

Understanding Diversification Strategies of An Indonesia's Coal Mining and Heavy Equipment Company

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Abstract

There are many primary energy resources in Indonesia. One of them is coal. In coal mining sector, most of it is for export. In the same time, global energy consumption in coal has decreased in a few past years. Due to this condition, coal mining and heavy equipment industry in Indonesia becomes a tough industry. This research aims to understand strategic initiatives of an Indonesia's coal mining and heavy equipment company. A case study research is conducted by reviewing secondary data from PT United Tractors Tbk. PT United Tractors Tbk overcome the challenge by implementing diversification strategies of David's alternatives strategies. It gives positive impacts on the financial of the company.

Keywords

Coal Mining, Heavy Equipment, David's Alternatives Strategies, Diversification

1. Introduction

One of the most important things in meeting people's needs and economic development is energy (Hashemizadeh et al. 2022). There are two forms of energy resources: primary and secondary energy (Kartiasih et al 2012). Primary energy is energy provided by nature without transformation processes, while its transformation through several processes is called secondary energy (Kartiasih et al 2012). The Ministry of Energy and Mineral Resources of the Republic of Indonesia in the Indonesia Energy Outlook (2019) stated that primary energy consists of oil, natural gas, coal, and renewable energy.

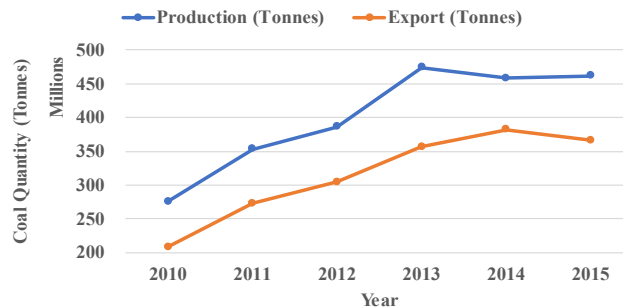


Figure 1. Indonesian coal production and export quantity during 2010 – 2015
(source: Handbook of Energy & Economic Statistics of Indonesia, 2020)

The authors focus on coal as a primary energy in Indonesia. Coal production in Indonesia during 2010 – 2013 increased but during 2014 – 2015 decreased by 3.43% from 2013 (Figure 1). Most of the production, around 78%, is used for export. The amount exported in 2015 decreased by 4.22%. This movement in export value is in line with coal energy consumption worldwide as shown in Figure 2. Not only in worldwide point of view, energy consumption from coal for domestic use also has decreased drastically since 2013 (Figure 3).

. To help the company, strategic plan can be applied based on a market-based view or a resource-based view (Nurcahyo et al 2019). In resource-based view, quality management as stated in ISO 9001 must be considered due to its significant positive impact on the operational and business performance (Nurcahyo et al 2021).

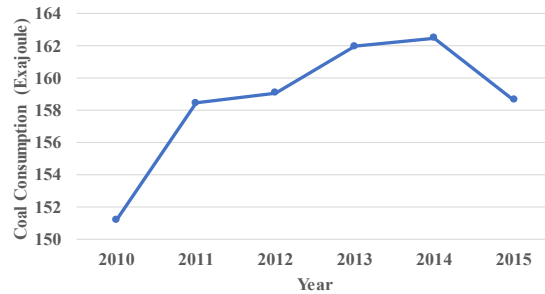


Figure 2. Worldwide energy consumption in coal during 2010 – 2015
(source: bp Statistical Review of World Energy 2021)

The global economic slowdown has had an impact on the ability of world markets to absorb various international commodities. The decrease in energy demand from coal will be a major challenge for companies engaged in the coal mining sector. The competitiveness is important for this sector to survive as rapid changes in consumer needs (Wibowo and Nurcahyo 2020). The above challenges have been exacerbated by the drastic decline in coal prices since 2012 (Figure 4). Even the price of coal in 2015 was half of the price in 2011. Indonesia's export-oriented mining sector became a tough industry. Companies operating in this industrial sector must be able to implement strategies that can result in better performance growth in facing the challenges above

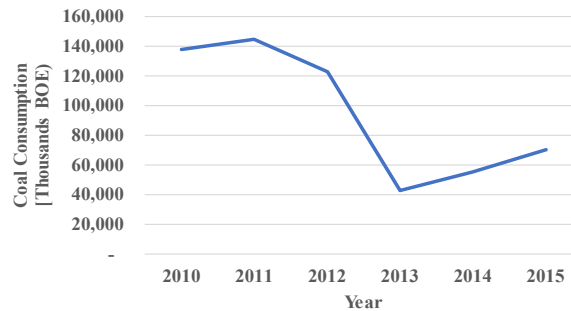


Figure 3. Domestic coal consumption during 2010 – 2015
(source: Handbook of Energy & Economic Statistics of Indonesia, 2020)

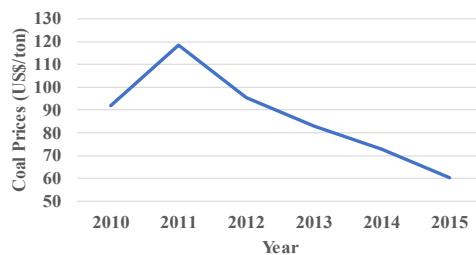


Figure 4. Exported coal prices during 2010 – 2015
(source: Handbook of Energy & Economic Statistics of Indonesia, 2020)

1.1. Objectives

The objective of this research is to understand strategic initiatives conducted by a company that operates in coal mining sector to achieve better performance growth by facing the decrease of global energy demand and coal prices. This research selected one of leader companies in Indonesia that operates in coal mining and heavy equipment sector: PT United Tractors Tbk.

2. Literature Review

2.1. Strategic Industries

Strategy has various definitions from several points of view. (1) Strategy is the formulation of missions, purposes and basic organizational goals, policies and programs to meet them, and the methods needed to ensure that strategies are implemented to achieve organizational objectives (Steiner & Miner 1977). (2) Strategy is the pattern of decisions that guide the organization in its relationship with the environment, affect the processes and internal structures, as well as influencing the performance of organizations (Hambrick 1980). (3) Strategy is a set of plans or decisions made in an effort to help organizations achieve their objectives (Miller & Dess 1996). (4) Strategy means performing different activities to those performed by rivals or performing the same activities differently (Porter 1996). (5) Strategy is an integrated and coordinated set of commitments and actions designed to exploit core competences and gain competitive advantage (e.g. Hitt et al. 2005). Based on some of definitions of strategy, strategy can be defined as set of decisions taken by senior company management (the path to follow, objectives in the medium and long term, the necessary structure, mobilization of the entire organization, the company mission and vision) that leads to the development of internal practices, action plans, policies and guidelines, which aim to improve the organization's relationship with its external environment, geared to market (Emerson et al. 2014).

Strategic management is the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives and focuses on integrating management, marketing, finance or accounting, production or operations, research and development, and information systems to achieve organizational success (David, 2007). Strategic management emerged as part of strategic planning and is definable as a cross process of formulation, implementation and evaluation of the decisions that enable organizations to define and achieve their mission an ultimately to create value (Porth 2002).

2.2. Internal Forces

Internal forces is a strategic-management audit of the core operations of most businesses such as management, marketing, finance or accounting, production or operations, research and development, and management information systems. Identity and evaluate internal strengths and weaknesses to provide the basic information needed to successfully formulate competitive strategies such as Competitive Profile Matrix (CPM), IFE Matrix, and clear statements of vision and mission (David, 2007). Internal forces of change refer to changes within the organization context variables such as leadership, structure, strategy, people, technology and cultural (Aronson, et al., 2021).

The Resource-Based View (RBV) approach to competitive advantage contends that internal resources are more important for a firm than external factors in achieving and sustaining competitive advantage (David, 2007). Resource Based View (RBV) analyzes and interprets resources of the organizations to understand how organizations achieve sustainable competitive advantage (Madhani, 2014).

2.3. External Forces

External forces can be divided into five broad categories: (1) economic forces; (2) social, cultural, demographic, and natural environment forces; (3) political, governmental, and legal forces; (4) technological forces; and (5) competitive forces (David, 2007). The EFE Matrix and Porter's Five-Forces Model can help strategists evaluate the market and industry, but these tools must be accompanied by good intuitive judgment (David, 2007). External forces refer to the changes of environmental uncertainties outside of the organization context variables such as political, economic, natural disaster, technological, governmental, and environmental (Aronson, et al., 2021).

2.4. Strategy Formulation

The strategic management process consists of three stages: strategy formulation, strategy implementation, and strategy evaluation. Strategy formulation includes developing a vision and mission, identifying an organization's external opportunities and threats, determining internal strengths and weaknesses, establishing long term objectives, generating alternative strategies, and choosing particular strategies to pursue (David, 2007). The Vision and mission is an

important part of strategic management, vision is generally seen as a picture of excellence, something that the person, team or organization wants to create in its best possible of the future. The mission should be defined before we develop the strategy and the space in which we create a strategy. The mission defines the space in which the company will operate and therefore relates to the present and future directions (Papulova, 2014).

Strategy-formulation issues include deciding what new businesses to enter, what businesses to abandon, how to allocate resources, whether to expand operations or diversify, whether to enter international markets, whether to merge or form a joint venture, and how to avoid a hostile takeover. Strategy-formulation decisions commit an organization to specific products, markets, resources, and technologies over an extended period of time. Strategies determine long-term competitive advantages (David 2007). Based on a comprehensive strategic management model, strategy formulation activities consist of develop vision and mission statements, perform external and internal audit, establish long-term objectives and generate evaluate and select strategies (David 2007).

The strategy, defined based on the SWOT matrix, determines how to get closer to the goal (David and David 2017). Albert Humphrey of the Stanford Research Institute developed the SWOT analysis technique in the 1960s as a strategic planning tool. The SWOT acronym is formed by combining the initial letters of the four terms Strengths, Weaknesses, Opportunities, and Threats. Strategic planning and environmental analysis tool, this qualitative strategic technique is used to identify the key internal (strengths and weaknesses) and external (opportunities and threats) strategic factors that an organization (group, person, etc.) faces and affect its objectives (Amirshenava, et al. 2022). Based on this technique's results, appropriate strategies can be developed to maximize strengths, eliminate weaknesses, exploit opportunities, and counter threats. However, despite all the mentioned advantages, SWOT analysis's subjective and linguistic nature is considered the main weakness of this method, making it challenging to examine the strategic factors and compare the selected strategies (Hill and Westbrook 1997; David and David 2017).

The process of defining strategies or directions to achieve a goal and deciding how to apply these strategies is known as strategic planning. In a systematic strategic planning process, by creating knowledge of the internal and external environment, the project manager can benefit from appropriate strategies to reduce vulnerabilities and ensure the project's success. The strategy, defined based on the SWOT matrix, determines how to get closer to the goal (David and David 2017).

2.5. Types of David's Alternative Strategies

David's alternative strategies that an enterprise could pursue can be categorized into 11 actions: forward integration, backward integration, horizontal integration, market penetration, market development, product development, related diversification, unrelated diversification, retrenchment, divestiture, and liquidation (David 2007).

Table 1. David's Alternative Strategies Definition (David, 2007)

Strategy	Definition
Forward Integration	Gaining ownership or increased control over distributors or retailers
Backward Integration	Seeking ownership or increased control of a firm's suppliers
Horizontal Integration	Seeking ownership or increased control over competitors
Market Penetration	Seeking increased market share for present products or services in present markets through greater marketing efforts
Market Development	Introducing present products or services into new geographic area
Product Development	Seeking increased sales by improving present products or services or developing new ones
Related Diversification	Adding new but related products or services
Unrelated Diversification	Adding new, unrelated products or services
Retrenchment	Regrouping through cost and asset reduction to reverse declining sales and profit
Divestiture	Selling a division or part of an organization
Liquidation	Selling all of a company's assets, in parts, for their tangible worth

In the Coal Mining and Heavy Equipment Industry, diversification strategy becomes interesting when global mining conditions are uncertain. For regions dependent on a single industry, diversification of the economy is generally considered important for becoming less vulnerable (Lashitew et al. 2020). Creating unrelated diversification, meaning

diversification that is not technologically, product or skill related to existing activities suggested to be a fruitful way for regions to build new capabilities (skills, knowledge, and specialized suppliers), induce structural change, and thereby reduce vulnerability to external shocks. However, for small and asset-scarce regions this can be very challenging (Boschma 2017; Grillitsch and Asheim 2018; Neffke et al. 2018). Instead, related diversification tends to be the rule when regions diversify (Boschma 2017). Diversification can come both from the new combinations of related technology, products and skills (related diversification) or through unrelated knowledge combinations (unrelated diversification). Relatedness can be understood as both being based on similarity and complementarity. Either way, when knowledge is cognitively close it can stimulate interactive learning (Boschma 2017).

2.6. Types of Porter’s Generic Strategies

According to Porter, strategies allow organizations to gain competitive advantage from three different bases: cost leadership, differentiation, and focus. Porter calls these bases generic strategies (David, 2007).

Table 2. Porter’s Generic Strategies Definition (David, 2007)

Strategy	Definition	Strategy Target
Type 1: low-cost strategy	offers products or services to a wide range of customers at the lowest price available on the market	Large Market
Type 2: best-value strategy	offers products or services to a wide range of customers at the best price-value available on the market	Large Market
Type 3: differentiation strategy	a strategy aimed at producing products and services considered unique industrywide and directed at consumers who are relatively price-insensitive.	Small groups of consumers
Type 4: low-cost focus strategy	offers products or services to a small range (niche group) of customers at the lowest price available on the market	Small market
Type 5: best-value focus strategy	offers products or services to a small range of customers at the best price-value available on the market	Small market

3. Methods

The methodology used in this paper is a qualitative case study method. Case study research is a careful, in-depth, and detailed analysis or investigation activity related to certain events, situations, organizations, or social units in real-life contexts (Schoch 2019). Place and time frames are usually described in the case being analyzed. Case studies are usually carried out by combining various data sources to be submitted as evidence because there is no clear boundary between a phenomenon and its context (Yin 2018). Baxter and Jack (2008) stated that a qualitative case study is an approach to understand phenomena that occur according to certain contexts by using many data sources so that these phenomena can be understood from various points of view.

Case study research provides benefits both in terms of process and results (Schoch 2019). In terms of process, case studies help us to make research more specific in terms of space and time and provide us with the opportunity to collect many types of data (interviews, documents, observations, surveys, etc.) on a specific case. In terms of results, case studies provide a comprehensive explanation so that they can provide lessons to be applied to other cases or situations.

Case study research begins with a research problem that involves identifying unknown knowledge related to an issue or phenomenon. The identification of this problem will lead to the formulation of a statement of objectives and research questions. This research question will guide us in deciding whether the case study is an appropriate method (Schoch 2019).

Based on the research questions that have been made, we can decide what type of data to use. The data sources can come from documentation, archival records, interviews, direct observation, participant observation, and physical artifacts (Yin 2018). Case study researchers usually focus on qualitative data (Schoch 2019). Specifically for this case study, the authors use statistical data from the Ministry of Energy and Mineral Resources or secondary data from other agencies and the Annual Report of PT United Tractors Tbk during 2010 – 2021 to conduct a qualitative analysis of the company's strategy in facing challenges so that the company continues to grow.

To perform the analysis, the steps taken are usually describing, emergence of findings, and comparing (Schoch 2019). In describing, the emphasis is on understanding the "who, what, when, where" of the situation being studied. In the emergence of findings, by understanding the data, researchers will find patterns, themes, or categories that arise so that an inductive process occurs in qualitative analysis. In comparing, the comparison of many emerging themes can be done if it is a multiple-case study design.

4. Data Collection

4.1. Company's Financial Growth

One of the companies affected by the challenges of coal demand and prices is PT United Tractors Tbk (UT). UT was established on October 13, 1972 (Annual Report of PT United Tractors Tbk, 2014). UT started its business as a distributor of quality heavy equipment that capable of supporting the needs of large and small scale industries in the mining, plantation, construction, forestry, goods transportation, and transportation sectors. UT is one of subsidiaries companies of PT Astra International Tbk. With a vision of "to become a world-class solution-based company in the fields of heavy equipment, mining, and energy to create benefits for stakeholders", at the end of 2014 the products and services offered by the company were divided into three business segments, namely Construction Machinery, Mining Contractors, and Coal Mining.

In the Construction Machinery business segment, UT has a total heavy equipment market share of 36% in Indonesia. The flagship product that UT sells is Komatsu. In 2015, there was a decrease in sales volume of Komatsu heavy equipment products to 2,124 units compared to 2014 which was 3,513 (a decrease of 40%). Komatsu heavy equipment is mostly used in Indonesia for the mining sector. Due to the continued decline in commodity prices, the mining company's coal production targets have also decreased. As a result, sales of heavy equipment also declined (Figure 5).

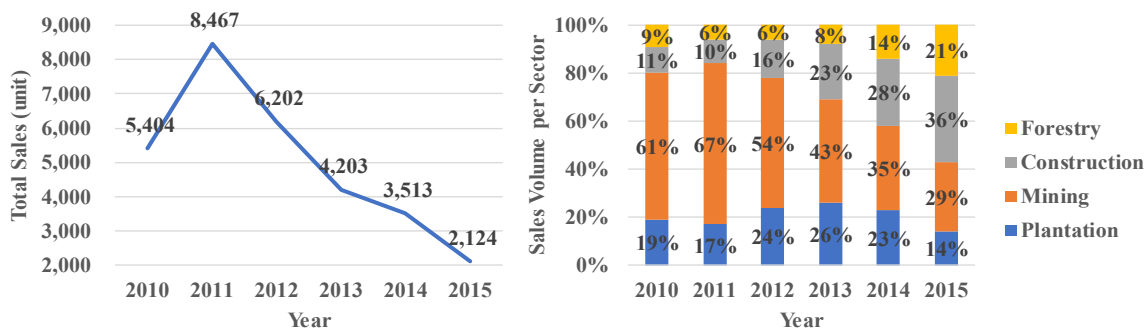


Figure 5. Komatsu sales and its volume per sector (source: Annual Report of PT United Tractors Tbk, 2015)

In the Mining Contracting business segment, UT through its subsidiary, PT Pamapersada Nusantara (PAMA), has a domestic market share of 45%. Along with the adjustment of coal production targets by mining companies, PAMA's overburden removal activities also experienced a decline.

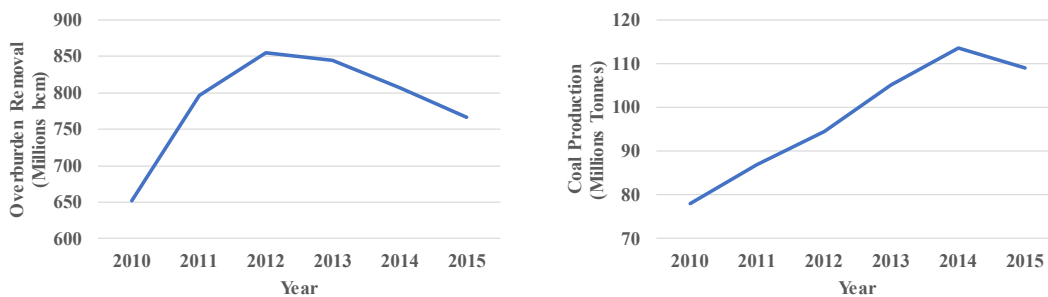


Figure 6. Overburden removal and coal production of PT Pamapersada Nusantara

(source: Annual Report of PT United Tractors Tbk, 2015) In 2015 total overburden removal was 766.6 million bcm compared to 2014 which was 806.4 million bcm (a decrease of 5%). In 2015, the overall activities (overburden removal and coal production) decreased (Figure 6). It is related with a decrease in the number of PAMA's operational heavy equipment (Figure 7).

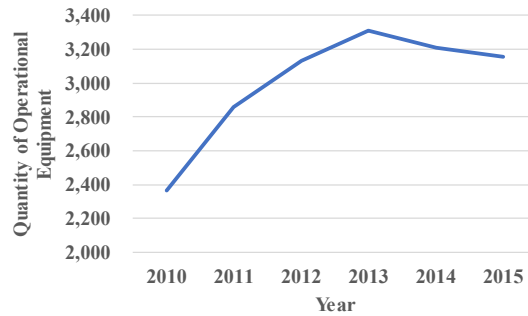


Figure 7. Quantity of operational equipment of PT Pamapersada Nusantara (source: Annual Report of PT United Tractors Tbk, 2015)

In the Coal Mining business segment, UT obtained concession rights over 9 coal mines with an estimated total coal reserve of 405 million tons (combined reserve) with medium to high coal quality. Coal produced by UT is exported to big countries such as Japan. In 2014 there was an increase in coal sales volume to 5.94 million tons compared to 2013 of 4.18 million tons (an increase of 42%). This is in line with the trend of demand for Indonesian coal exports to Japan (Figure 8). But there was a decrease of 18% in 2015.

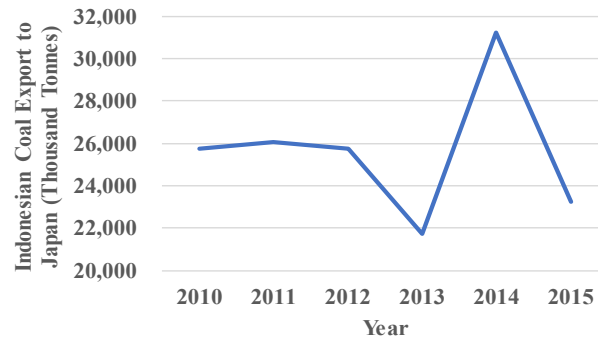


Figure 8. Indonesian coal export to Japan (source: Handbook of Energy & Economic Statistics of Indonesia, 2020)

The net income of the Construction Machinery business segment in 2015 decreased to Rp. 13.6 trillion compared to 2014 (a decrease of 9%). This decline can be suppressed because at the same time there is a strengthening of the US Dollar exchange rate (Figure 9) and an increase in after-sales service business revenue.

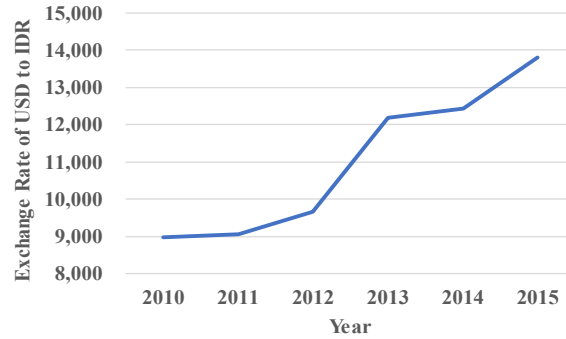


Figure 9. USD Exchange rate to IDR

(source: Kurs Tengah Beberapa Mata Uang Asing Terhadap Rupiah di Bank Indonesia dan Harga Emas di Jakarta (rupiah) Badan Pusat Statistik, 2019)

In the Mining Contracting business segment, net income decreased in 2015 to Rp 30.3 trillion compared to 2014 (a decrease of 9%). Although there was a decrease in the volume of overburden removal and coal production, coal hauling accompanied by the strengthening of the US Dollar exchange rate was able to hold the decrease of company's net income from going further. In the Mining business segment, net income in 2015 decreased to Rp 3.8 trillion compared to 2014 (a decrease of 18%). Overall, UT's revenue in 2015 came from the Mining Contracting business segment is 64%, while from the Construction Machinery business segment is 28% and from the Coal Mining segment is 8% (Figure 10)

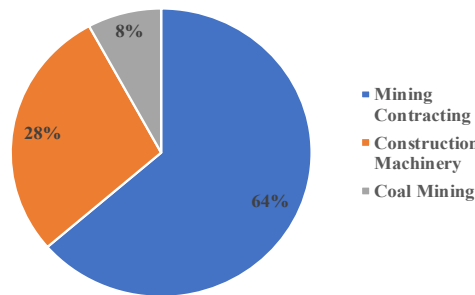


Figure 10. Contribution of each business segment of the company in 2015

(source: Annual Report of PT United Tractors Tbk, 2015)).

Net income in 2015 decreased by IDR 5.15 trillion compared to 2014. The trend was still below that of 2011 – 2012 and there was no significant growth (Figure 11).

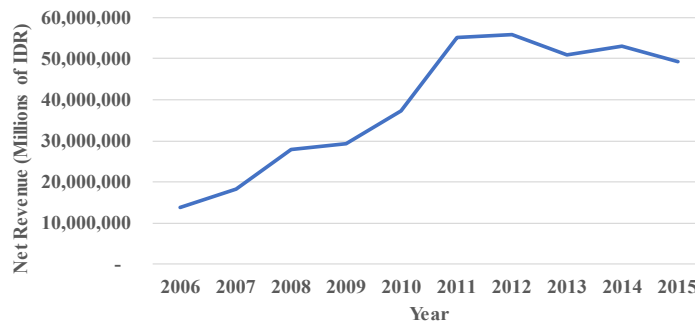


Figure 11. Net Revenue of PT United Tractors

(source: Consolidated Financial Statements PT United Tractors and Subsidiaries, 2006 – 2015)

4.2. Evaluation of Company's Competitive Strategies

The first strategy that has been implemented in UT is diversification as one of David's alternatives strategies. By implementing diversification, UT wants to reduce dependencies in coal industry (Annual Report of PT United Tractors Tbk, 2015). UT established the fourth business segment, construction industry, in 2015 through the acquisition of PT Acset Indonesia Tbk (ACSET) with 50.1% of share ownership. ACSET was established since 1995. It provides construction and foundation services. In 2020, the ownership became 64.8% of share through limited public offering. In this business segment, UT aims to contribute in construction industry that specialized in construction services, building construction and technical services, civil works, and maritime construction services. With its strengths, UT can significantly increase the amount of capital and generate an increase in contract value of ACSET through joint operations and strategic partnerships within Astra Group and other multinational companies in Indonesia.

In 2017, UT gained another expansion with establishment of the fifth business segment in energy. UT became an Independent Power Producer (IPP) through acquisition of 25% share ownership of PT Bhumi Jati Power (BJP). BJP built a Steam Power Plant (PLTU) project in Jepara, Central Java. Two new units of steam power plants was built by using ultra-supercritical technology with a generating capacity of 2,000 MW. It will supply electricity for PT PLN (Persero) for a 25 years of period. UT has also built a 2x15 MW mine mouth Steam Power Plant (PLTU) in Central Kalimantan. Its focus is for efficiency. The electricity is used to meet the group's internal needs by using coal that is supplied from the group.

UT also tried to expand and explore the opportunity in gold mining business through acquisition of PT Sumbawa Jutaraya (SJR) with 80% of share ownership in 2015. SJR is a gold mining exploration company in Sumbawa, West Nusa Tenggara. UT also acquired 95% ownership of PT Agincourt Resources (PTAR), a company that provides the exploration, mining, and processing of gold minerals in South Tapanuli, North Sumatra, in 2018. There are 4.5 million ounces of gold and 32 million ounces of silver ore reserves there. It is equivalent to an additional 16 years of mining operations. By doing this acquisition, UT established the sixth business segment, gold mining, in 2019. Gold prices soared since this year (Figure 12). It has been raised by 18.2% in December 2019 compared to January 2019 (Annual Report of PT United Tractors Tbk, 2019). It will reduce high dependency on thermal-coal sector.

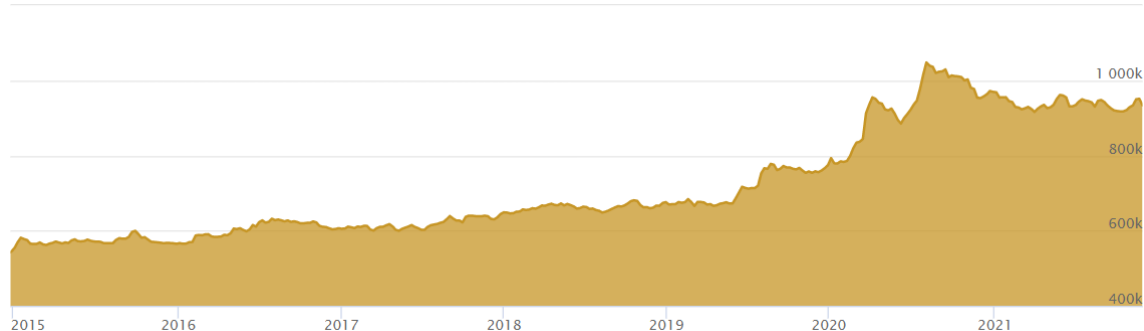


Figure 12. Prices of 1 gram of Gold

(source: Harga Emas ANTAM <https://www.logammulia.com/id/harga-emas-hari-ini>, 2015 – 2021)

UT also applies differentiation as one of Porter's generic strategies. This strategy is implemented to increase competitive advantage of the company. UT provides the best business solutions for customer through reliable products, best after sales services, and high competence personnel. In after sales services, UT established guaranteed product support and a contact center known as UTCall 1500 072. To establish guaranteed product support, UT launched On-Time In Full (OTIF) Program, a program to ensure that part, mechanics, and other solution have been sent to customer within 1x24 hour. UT also provides many supporting businesses to differentiate it with competitors. They are engineering and manufacturing services, coal and non-coal transportation services, and remanufacturing and reconditioning services.

The strategy implementation is strengthened by a comprehensive digitalization process. It is the most important resource-based view (RBV) approach that is taken by UT to align with industry 4.0. It starts with converting manual business processes to digital, data integration, and using big data as predictive analytics. UT Command Center has

been built to support operational activities at branches and sites so the problems will be solved faster and more precise. It is equipped with alert and monitoring facilities, teleconference and recording, initiatives improvement monitoring, and a web auto to do list to help customers/owners to monitor their operational activities. UT stated that digitalization creates company's competitive advantages and creates other business opportunity to boost revenue (Annual Report of PT United Tractors Tbk, 2018). It is also used in the audit process which can increase effectiveness and efficiency that leads to integration of all audit activities from start to finish.

5. Results and Discussion

From the Figure 13, we can see the increase of net revenue of UT after strategy implementation is 32.45% compared with before implementation. Average of net revenue before implementation (2010 – 2014) is Rp 50.5 trillion and after implementation (2015 – 2021) is Rp 66.9 trillion. In the new business segments, Gold Mining business segment gives the most net revenue for the company. As described above, raising of gold prices since 2019 also gives benefit for the company. Unfortunately, in the next year WHO declared COVID-19 a pandemic (Centers for Disease Control and Prevention, 2020). It affected all activities in all countries. Growth of world gross domestic product (GDP) in 2020 is -3.6% compared to 2019 (United Nations, 2021). Investment growth in Indonesia also decreased -4.9% (United Nations, 2021). However, with the company's rapid movement in capturing opportunities, UT has been able to maintain the company's financial position remains solid. It is shown by the net revenue of the company in 2021 as growth of world GDP and investment in Indonesia has a positive value (United Nations, 2021).

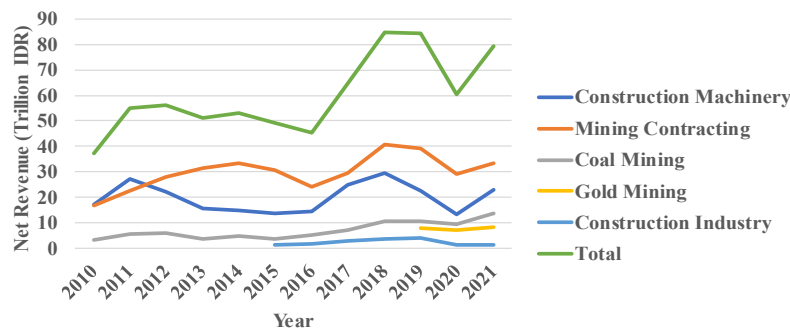


Figure 13. Net Revenue of Each Business Segment of PT United Tractors
(source: Consolidated Financial Statements PT United Tractors and Subsidiaries, 2010 – 2021)

6. Conclusion

This research is conducted by using secondary data from UT as a case study. UT is one of leader companies in Indonesia that operates in coal mining and heavy equipment sector. UT experienced a tough period due to decrease of coal demand. There was a decrease in its net revenue. To overcome the challenge, UT diversified its business segments from three to be six. UT wants to be able to generate a sustainable growth of revenues for long term by reducing dependencies on coal. UT implemented one of David's alternative strategies, related diversification, by creating new business segments in Construction Industry, Gold Mining, and Energy. It is proven by the positive results in its net revenue.

This research has some limitations. Most of this research describes about strategy implementation. It has lack data of strategy formulation. Internal and external factor evaluation should be analyzed in doing strategy formulation. In the evaluation process, each business levers should be quantified and weighted statistically. The company could get insight which business levers have higher correlation with company's performance in terms of financial and other aspects. By conducting these in future research, the case will have more comprehensive explanation in each steps of strategic management process.

References

- Amirshenava, S. and Osanloo, M., Strategic planning of post-mining land uses: A semi-quantitative approach based on the SWOT analysis and IE matrix, *Resources Policy*, vol. 76, pp. 102585, 2022.
- Aronsson, F., Huusko, A., Wansulin, V., Internal and External Forces of Organizational Change in Project Management, A Case Study on Collaborative project. Malardalen University Sweden, 2021.

- Badan Pusat Statistik, Available: <https://www.bps.go.id/indicator/13/284/4/kurs-tengah-beberapa-mata-uang-asing-terhadap-rupiah-di-bank-indonesia-dan-harga-emas-di-jakarta.html>, Accessed on April 23, 2022.
- Barney, J. B., Strategic factor markets: Expectations, luck, and business strategy, *Management Science*, vol. 32, no. 10, pp. 1231-1242, 1986.
- Baxter, P., Jack, S., Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*, vol. 13, no. 4, pp. 544-559, 2008.
- Boschma, R., Relatedness as driver of regional diversification: a research agenda, *Regional Studies*, vol. 51, no. 3, pp. 351-364, 2017.
- BP p.l.c., Statistical Review of World Energy, London: BP p.l.c., 2021.
- Center for Disease Control and Prevention, Available: <https://www.cdc.gov/museum/timeline/covid19.html>, Accessed on April 23, 2022.
- David, F.R., *Strategic Management: A Competitive Advantage Approach, Concepts and Cases*, 13th Edition, Pearson Education, Inc, New Jersey, 2007.
- Grillitsch, M., Asheim, B., Place-based innovation policy for industrial diversification in regions. *European Planning Studies*. vol. 26, no. 8, pp. 1638-1662, 2018.
- Hambrick, D. Operationalizing the concept of business-level strategy in research. *Academy of Management Review*, vol. 5, no. 4, pp. 567-575, 1986.
- Hamel, G. and Prahalad, C., *Competing for the Future*, Harvard Business School Press, vol. 28, is.1, pp.91, 1996.
- Hashemizadeh, A., Bui, Q., Zaidi, S.A.H., A blend of renewable and nonrenewable energy consumption in G-7 countries: The role of disaggregate energy in human development, *Energy*, vol. 241, pp. 122520, 2022.
- Hill, T., Westbrook, R., SWOT analysis: it's time for a product Recall, *Long Range Planning*, vol. 30, no.1, pp. 46-52, 1997.
- Hitt, M., Ireland, D., Hoskisson, R., *Strategic Management. Competitiveness and Globalization Concepts*, 6th Edition. Mason, Ohio, USA. South-Western. 2005.
- Kartiasih, F., Syaukat, Y., Anggraenib, L., The Determinants of Energy Intensity in Indonesia. *Jurnal Ekonomi dan Pembangunan Indonesia*, vol. 12, no. 2, pp. 192-214, 2012.
- Lashitew, A., Ross, M.L., Werker, E., What drives successful economic diversification in resource-rich countries?, *The World Bank Research Observer*, vol. 36, no. 2, pp. 164-196, 2020.
- Logam Mulia ANTAM, Available: <https://www.logammulia.com/id/harga-emas-hari-ini>, Accessed on April 23, 2022.
- Madhani, PM., Resource Based View (RBV) of Competitive Advantage: An Overview. ICFAI Business School, 2014.
- Mainardes, EW., Ferreira, JJ. and Raposo, ML., Strategy and Strategic Management Concepts: Are They Recognised By Management Students?, *ProQuest One Business*, vol.17, no.1, pp.43, 2014.
- Miller, D. and Dess, G. *Strategic management*. 2nd Edition. New York: McGraw Hill, 1996.
- Ministry of Energy and Mineral Resources Republic of Indonesia., *Handbook of Energy & Economic Statistics of Indonesia*. Jakarta: Ministry of Energy and Mineral Resources Republic of Indonesia, 2020.
- Neffke, F., Hartog, M., Boschma, R., Henning, M., Agents of structural change: the role of firms and entrepreneurs in regional diversification. *Economic Geography*, vol. 94, no. 1, pp. 23-48, 2018.
- Nurcahyo, R., Zulfadlillah, Habiburrahman, M., Relationship between ISO 9001:2015 and operational and business performance of manufacturing industries in a developing country (Indonesia), *Heliyon 7* (2021) e05537, 2021.
- Nurcahyo, R., Wibowo, A. D., Robasa, R., Cahyati, I., Development of a strategic manufacturing plan from a resource-based perspective, *International Journal of Technology* 10(1): 178-188, 2019.
- Populova, Z. The Significance of Vision and Mission Development for Enterprises in Slovak Republic. *Journal of Economics, Business and Management*, vol.2, 2014.
- Porter, M. What is strategy? Harvard Business Review, vol. 74, Iss. 6, pp. 61-78, 1996.
- Porth, S. *Strategic management: A cross functional approach*. Prentice Hall, New Jersey, 2002.
- Secretariat General National Energy Council, Indonesia Energy Outlook 2019, Jakarta: Secretariat General National Energy Council, 2019.
- United Nations, World Economic Situation and Prospects as of mid-2021, New York: United Nations, 2021.
- United Tractors, Annual Report 2014, Jakarta: United Tractors, 2014.
- United Tractors, Annual Report 2015, Jakarta: United Tractors, 2015.
- United Tractors, Annual Report 2016, Jakarta: United Tractors, 2016.
- United Tractors, Annual Report 2017, Jakarta: United Tractors, 2017.
- United Tractors, Annual Report 2018, Jakarta: United Tractors, 2018.
- United Tractors, Annual Report 2019, Jakarta: United Tractors, 2019.
- United Tractors, Annual Report 2020, Jakarta: United Tractors, 2020.
- United Tractors, Annual Report 2021, Jakarta: United Tractors, 2021.

- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2007, Jakarta: United Tractors, 2007.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2008, Jakarta: United Tractors, 2008.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2009, Jakarta: United Tractors, 2009.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2010, Jakarta: United Tractors, 2010.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2011, Jakarta: United Tractors, 2011.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2012, Jakarta: United Tractors, 2012.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2013, Jakarta: United Tractors, 2013.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2014, Jakarta: United Tractors, 2014.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2015, Jakarta: United Tractors, 2015.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2016, Jakarta: United Tractors, 2016.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2017, Jakarta: United Tractors, 2017.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2018, Jakarta: United Tractors, 2018.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2019, Jakarta: United Tractors, 2019.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2020, Jakarta: United Tractors, 2020.
- United Tractors, Consolidated Financial Statements PT United Tractors and Subsidiaries 2021, Jakarta: United Tractors, 2021.
- Schoch, K., *Research Design and Methods, An Applied Guide for the Scholar-Practitioner*. USA: SAGE Publication, Inc, 2019.
- Steiner, G. and Miner, J. *Management Policy and Strategy: Text, Readings and Cases*. Macmillan, New York, 1977.
- Wibowo, N., Nurcahyo, R., Competitiveness in Global Transformation: A Systematic Review. Proceedings of the International Conference on Industrial Engineering and Operations Management Dubai, UAE, March 10-12, 2020, 2020.
- Yin, R. K.. *Case study research: Design and methods*. 6th Edition, CA: SAGE Publication, Inc., Thousand Oaks, 2018.

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