prospects in the LNG and midstream businesses, signaling avenues for strategic expansion and revenue diversification. While the company demonstrates competency in certain aspects, such as coal supply chain management, aligning contract administration and risk management practices with industry best standards is imperative to ensure operational robustness (Hermoso-Orzáez & Garzón-Moreno, 2022). Moreover, the persistent negative EVA projections demand a critical examination of the company's financial landscape, calling for measures to streamline capital allocation, optimize resource utilization, and enhance overall profitability (Lukanima, 2023).

In both cases, strategic alliances and partnerships could serve as catalysts for growth, facilitating access to new markets, technologies, and expertise. Collaborative ventures can be carried out, so that ADC and PDG can leverage synergies, reduce costs, and accelerate innovation, thereby enhancing their competitive edge and market positioning. Additionally, a holistic approach towards market expansion, incorporating market research, customer segmentation, and product innovation, can unlock new revenue streams and foster sustainable growth trajectories (Gomes & Meisen, 2023; Gomez et al., 2018).

Ultimately, addressing the identified areas for improvement while capitalizing on strategic opportunities is paramount for ADC and PDG to solidify their competitive advantage, drive sustainable performance, and deliver long-term value to shareholders and stakeholders alike. Through a concerted effort to enhance operational excellence, mitigate risks, and foster innovation, both companies can navigate the dynamic market landscape with confidence and resilience, positioning themselves as industry leaders in the years to come.

6. Conclusion

This study positions both ADC and PDG in the Alien Territory within the Heartland Matrix due to their weak core competencies and financial ratios, leading to negative EVA. However, there is potential for improvement if PLN EPI prioritizes their future and strengthens their financial ratios. Historically, ADC has generated positive EVA from 2019 to 2022, indicating that its invested capital yields returns exceeding the cost of capital. Monitoring liquidity ratios will be crucial for meeting long-term obligations. On the other hand, PDG experienced fluctuating EVA, turning positive after 2020. Attention to liquidity and leverage ratios is vital for sustaining business operations. To enhance their financial performance, both companies should focus on operational efficiency, risk management, and strategic alliances to capitalize on growth opportunities and ensure long-term success.

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