
DEVELOPING THE STRATEGY FOR STEEL SALES BY SCENARIO PLANNING APPROACH

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ABSTRACT

The steel industry, often regarded as the mother of industry, holds a pivotal role in fostering national economic independence and supporting vital infrastructure projects. In Indonesia, the development of the steel industry stands as a key indicator of industrial advancement. However, the landscape has evolved dramatically, with escalating competition not just from PT Krakatau Steel but also from numerous emerging competitors producing similar products. This dynamic situation demands an aggressive sales strategy to secure market dominance, especially given the challenges posed by both local and international competitors. Addressing this, PT Krakatau Steel faces the essential question of how to optimize steel sales, approaching or even matching the plant's installed capacity, amidst this competitive environment. The solution lies in proactive strategic planning, which involves a meticulous analysis of both external and internal factors. Recognizing the need for foresight, the company has employed scenario planning, envisioning potential futures for the steel industry. By considering variables like raw material prices and government policies, four scenarios emerged: Armageddon, The King, The King's Speech, and Cast Away. Each scenario prompts a specific set of strategies and actions. Moreover, the company has established early warning systems to discern which scenario might unfold, enabling timely and precise responses. This forward-thinking approach culminated in a comprehensive strategic plan designed to guide PT Krakatau Steel through the complexities and uncertainties of the business landscape over the next seven years.

Keywords: steel industry, scenario planning, internal and external analysis, strategic planning, krakatau steel.

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INTRODUCTION

The steel industry is one of the main pillars of the development of advanced Indonesia. Currently, the national demand for steel is in the range of 16.2 million tons (SEAISI, 2022) and is projected to increase to 100 million tons in 2045 (IISIA, 2023). The development of the steel industry towards 100 million tons is necessary for the industry in the country to build national industrial independence. PTKS, as a national steel company, must be able to take the big opportunities in sight. With a plant capacity of 3.9 million tons of steel product (semi-finished product), PTKS must be able to fill the national demand for steel and be involved in the development of massive infrastructure and manufacturing industries that the Government is promoting.

One indicator of whether a country's economy is strong can be seen in the strength of the iron and steel industry in that country. The iron and steel industry plays a vital role in the development process because iron and steel are the main raw materials for the manufacturing industry and infrastructure development (Soesanto et al., 2023). More than 90% of human metal equipment is made of iron and steel. With this very important role, the existence of the iron and steel industry becomes very strategic to spur the growth and prosperity of a country, including Indonesia.

In line with the increasing development of the industrial sector and the intensification of infrastructure development in various cities and regions in Indonesia (including the development of the IKN "Ibu Kota Negara"), manufacturing, mining, oil and gas, agro-industry, as well as transportation and telecommunications services, the need for national iron and steel products will continue to increase.

In the next few years, the demand for steel in Indonesia will increase with the development of IKN. Based on world steel demand data by the consuming end-use industry, the construction sector occupies the highest position with 49%. The construction sector itself includes all structural and building work. The statistic following the IKN phase 1 master plan for 2022–2024 (Berawi, 2022), where the focus of development is on the construction sector (physical infrastructure) such as toll roads, bridges, buildings for housing, offices, houses of worship, educational facilities, health facilities, trade facilities, and dam as well. Phase 2 master plan for 2025–2029 (Berawi, 2022) will continue with the construction of airports, increased installed capacity, dams, and wastewater treatment plants. All of these require steel as a raw material.

In addition, the Government also supports the policy of using domestic steel by issuing Presidential Instruction No. 2 of 2022 (Inpres No. 2 Tahun 2022) concerning the Acceleration of Increasing the Use of Domestic Products (P3DN) to succeed in the National Movement of Proud of Made in Indonesia in the Implementation of Government Procurement of Goods/Services (Nomor, 2 CE). For the construction of IKN, it is required to use domestic steel in construction work. This will greatly help PTKS and other domestic steel industries to be able to fight imported steel.

However, challenges arose because we know that the global steel industry has enormous excess capacity. 2020 global overcapacity rose to 625 million tons from 569 million tons in 2019 (y-o-y). Then, the gap between the global steel industry capacity and production became 521.6 million tons in 2021 and could increase to 562.9 million tons in 2022 (Figure 1.2 Global Capacity - Production Gap). It causes a lot of imported steel to enter Indonesia and disrupts the domestic steel industry, including PTKS. One country that has a large steel industry capacity is China. China has a capacity of over one billion tons per year. This excess capacity makes China throw its direct exports to various countries, including Indonesia. It resulted in the import volume of steel products in Indonesia being high and the utilization of the national steel industry capacity below.

The next challenge is the relocation and potential relocation of steel plants from China to Indonesia in the aftermath of the escalation of the trade war with the United States. Also, several steel plants want to avoid Chinese Government regulations regarding environmentally safe emissions. On the one hand, it can create many new jobs and reduce dependence on imports, but on the other hand, of course, it has the potential to disrupt PTKS's market share (create new domestic competitors).

CONCEPTUAL FRAMEWORK AND RESEARCH METHODOLOGY

The conceptual framework for this final project is shown in Figure 1. Two key variables in this conceptual framework make up the research's main focus: the company's need for aggressive strategy for steel sales, and the scenarios that will eventually be necessary for aggressive strategy development. In line with the research question, the framework is primarily utilized to aid the author in exploring other factors, such as external forces (contextual environment and transactional

environment) and critical uncertainties that resulting from questionnaires to internal and external stakeholders who were interviewed, that would impact future scenarios for PTKS.

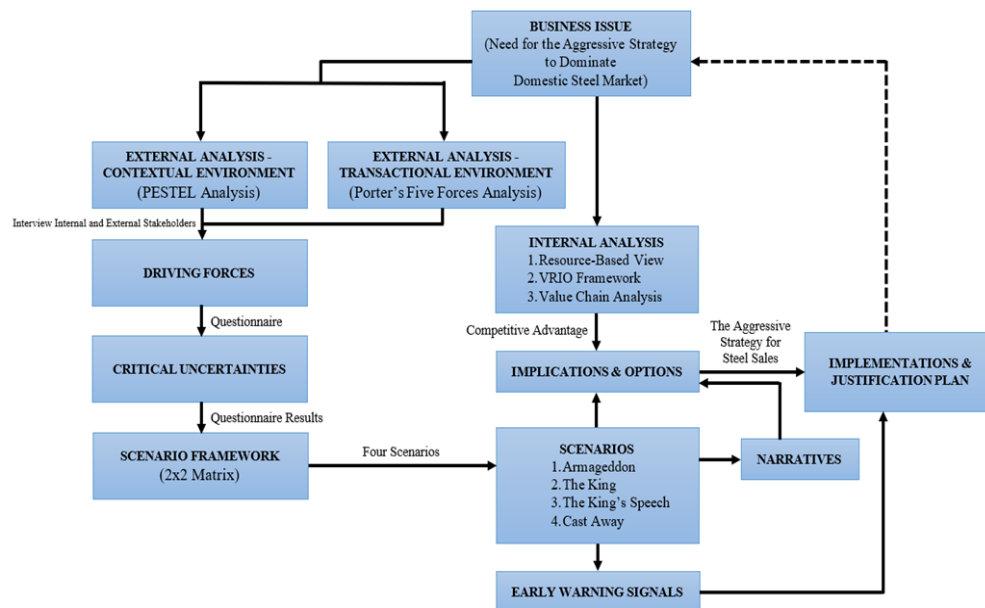


Figure 1. Conceptual Framework

Source: Author, 2023

According to (Cooper and Schindler, 2014), the research design is the blueprint for fulfilling objectives and answering questions and selecting a design may be complicated by the availability of many methods, techniques, procedures, protocols, and sampling plans. Meanwhile, according to (Creswell and Creswell, 2017), a research design is a set of formal procedures for collecting, analyzing, and interpreting data, such as those found in a quantitative experiment or qualitative case study. The author creates the research design by adapting the scenario planning development method in order to address the research question by developing plausible scenarios for aggressive strategy creation in steel sales.

The research design is a type of inquiry within qualitative, quantitative, and mixed methods approaches that provide specific direction for procedures in a research study (Creswell & Creswell, 2017). The major methodology for this study will be a qualitative approach, mostly due to the need for qualitative data from specialists or experts in the steel industry.

In creating scenario planning in PTKS as a steel industry, the author will analyze the problems from both internal and external factors. This research captures the business environment using three different analysis designs. The analysis of the general environment comes first. The company should know how the environment will impact the steel industry activities because it is complex and interconnected to gain a general understanding of business. An analysis of the overall environment will be undertaken to manage this. There are four components: scanning, monitoring, forecasting, and assessing. The general environment segments will comprise the political, economic, sociocultural, technological, environmental, and legal components. The research will guide the company in identifying opportunities and threats.

The industrial analysis comes second. (Porter, 1996) gave Five Forces Analysis to help the company assess industry attractiveness, how trends will affect industry competition, which

industries a company should compete in-and how companies can position themselves for success. There are five basic competitive forces: the threat of new entrants, the bargaining power of suppliers, the threat of substitute products or services, the bargaining power of buyers, and rivalry among existing firms (Mugo, 2020).

The internal analysis comes third. An internal study is built to address the company's concerns. Resources, core competencies, capabilities, competitive advantage, and strategic competitiveness are the elements of internal analysis design that are applied to current strategic decisions and investments.

The results of every analysis will be used to build scenario planning for the company. There is a list of driving forces for some of the focal issues that the company deals with. Critical driving forces are used as the axes of uncertainty in the matrix of scenario planning.

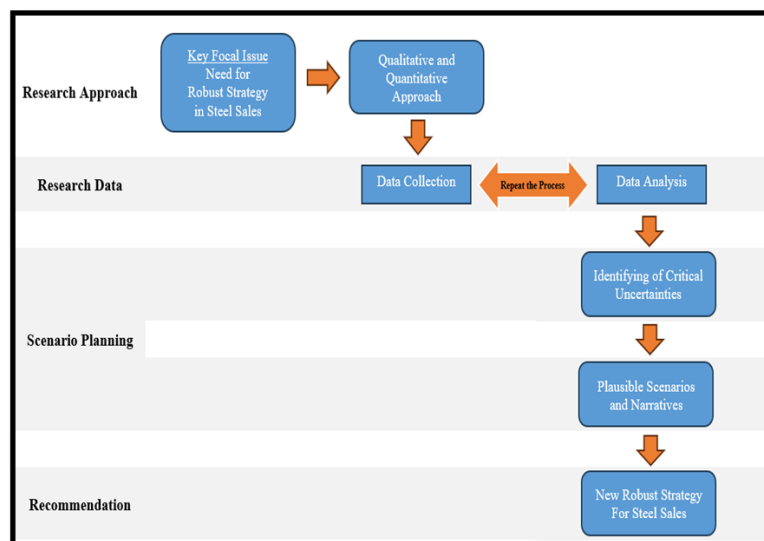


Figure 2. Research Design Framework

Source: Author, 2023

Figure 2 is the research design framework used in the research. It starts with a research approach where there is a need for an aggressive strategy for steel sales in PTKS that must be implemented in order to dominate the domestic market and sell steel products close to plant capacity, then proceed to a qualitative approach, data collection, and data analysis which the process can be iterative between data collection and data analysis.

At this point, the author should identify many future trends that will serve as the foundation for developing scenarios and serve as key driving forces. In order to create plausible future scenarios, the chosen driving forces are used as important uncertainties in the scenario development stage. Four scenario planning outputs will be used to create an aggressive strategy in steel sales in PTKS.

Data Collection Method

This final project employs a qualitative and quantitative approach to collecting the required data and appropriate information through a literature review and interviews with professionals in the steel industry from internal and external stakeholders. Interviews with the consumers (external stakeholders), attending the Indonesian Iron & Steel Industry Association Business (IISIA) Business Forum, and discussions with the Coordinating Ministry for Maritime Affairs and Investment are included to round out the perspective. After the interview, the author created a questionnaire to

rate the driving forces to create 2x2 scenarios with the 2 most important uncertainties as axes and to level the five basic competitive forces in Porter's Five Forces analysis results. The questionnaire is limited to the person being interviewed only.

All interviews with interviewees are used to gather the primary data needed for developing the scenario planning as well as to gain their expertise on driving forces, industry trends, industry uncertainties, implications, and early warning signals; the author conducted a semi-structured interview with a variety of professionals from across divisions, departments, and consumers. Meanwhile, secondary data comes from attending the Indonesian Iron & Steel Industry Association Business (IISIA) Business Forum, discussions with the Coordinating Ministry for Maritime Affairs and Investment, literature study and desk study by reading various literature, academic journals, PTKS annual reports, articles, news, and other reports related to steel industry. Secondary data aims to provide the author with plenty of unprocessed data or information that will help frame the interviewee's response. In addition to supporting the argument made by the primary data, the secondary data may also encourage the interviewee to consider potential future trends.

The interviewees are selected; six interviewees come from PTKS, with the level organization of all interviewees varying from Senior Sales, Manager (Vice President), and General Manager (Senior Vice President). Three interviewees come from consumers, with the level organization of all interviewees varying from the Manager, Department Head, and Authorities of the Board of Directors.

The steel industry players as interviewees were interviewed with the same questions: eleven (11) questions for internal stakeholders and ten (10) questions for external stakeholders. There was also a discussion to explore driving forces, uncertainty, and future trends more deeply.

Data collection starts with initial research using secondary data, followed by interviews (1:1) with internal and external stakeholders, conducted semi-structured and open-ended (meet physically and recorded, and also via Zoom). Then, follow-up interviews will be conducted to select key driving forces relevant to the development of PTKS and its impact on the company's goodness in the future.

Data Analysis Method

The author used content analysis since the information gathered through qualitative methods and interviews were complex and difficult to describe. According to (Krippendorff, 2004), content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use (Gheyle & Jacobs, 2017). Content analysis involves specialized procedures, providing new insights, increasing a researcher's understanding of particular phenomena, or informing practical actions. The analysis is performed as described in Figure 3.

When the text is ready, the data is analyzed from step 1 to step 5, from gathering the data through interviews, data preparation, data condensing, coding verification, and finally, getting the themes used as driving forces in the scenario planning context.

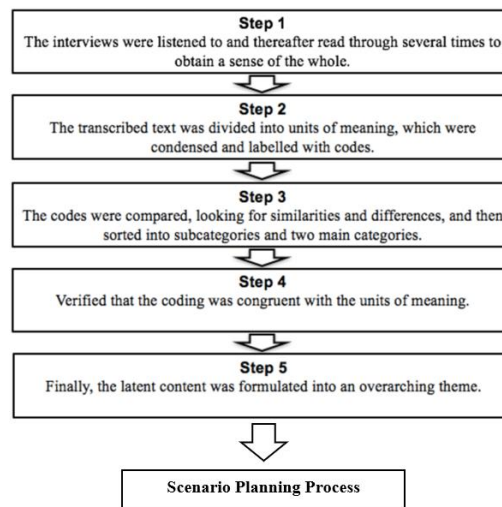


Figure 3. Description of The Qualitative Content Analysis Process

Source: adapted from (Brorsson, 2017 and Krippendorff, 2004)

RESULTS AND DISCUSSION

Analysis

The strategy implementation process begins with evaluating the company's current situation. A company's position can be broken down into two distinct aspects: the first one is the external environment, most notably the industry competition in which the company operates, and the second one is the internal environment, more specifically, the company's resources and organizational skills. Both external and internal analysis will affect the creation of scenario planning.

Then, a thorough analysis of a company's internal and external environments is necessary to successfully develop a strategy suited to the organization's circumstances. It is the initial evaluation of a successful strategy. In order to choose a long-term direction and create a strategic vision, strategic thinking starts with assessing the company's external and internal environments, as shown in Figure 4 (Thompson et.al., 2022). It then progresses to a review of the most viable alternative business models or strategies before concluding with selecting a particular approach.

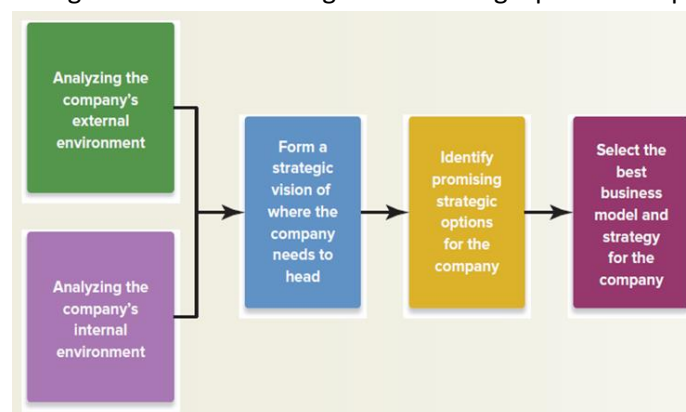


Figure 4. Analysis Company's Situation

Source: (Thompson et.al., 2022)

The immediate industry and competitive environment, as well as a more comprehensive macro-environment, are all parts of a company's external environment. Political factors, economic

conditions in the company's overall environment (local, national, regional, and global), sociocultural forces, technological factors, environmental factors, and legal or regulatory conditions are the six main components of this macro-environment. Although some of these factors are more likely to have a more significant impact than others, each can impact the company's more immediate industry and competitive environment. PESTEL analysis is a term used frequently to describe an analysis of the factors of certain components. The author uses PESTEL together with Porter's Five Forces for external analysis.

External Analysis – PESTEL Analysis

The author uses PESTEL analysis to identify the macro-environment forces affecting PTKS business now and are likely to continue to do so in the future by examining political factors, economic conditions, sociocultural forces, technological factors, environmental forces, and legal or regulatory factors.

a. Political Factors

The development of the steel industry is inseparable from the political background and national security strategy, especially to meet the needs of vital goods that use steel as raw material, ranging from light to heavy industry and the military equipment industry.

The political year that comes sooner brings uncertainty that has the potential to slow down industry performance, including the steel industry (HE, personal communication, June 15, 2023; and DA, personal communication, June 16, 2023). Even though new elections will be held in 2024 (next year) and various technical stages have started since 2023 (this year), the political atmosphere has been heating up from now on. Various maneuvers carried out by several elites made the political year seem to have come more quickly. This uncertainty complicates the business climate amid the global recession and inflation threat. This has made investors and business actors adopt a wait-and-see attitude, which always occurs in political years. Investors' wait-and-see attitude will always occur in a political year, so the most important thing that needs to be maintained is investor confidence through domestic stability (Lahadalia, 2022).

The geopolitical conflict between Russia and Ukraine also directly impacted the steel industry (DP, personal communication, June 13, 2023; BCS, personal communication, June 15, 2023; and HE, personal communication, June 15, 2023). As is known, Russia and Ukraine are two countries that export steel products to ASEAN, including Indonesia. According to (IISIA, 2022), the import of semi-finished steel products from Russia to ASEAN countries for the 2015-2018 period amounted to 18-25%, and in 2021, this value will be around 14.1% or 6.2 million tons of the total imports of 46.1 million tons from Russia and Ukraine. It is the quantity that is estimated to be lost in the current supply of steel. Meanwhile, Indonesia imports semi-finished steel products from Russia and Ukraine at around 27% and 15.8%, respectively, in 2020 and 2021 (IISIA, 2022). Billets and slabs mostly come from Russia, while bloom and high-carbon steel are imported from Ukraine. Apart from steel products, ASEAN countries also import iron ore from Russia and Ukraine but in insignificant amounts (<6%). Indonesia only imports 11.1% of coking coal from Russia (IISIA, 2022).

As time went by, on January 28, 1992, six ASEAN countries (Indonesia, Malaysia, Thailand, Singapore, Philippines, and Brunei Darussalam) formed AFTA, which is a free trade agreement between ASEAN countries that aims to make the ASEAN region a place of production that

competitive so that its products have strong competitiveness in the international market. Judging from its initial purpose, AFTA certainly has a positive impact. However, behind this good impact, AFTA also has negative impacts, including the abundance of imported products, which can kill domestic products, hindering the growth of the industrial sector, including the steel industry, caused by foreign trade that is too free. Hence, it hinders developing countries from advancing the industrial sector more quickly.

b. Economic Conditions

The International Monetary Fund (IMF) released the October 2022 World Economic Outlook, in which the forecast or outlook for global economic growth in 2023 was trimmed to 2.7%. This estimate is down from 2.9% in the July 2022 release and 3.8% in the January 2022 release (imf.org, 2022). The downward correction in growth is caused by several factors, including consumer purchasing power, increasing cases of COVID-19 in China, tightening monetary policy in the US, and high inflation in several countries, which was the aftermath of the Russia-Ukraine war.

The IMF assesses that the impact of tightening Federal Reserve monetary policy will be felt globally, where the strengthening of the US dollar, which continues to depress currencies in emerging markets, further adds to inflation and debt pressures. The IMF predicts that performance in 2023 will be the weakest since 2009 or after the global financial crisis.

Several international institutions have warned of the threat of a global recession in 2023. One of them is the IMF, which says that 31 out of 72 countries are projected to experience a recession. At some point during 2022-2023, there will be around 43% of the country's economy, with quarterly data estimates that more than a third of the world's GDP is experiencing a recession. Gross Domestic Product (GDP) is projected on the growth of developed and developing countries on a fourth-quarter-over-fourth-quarter.

The Indonesian economy continues to show resilience and good prospects. Bank Indonesia predicts Indonesia's economic growth in 2023 will remain strong in the range of 4.5–5.3% and will continue to increase to 4.7–5.5% in 2024, supported by private consumption, investment, and continued positive export performance amidst a slowing global economy.

The IMF assesses that Indonesia is included in the green category for 2023 economic growth. The IMF predicts that Indonesia's economy will be in third place, growing by 4.97% in 2023. This figure is below India, whose economy is predicted to grow by 6.06%, and the Philippines, which is predicted to grow by 5.02%.

External stability will be maintained, and the current account is predicted to be in the range of a surplus of 0.4% to a deficit of 0.4% of GDP in 2023 and a surplus of 0.2 to a deficit of 0.6% of GDP in 2024, while in the capital and financial accounts, the surplus is supported by Foreign Direct Investment (FDI) and portfolio investment. The financial system's resilience is maintained in terms of capital, credit risk, and liquidity. Credit growth will grow 10–12% in 2023 and 2024 (Bank Indonesia and PTKS internal data processing, 2022).

National steel consumption is expected to grow positively in 2022 and 2023 amidst fluctuations in international steel prices, geopolitical conflicts, and an increase in the benchmark interest rate. IISIA projects that steel consumption in 2022 will grow to 16.3 million tons. The prospect of growth in steel consumption will continue in 2023, with growth reaching 3.5–4%

driven by the development project for the National Capital City (Ibu Kota Negara [IKN]), which requires 9 million tons of steel in phase 1 (2020–2024) and phase 2 (2025–2029) (IISIA and PTKS internal data processing, 2022).

c. Sociocultural Forces

As a country with a land area of 1,916,906 square kilometers (BPS, 2021), Indonesia is the fourth most populous country in the world and the first most populous country in ASEAN. Based on data from Badan Pusat Statistik (BPS, 2022), Indonesia's population will be 275.77 million in 2022. This number has increased by 1.13% compared to 2021, which was 272.68 million people. Meanwhile, in 2023, Indonesia's population is projected to be 278.69 million. As the population increases, the population density also increases. The population density in Indonesia is projected to be 143.86 people per square kilometer in 2022.

Indonesia's demographic bonus provides benefits to the steel industry. The large population will be a potential target for the steel industry to promote and sell their products. For Indonesia, a large population can also help accelerate the national development process.

d. Technological Factors

The steelmaking process is produced through two main lines: first, the Blast Furnace-Basic Oxygen Furnace (BF-BOF) line, and second, the Direct Reduction Plant and Blast Furnace-Electric Arc Furnace (DRP and BF-EAF) line. Blast Furnace and Direct Reduction Plant are for iron making, while Basic Oxygen Furnace and Electric Arc Furnace are for steel making. In the world, 72% of steel is produced using the BF-BOF line (IISIA, 2021). When it was first established, PTKS used gas-based for iron making and electricity-based for steelmaking. Along with the increase in natural gas and electricity tariffs, which impacted the economic viability of iron and steel production, PTKS and its joint venture partners began to change the direction to coal-based for iron making and oxygen-based for steel making.

To increase market share and domestic Hot Rolled Coil (HRC) production, PTKS built the Hot Strip Mill Number 2 (HSM#2) plant. HSM#2, in the first phase, will produce steel coils at a capacity of 1.5 million tons per year and can be further developed to reach a capacity of 4 million tons per year. Technologically, HSM#2 is a plant with the latest technology and systems with a higher efficiency level. The latest technology helps the steel industry to become more efficient and productive (DP, personal communication, June 13, 2023). The total cost savings can reach 25% of the HSM plant in general due to reduced energy consumption and more optimal use of manpower.

e. Environmental Forces

Environmental factors involve broad environmental issues such as the natural environment, global warming, and sustainable economic growth (Rothaermel, 2021). The steel business is currently regarded as one of the major environmental challenges, and its environmental impact is mostly concentrated on lowering energy use, which produces large amounts of CO₂ emissions that contribute to global warming. The key process steps are primarily responsible for this energy consumption reduction. Large industrial steel mills also release pollutants like dust, which is bad for the health of the communities around the plants. This is challenging for the steel industry to switch to a more arch-friendly technology (decreasing CO₂ emissions).

f. Legal Factors

The previous regulation, Minister of Trade Regulation Number 110 Year 2018 (Permendag Nomor 110 Tahun 2018), has been replaced as of January 2020 by Minister of Trade Regulation Number 03 Year 2020 (Permendag Nomor 03 Tahun 2020). The purpose of this regulation's amendment is to make it easier to manage imported steel entering Indonesia (BCS, personal communication, June 15, 2023), but due to unfair trade practices, including dumping and circumvention (HE, personal communication, June 15, 2023), the implementation of this change has not yet given optimal effects on the domestic market.

Some of the imported steel that enter the Indonesian market can be produced by PTKS. Import taxes are reduced to 0% by adding boron compounds to steel. The national steel industry has gotten worse as a result of two Minister of Industry regulations: Number 32 Year 2019 regarding technical consideration for imports of iron or steel and Number 35 Year 2019 regarding technical consideration for exemption from the implementation of Indonesian National Standard (SNI) for iron or steel and cable products.

It is necessary for the Government to fully assist the national steel industry by implementing policies and changing regulations. Without government policy backing, the domestic steel industry will not be able to contribute to the expansion of the national economy.

External Analysis – Porter's Five Forces Analysis

External examination of the business industry environment is necessary to comprehend the current business scenario and identify the competitive advantage. According to (ARTHUR, 2021), every industry has unique competing forces, each with character and strength. The most powerful and widely used tool for diagnosing the principal competitive pressures in a market is the Five Forces Framework.

a. Threat of New Entrants

At first (from the establishment of PTKS until before the 2000s), the threat of new entrants was low. This is because PTKS, a state-owned steel company, had a monopoly right before it was revoked by Presidential Regulation Number 79 Year 2005 (Peraturan Presiden Nomor 79 Tahun 2005). With this monopoly right, new entrants will have a barrier to entry when they want to enter the steel industry. In addition, entering the steel industry requires a big investment and working capital. Besides that, new entrants must pay attention to the fact that the steel industry requires economies of scale to build a steel plant. According to (Porter, 1996), economies of scale refer to declines in product unit costs (or operation or function that goes into producing a product) as the absolute volume per period increases. Scale economies can be present in nearly every business function, including the steel industry. New entrants must build steel plants integrated from upstream (iron making) to downstream (rolling mill) to obtain high production efficiency.

As time goes by, the Government will not hesitate to invite foreign investors to build the steel industry in Indonesia to increase domestic steel production because the steel market in Indonesia is still very big, such as Dexin Steel Indonesia and Tsingshan Holding Group in Indonesia Morowali Industrial Park (IMIP), South East Sulawesi (Antara News, 2017), New Asia International in Sidoarjo, East Java (Sidoarjokab, 2020). These three steel plants come from China, where the technology for steel production is known to be cheap. In addition, the Chinese Government also

strongly supports the relocation of steel plants from China to Indonesia. This will be a threat to PTKS in the future. The market that was once a monopoly has turned into an oligopoly market. The threat of new entrants becomes high.

b. Bargaining Power of Suppliers

The bargaining power of suppliers is high. Several suppliers that strongly influence PTKS as a steel industry are suppliers of slab raw materials for rolling, iron ore, gas, electricity, and other supporting raw materials. For energy (gas and electricity), PTKS can still rely on domestic companies. For gas, PTKS cooperates with PGN, while for electricity, PTKS cooperates with KDL and PLN.

Suppliers of other strategic resources (slab, iron ore, supporting raw materials) are still lacking in Indonesia. Then, the solution is to import. The reason for PTKS to import is that the quality of raw materials for iron ore is better, where the Fe content is higher than local/domestic. In addition, the price is also cheaper. The same applies to slabs; imported slab prices are more competitive, and delivery times are more on time. PTKS's very high dependence on the above strategic resources puts PTKS in a difficult position. If suppliers cannot supply raw materials, production can stop, and price volatility can occur.

c. Threat of Substitute Products or Services

The threat of substitute products is low. According to (Thompson et.al., 2022), competitive pressures from substitutes are stronger when (1) good substitutes are readily available and attractively priced, (2) substitutes have comparable or better performance features, and (3) buyers have low costs in switching to substitutes.

As the mother of industry, where the steel industry is a supplier of raw materials for other industrial sectors and is the main support for infrastructure development in Indonesia. Almost all industrial sectors, both heavy and light, need steel. So far, no raw material such as steel has better performance features at an attractive price, is used massively in various industries, and is the main support for infrastructure development.

d. Bargaining Power of Buyers

The bargaining power of buyers is medium. The existence of a protectionist policy from the US Government towards Chinese products due to the US-China trade war forced steel products that were previously exported to the US to be diverted to Southeast Asia, including Indonesia. The overcapacity conditions in China exacerbate this situation, and they are trying aggressively to export their steel products to other countries worldwide; Indonesia is considered one of the biggest steel market potentials. This is also reinforced by the rampant practice of circumvention (HE, personal communication, June 15, 2023) the practice of deviating from steel imports (IISIA, 2020). This makes price competition for steel products more stringent and gives buyers many choices of steel products at lower prices than PTKS prices. Buyers in Indonesia are more sensitive to price than quality and delivery time. However, with the support of government policies through the implementation of Anti-Dumping Duties, which have already been implemented, the entry of imported steel can be controlled.

e. Rivalry Among Existing Firms

The rivalry among existing firms is high. With the enactment of AFTA in 2002, the steel industry in Indonesia is relatively open to foreign steel products. Currently, there are no

significant restrictions on imports of steel products, so the national steel market is very open to international steel supplies. The two main PTKS products, Hot Rolled (HR) and Cold Rolled (CR), have existing local competitors. Meanwhile, foreign competitors come from various countries, such as India, China, Russia, Japan, Australia, and several from ASEAN.

PTKS continues to seek protection from the Government to restrain the import rate (BCS, personal communication, June 15, 2023). One way is to ask the Indonesian Anti-Dumping Committee (KADI) to initiate a Sunset Review investigation into the imposition of Anti-Dumping Duties (BMAD) on imported Hot Rolled Coil (HRC) products originating from 7 countries (China, India, Russia, Kazakhstan, Belarus, Taiwan, and Thailand) (IISIA, 2023). PTKS states that if the imposition of BMAD is discontinued or not extended, there will be the potential for dumping and losses to recur or continue. Therefore, PTKS must continue to monitor changes in government policies because they can directly affect the level of competition between existing competitors, especially imports.

Based on the description of the 5 forces above, the threat from new entrants is very clear, and the Government's support for investors who want to develop the steel industry is quite big. PTKS must have an aggressive strategy to be able to go head-to-head with new entrants, and of course, when they start to enter the domestic steel market, they will offer lower prices. Furthermore, PTKS must also take the right steps to be able to find suitable and strategic partners in terms of the procurement of raw materials and supporting raw materials originating from imports. The dependence of PTKS on these suppliers is very high, and it is hoped that there will be continuous cooperation so that it will not become a threat that can stop production.

There are no competitors for alternative products that can replace steel, which is used massively in almost all heavy and light industries. Meanwhile, for the bargaining power of buyers, PTKS must continue to look for innovations and new market segmentation so that buyers remain dependent on PTKS without making price the most important thing for them.

Internal Analysis – Resource-Based View

The resource-based view can help the firm better understand how resources, skills, and capabilities develop core competencies that drive firm activities and result in competitive advantage. The identification of core competencies is made easier by this methodology. According to (Rothaermel, 2021), resources can be broadly divided into tangible and intangible categories. Tangible resources have physical attributes and are visible. PTKS tangible resources include human capital, plant, steel product, capital, and infrastructure. Intangible resources have no physical attributes and thus are invisible. PTKS intangible resources include corporate culture, government support, group support, brand equity, and after-sales service.

Internal Analysis – VRIO Framework

Table 1. VRIO Analysis of PTKS

Resources	Competencies	Valuable	Rare	Inimitability	Organized	Implication for Competitiveness
Tangible	Human Capital	Yes	No	No	Yes	Competitive Parity
	Plant	Yes			Yes	Competitive Parity
	Steel Product	Yes			Yes	Competitive Parity

	Capital	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
	Infrastructure	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
	Corporate Culture	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
	Government Support	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Intangible	Group Support	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
	Brand	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
	After-Sales Service	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage

Source: Author, 2023

Diversification or development is required for these resources to be more valuable than other steel industry players in the same business. Once the resources are valuable and uncommon, the business must make them pricey or difficult for rivals to copy the invention. When resources are difficult or expensive to duplicate, they already have a competitive advantage; they need the organization to use them and extract value from them. Companies can turn their resources into long-term competitive advantages by creating a strategic plan that considers competitive advantages and strives to support these resources through strategic management.

To ensure that the strategic plan is successfully implemented, the company must also manage and monitor it. Resources with sustained competitive advantages already meet the requirements listed and are organized through strategic planning. Based on research, as shown in Table 1, PTKS has seven competencies that become a sustainable competitive advantage: Infrastructure, Capital, Corporate Culture, Government Support, Group Support, Brand, and After-Sales Service.

Internal Analysis – Value Chain Analysis

A company's value chain is the business activities in which it develops, produces, and markets its products or services. Each step in a company's value chain requires applying and integrating different resources and capabilities. Because different companies may choose which value chain activities they will engage in, they can develop different sets of resources and capabilities. This can be the case even if these companies operate in the same industry. These choices can affect a company's strategies (Barney and Hesterly, 2020). Meanwhile, according to (Rothaermel, 2021), the value chain describes a firm's internal activities when transforming inputs into outputs.

The value chain is described into two categories: primary activities and secondary activities. For PTKS, the primary activities started with supply chain management, operations, distribution, marketing and sales, and after-sales service. Meanwhile, secondary activities started from research

and development, information systems, human resources, accounting and finance, and firm infrastructure.

During the interview, the author transcribed the interview data into text and do segmentation for all the text's main ideas. The author collected about forty-seven (47) non-unique trends from the transcribed version and conducted the content analysis. Condensing the trends into a meaningful unit was the first step. The core meaning of the condensed data is then represented by a code that is added to the condensed data. The author investigates numerous codes, repeats the exploration, and then categorizes one or multiple codes into a single category. The author eventually came to a conclusion with fifteen (15) categories based on the classification that could describe the content of each condensed data set.

In order to develop the descriptive themes-main codes, the author attempted to abstract the meaning of one or multiple categories once they are available. These themes are employed to assist the author in elaborating on the trend while maintaining the integrity of the original data. The method resulted in fifteen (15) descriptive themes and subcategories which served as the initial driving forces for developing the scenario planning.

After the driving forces were concluded, the author additionally carried out a questionnaire process, as indicated in the data collection method. Prioritizing the driving forces with key uncertainties for scenario planning development is the goal of the questionnaire. The questionnaire results show that raw material price and government policy are the 2 critical factors that have the highest degree of uncertainty and level of impact. Furthermore, other critical factors will be placed in the Low-Medium-High (Degree of Uncertainties) vs. Low-Medium-High (Level of Impact) table according to the leveling of questionnaire results and frequencies in the interview transcript.

Table 2. Questionnaire Results for Category

Category	Questionnaire Results		Frequency in Transcripts n (%)
	Degree of Uncertainties n (scale of 45)	Level of Impact n (scale of 45)	
Capacity	14 (45)	19 (45)	2 (4)
New Market	12 (45)	15 (45)	1 (2)
Investment	22 (45)	23 (45)	2 (4)
Quality	17 (45)	19 (45)	1 (2)
Digitization	11 (45)	22 (45)	1 (2)
Competitor	17 (45)	17 (45)	1 (2)
Import Attack	13 (45)	37 (45)	1 (2)
Financial Facility	26 (45)	25 (45)	2 (4)
Technology	34 (45)	37 (45)	4 (9)
Standardization of Steel Use	14 (45)	13 (45)	1 (2)
Government Policy	44 (45)	45 (45)	9 (19)
Legal	13 (45)	14 (45)	1 (2)
Politic/Geopolitics	28 (45)	33 (45)	4 (9)
Raw Material Price	45 (45)	45 (45)	10 (21)
Economic Condition	38 (45)	44 (45)	7 (15)

Source: Author, 2023

Table 2 shows the results of questionnaires from interviewees regarding the degree of uncertainty and level of impact and the frequency of the categories in the transcript which will lead to the critical uncertainty matrix.

Table 3 shows trend examples from the top five categories, transcribed the interview results.

Table 3. Categories and Trend Examples

Main Categories	Examples
Raw Material Price	Fluctuations in the price of raw materials for steel production, which change very quickly, impact price fluctuations.
Government Policy	Government policies for applicable national/international regulations to strengthen competitiveness.
Economic Condition	Stable economic conditions will create a conducive business climate, and steel demand will also grow in line with the revolving budget for infrastructure projects and the growth of the manufacturing industry segment.
Technology	What needs to be done is to increase capacity and productivity by investing in technological aspects.
Politic/Geopolitics	Geopolitical issues (Russia - Ukraine war and China trade war) still affect the movement of the world steel market.

Source: Author, 2023

Business Solutions

Scenario Planning Analysis

a. Stage 1 – Orientation

Based on the external and internal analysis and interviews with internal and external stakeholders, the key focal issue that is being defined is "What is the aggressive strategy for steel sales that must be implemented by PTKS in order to dominate the domestic market and sell steel products close to plant capacity in the next seven years?"

b. Stage 2 – Exploration

Through external and internal analysis of PTKS, interviews with internal and external stakeholders who are an expert in the steel industry based on work experience, and internal data from the company, several driving forces are identified during the exploration stage.

Table 4. Critical Uncertainties Matrix

Degree of Uncertainties →			Level of Impact ↑
Low	Medium	High	
○ Import Attack	○ Economic condition	○ Raw Material Price ○ Government Policy	High
○ Digitization ○ Quality	○ Technology ○ Politic/Geopolitic ○ Investment ○ Financial Facility		Medium
○ Legal ○ Standardization ○ New Market ○ Capacity ○ Competitor			Low

Source: Author, 2023

Critical Uncertainties

Finding the critical uncertainties comes next after identifying the driving forces. Critical uncertainties are the driving factors that give the highest impact and, simultaneously, have the highest uncertainties for the success of PTKS as an Indonesian steel producer and as a State-Owned Enterprise. According to discussions, interviews with the internal and external stakeholders, and questionnaire results, the price of raw materials and the Government policy are two factors regarded as critical uncertainties for this research, as shown in Table 4.

c. Stage 3 – Scenarios

The scenario framework is a 2x2 matrix based on the two most critical uncertainties identified in the previous stages. There are four distinct quadrants in the matrix. The first quadrant describes a situation where raw material prices are high while the government policies favor domestic steel producers in Indonesia; it is called "Armageddon". The second quadrant describes a situation where raw material prices are low while the government policies favor domestic steel producers in Indonesia; it is called "The King". The third quadrant explains a situation where raw material prices are low while government policies do not favor domestic steel producers in Indonesia; it is called "The King's Speech". Moreover, the fourth quadrant explains a situation where raw material prices are high while the government policies do not favor domestic steel producers in Indonesia; it is called "Cast Away".

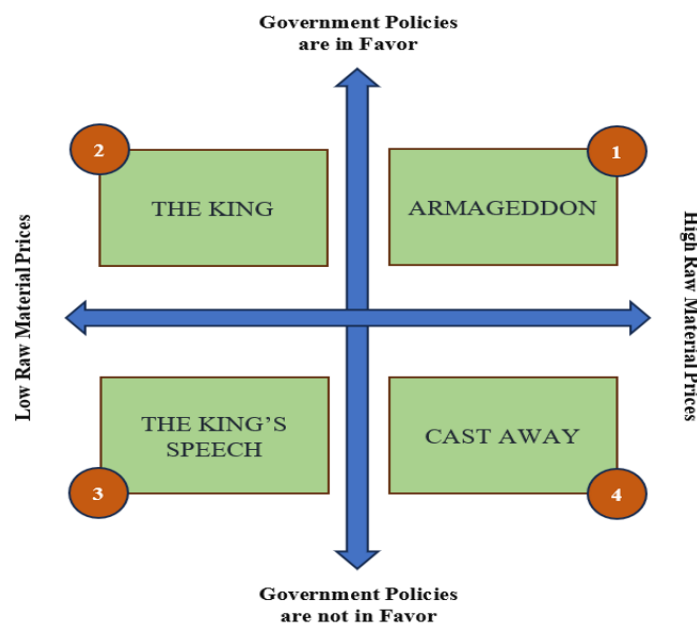


Figure 5. Scenario Matrix 2x2

Source: Author, 2023

Scenario 1 – Armageddon

In this scenario, the Indonesian Government fully supports the steel industry through policies favoring domestic steel. Massive infrastructure and manufacturing industry development is encouraged, and the Government is fully committed to implementing the national development plan. However, the high raw material prices, which led to high production costs, caused the domestic steel industry to make extra efforts to make it efficient.

Scenario 2 – The King

In this scenario, the Indonesian Government provides full support through policies that favor the domestic steel industry. Indonesia's economic development, promoted by the Government, increased, followed by the successful implementation of the national development plan. Low raw material prices allowed domestic steel producers to enjoy their heyday supplying high-margin steel products to the domestic market, including Government projects.

Scenario 3 – The King's Speech

The lack of Government policy support for the domestic steel industry and the slowdown in national economic development followed by the failure to implement the national development plan. However, the low price of raw materials means domestic steel producers can continue producing steel products with high margins. In this situation, local steel producers are negotiating with the Government to obtain policy support that favors the domestic steel industry and seeks to encourage national economic development through a massive supply of steel products.

Scenario 4 – Cast Away

In this scenario, Government policies do not favor the national steel industry. National economic development and infrastructure development in Indonesia have also experienced a slowdown. Several failures in implementing the national development plan resulted in a decrease in steel consumption in the domestic market. The condition of high raw material prices means that domestic steel producers only have a small margin of product and are at risk of stopping their production. The national steel industry players cannot sell their steel products to the domestic market with high raw material prices, so the national steel industry players must find ways to survive in this difficult environment.

d. Stage 4 – Option Consideration

Table 5. Implications and Options for Each Scenario

Scenarios	Implications	Options
Armageddon	- o The domestic steel producer will be protected by effective Government policy and support. - o Low profit margins are created by domestic steel producer due to high raw material prices.	- o Make a long-term contract for raw material purchases. - o Do joint procurement with other steel plants and steel mills to purchase raw materials.
The King	- o The large domestic market demand. - o High demand for domestic steel products. - o Improve and boost the domestic steel industry's competitiveness.	- o Expand production capacity. - o Increasing market share through penetration of new market segments. - o Renew LTSA - o Do joint business planning. - o Do digitization through a web-based B2B steel marketplace application to increase sales of steel products to consumers in an efficient and integrated manner.
The King's Speech	- o Onerous policy and regulation. - o Domestic steel producer will attempt to sell their steel product on the global market. - o Domestic steel producers will produce steel products with high profit margin.	- o Increased storage space for raw materials - o Negotiate intensely with the Government so that policies are in favor of the domestic steel industry.
Cast Away	- o There will be a decrease in domestic steel consumption. - o Some domestic steel producers will stop the production.	- o Do joint venture or joint operation with a big steel company. - o Negotiate intensely with the Government so that policies are in favor of the domestic steel industry.

Source: Author, 2023

In this stage, the implications and options to think about are developed once the scenario matrix and narrative are created. The following table provides the implications and options for each scenario.

e. Stage 5 – Integration

In this stage, early warning signals are recognized. Early warning signals are leading indicators that point in the direction of each plausible scenario. The following table lists the early warning signals for each scenario:

Table 6. Early Warning Signals

Scenarios	Early Warning Signals
Armageddon	○ The extreme shortage of raw materials. ○ The steel industry become the main focus of the Government, both central and local.
The King	○ There is excess raw material. ○ Indonesia will become one of the countries with the largest economic power and the steel industry will become the main focus of national economic development where the growth in demand for steel will also increase.
The King's Speech	○ There is excess raw material. ○ The Local Government neglects the steel industry.
Cast Away	○ The Government's main focus is not on the steel industry. ○ There is a massive shortage of raw materials.

Source: (Author, 2023)

Implementation Plan and Justification

The implementation plan is created as part of the company's strategy to prepare for any scenarios happening in the future. To uncover new ideas based on the future scenario imagination, an implementation plan is created to develop innovation. The plan also generally outlines how the company should get ready to tackle the situation and implement the ideas. The implementation plan, which will be structured for seven years beginning in 2023 and comprise strategic actions, will be mapped to the relevant scenarios as agreed upon with the stakeholders. Table 6 contains information about the implementation strategy in detail.

Table 7. Implementation Plan – Strategic Activities

Strategy	Activities	Year						
		1	2	3	4	5	6	7
General	Monitoring early warning signals	A, TK, TKS, CA	A, TK, TKS, CA	A, TK, TKS, CA	A, TK, TKS, CA	A, TK, TKS, CA	A, TK, TKS, CA	A, TK, TKS, CA
Strategic Partnership	- o Do Joint Venture - o Do Joint Operation - o Do Joint Business Planning - o Do Joint Procurement		A, TK, CA	A, TK, CA	A, TK, CA	A, TK, CA	A, TK, CA	A, TK, CA
Procurement	Make a long-term contract	A	A	A	A	A	A	A
Technology	- o Expand production capacity - o Do digitization	TK	TK	TK	TK	TK	TK	TK
Sales and Marketing	- o Increasing market share through penetration of new market segments - o Renew Long Term Supply Agreement	TK	TK	TK	TK	TK	TK	TK
Government Relation	o Negotiate intensely with the Government to get the best policy in the steel industry	TKS, CA	TKS, CA	TKS, CA	TKS, CA	TKS, CA	TKS, CA	TKS, CA

Source: Author, 2023

Note:

A = Armageddon ; TK = The King ; TKS = The King's Speech ; CA = Cast Away

CONCLUSION

In conclusion, this Final Project analysis offers a thorough understanding of potential future scenarios for PTKS in the next seven years. Raw material prices and government policies have been identified as pivotal factors influencing the industry. The study outlines four plausible scenarios, each depicting a unique outlook for PTKS. To navigate these scenarios and dominate the domestic market, strategic recommendations have been provided. These include vigilant monitoring of early warning signals, forging strategic partnerships, optimizing joint procurement initiatives, securing long-term raw material contracts, expanding production capacity, embracing digital tools for sales enhancement, and actively engaging in market penetration efforts. Moreover, renewing existing contracts and fostering new relationships through Long-Term Supply Agreements are emphasized. Proactive negotiations with the government to shape favorable policies for the national steel industry are crucial. These multifaceted strategies encompassing procurement, technology, sales, and governmental relations serve as a robust roadmap, positioning PTKS to thrive amidst the uncertainties of the future steel industry landscape.

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