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Navigating ISP Market Uncertainties through Scenario Planning

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ABSTRACT

Indonesia's growing internet penetration presents opportunities for new Internet Service Providers (ISPs), though competition is fierce due to low entry barriers and the emergence of disruptive technologies like Starlink. This leads to price wars, pressuring companies to balance margins with service quality. *PT.* Sinyal Global Nusantara (*PT* SGN), a newcomer in the ISP market, previously worked as an ISP contractor and aims to leverage its operational advantages for better service delivery and premium after-sales support. To navigate this competitive landscape, *PT* SGN must adopt a proactive strategy tailored to the evolving market dynamics over the next five years. The research employed a Scenario Planning framework, starting with a macro-environmental analysis using PESTEL, Porter's Five Forces, and SWOT analyses. Two key uncertainties identified are Government Policy and Regulation especially regarding illegal ISPs and Market Demand for Product Diversification. These uncertainties yield four scenarios: "The Bat's Order," "Gotham Seal," "The Arkham Unleashed," and "Dark Knight Falls." Each scenario requires monitoring Early Warning Signals (EWS) like Smart Home market trends and regulatory changes. It is recommended that *PT* SGN focus on product diversification, enhance operational efficiency, and engage actively with industry associations to navigate the competitive landscape effectively.

KEYWORDS Scenario Planning; Internet Service Provider (ISP); Critical Uncertainty; Strategic Response; Product Diversification.

INTRODUCTION

The telecommunications industry in Indonesia continues to expand, making telecommunication companies, especially Internet Service Providers (ISPs), a promising long-term growth opportunity. the Indonesian Service Providers Association or APJII, an organization that has been formed to coordinate and regulate ISP companies in Indonesia, with more than 1000 registered members (DPR RI, 2023), reported that the internet penetration rate in Indonesia experienced rapid growth, although it has not yet reached 100%, especially in areas with limited access. There are 221,563,479 people, or approximately 80% of the total population, who are connected to the internet, compared to the total population of 278,696,200 people in Indonesia as of 2023.

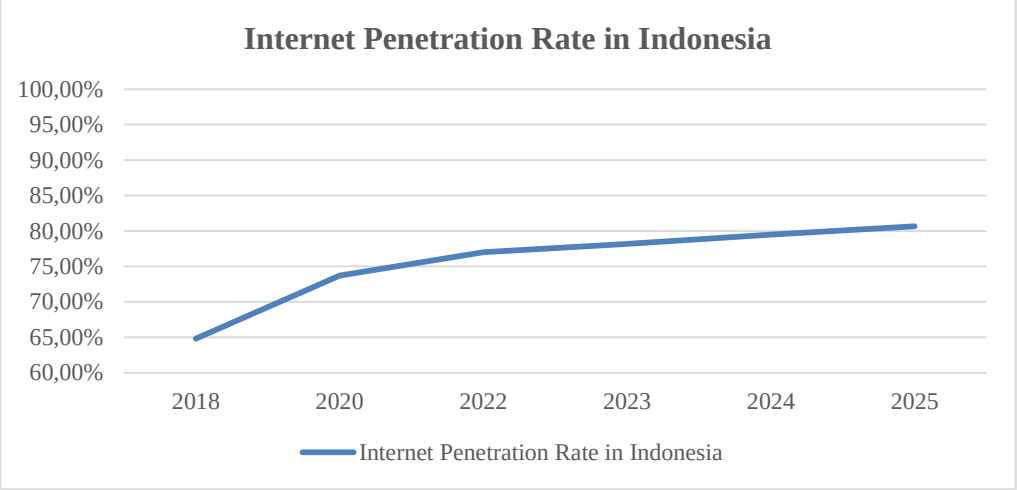

Figure 1. Internet Penetration Rate Growth
Source: *Survei Internet Indonesia* (APJII, 2025)

The growing demand also comes with increasing competition. According to APJII's projection, in 2025, at least 30% companies will enter the shakeout phase or fail due to increasingly fierce competition, and 3.00% will leave the market. This number is expected to continue growing over the next five years. The government also cannot impose any limitation on the number of ISPs to enter the market (AEI, 2025). Because, according to the laws, the telecommunication sector cannot be restricted and monopolized, in accordance with the IMF's request as a condition for financial assistance during the monetary crisis. Although the number of ISPs continues to grow due to the law, the target market for these ISPs remains dense without any significant expansion. According to (APJII, 2025), several factors affect business continuity, including rapid technological developments, government support, and economic growth rates that shift consumer preferences toward the use of ISPs, especially at home.

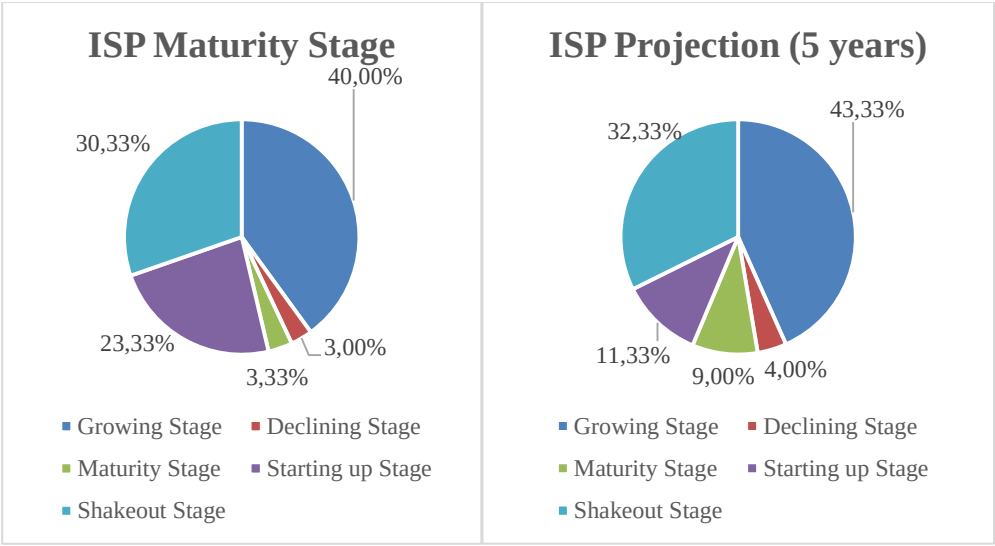

Figure 1. ISP Maturity Stage (Current & Projection)
Source: ISP Market Profile (APJII, 2025)

PT Sinyal Global Nusantara (*PT* SGN) (a pseudonym) was founded as a sole proprietorship in 2015, rooted in a family-run business focused on installation, contracting, and cable fabrication. Building on the founder's experience and internal capacity, SGN later expanded into a Limited Liability Company. The company also saw opportunities in the Internet Service Provider (ISP) industry, based on its experience and internal capacity, particularly its technical expertise and extensive network of relationships.

PT SGN, although still small compared to other ISPs, already has several certifications in technical capabilities in cable installation and fabrication. The company's experiences as an ISP contractor before having its own ISP business helped it build independence from suppliers and installation contractors to maintain its end-to-end quality. Their experiences also help them to firm basic services in connectivity, which is signal stability.

Apart from their retail services, *PT* SGN has begun developing a corporate-oriented revenue model by installing and renting VSAT or Very Small Aperture Terminal, which a a two-way satellite earth station in the form of a parabolic dish and transmitter used to send and receive data from satellites. This business model offers higher margins and more stable value contracts and enables *PT* SGN to expand coverage into remote areas at a lower cost without the need for extensive cable installation. For their future plans, *PT* SGN will enter the household consumer market by offering bundled smart home solutions, such as smart door locks, CCTV, and other automation devices, as a way to remain relevant and competitive in the evolving industry landscape.

Along with the "legal" ISP, the ISP industries also face threats from illegal ISPs called *RT-RW* Net that rebroadcast internet access from legal ISPs using devices like Mikrotik devices at very low prices. These *RT-RW* Nets sell the internet services from legal ISPs using an individual or pay-as-you-go scheme. While the government regulations regarding this issue are unclear, the low prices that are offered by *RT-RW* Net are ruining the market prices and creating unfair competition. As a result, ISPs, including *PT* SGN, have to manually monitor the *RT-RW* Net to sweep it using their Network Operations Center (NOC) as their mitigation effort.

The urgency of this study is based on the critical conditions faced by small-scale internet service providers (ISP) in Indonesia, where the projection of the Indonesian Internet Service Providers Association (APJII, 2025) shows that at least 30% of ISP companies will enter a shakeout phase or experience failure in the next five years due to intensified competition. *PT* Sinyal Global Nusantara (*PT* SGN) as a small ISP faces significant competitive pressure not only from fellow legal ISPs numbering more than 1,200 companies, but also from illegal *RT-RW* Net operators that damage the market price structure as well as disruptive threats from global players such as Starlink which officially operates in Indonesia since May 2024 (CNN Indonesia, 2024). This condition is compounded by regulatory uncertainty related to the control of illegal ISPs and the implementation of the "people's Internet" program which has the potential to kill small ISPs through the practice of economies of scale. Without adaptive and scenario-based strategic planning, *PT* SGN and other small ISPs face a high risk of business failure, while their role as the backbone of local connectivity and job creators makes their sustainability a national economic interest. Therefore, this research becomes urgent to be carried out immediately in order to formulate an anticipatory

strategy that allows *PT* SGN not only to survive but also to remain competitive in the midst of increasingly complex market uncertainty.

These industry and market conditions force *PT* SGN's readiness to navigate the dynamics and uncertainty using their capabilities and experience. The internet penetration rate and changes in people's habits after the COVID-19 pandemic, which encourage people to carry out activities using the internet, also encourage many companies to enter the industry and drive customers to seek affordable services with the highest quality. Along with the competition within local ISPs, there is also a threat of disruption from foreign competitors such as Elon Musk's Starlink, which recently launched in Indonesia in May 2024 (CNN, 2024). These dynamic market conditions encourage *PT* SGN to develop proactive and adaptive strategies to mitigate risks and maximize opportunities.

PT Sinyal Global Nusantara (SGN), established as a sole proprietorship in 2015 and transitioning to a limited liability company in 2020, operates within the telecommunications sector, offering components like copper and fiber optic cables and Internet Service Provider (ISP) services. With its evolution into ISP services, SGN focuses on network installation and infrastructure support, particularly in Fiber to the Home (FTTH) technology to enhance customer connectivity throughout Indonesia. The company aims to excel as a superior telecommunications entity, emphasizing high-quality work, customer-focused products, and stakeholder innovation. SGN boasts a structured organization that fosters efficient operations across its strategic business lines, which include network maintenance services, VSAT installations, fabrication and procurement of telecommunications devices, and integrated ISP services. Amid intense market competition, driven by low barriers to entry and rapid technological advancements, SGN faces challenges such as pricing wars and the threat from illegal ISPs. To remain relevant and sustainable over the next five years, SGN must proactively adapt its strategies toward product differentiation and innovation while also enhancing operational efficiency. The establishment of a future-oriented strategy is critical to navigate the evolving landscape and ensure the company's competitiveness.

METHOD

This research was conducted by using secondary data from *PT* SGN, trusted media and news, as well as any trusted data from other trusted parties like APJII. The author will propose an implementation plan regarding early warning signals to be adopted by the company.

This research employs a scenario planning method consisting of five stages, beginning with discussions on research objectives with key personnel at *PT* Sinyal Global Nusantara (SGN), utilizing historical data and trusted resources. Once objectives are defined, they will be broken down into specific research questions, followed by interviews to identify the Focal Issue and Driving Forces, enabling a clearer understanding of the company's current situation. The research will then create possible scenarios based on driving forces and uncertainties, leading to the definition of strategic options for a long-term implementation plan (5-10 years) and early warning signals for future developments. Data collection involves both primary and secondary sources; primary data is gathered through in-depth interviews and direct observation while secondary data supplements this with information from company reports and industry literature. The qualitative nature of the data focuses on

descriptive insights, obtained from interviews with executives and members of *PT* SGN, and complemented by reputable external data sources. Semi-structured interviews will guide data collection, utilizing triangulation to enhance reliability. Data analysis will leverage open and axial coding to identify patterns and themes from the interviews and secondary sources, ensuring the trustworthiness of the findings.

RESULTS AND DISCUSSION

This chapter describe the analysis based on the literature review, conceptual framework, and research design that were mentioned in the previous chapter, toward data that has been collected through interviews, FGD, and questionnaires using the scenario planning approach.

Analysis

Stage 1 – Orientation

Based on the initial interview with the key personnel, the company faced intense competition with other ISPs, both local small and micro ISPs, and large ISPs. In the middle of this intense competition, the company still adopts a business model that is more reactive to the market conditions, rather than preparing for potential future situations. According to the interview, the focal issue of the company is defined as **"How to stay relevant and sustain the business amidst high competition"**. This key focal issue will help the company develop strategic planning basedd on the scenarios and strategic options the company might have in the next five years.

Stage 2 – Exploration

The exploration stage analyzed the macro-environment, industry competition, also internal company conditions that might affect the key focal issue. This exploration stage was obtained through interviews with key personnel of the company who understand the business, including technical, management, and finance.

Interview Result

The interview was conducted by email and Forum Group Discussion with key personnel of PT SGN. The interview results were then processed using content analysis methods for qualitative data. The first step was open coding to identify key quotes from the interviews, then linking them to the main code to understand the underlying themes according to the research's theoretical framework.

Table 1. Open Coding

Key Quote	Open Code
"Intense competition drives prices down and demands the best possible services."	Prices are falling, and quality demands are rising.
"Competition pursued both legal and illegal ISP business."	Illegal competitors distort the market.
"Focused on corporate ISP business using VSAT for saving before retail."	Phased strategy, from corporate to retail.
"Internet needs include CCTV and other devices."	Bundling device demand.
"VSAT will be highly affected by climate/weather. Meanwhile, fiber optics is at risk of being cut in heavy rain and falling trees."	Weather risks to service quality.

"Door to door, word of mouth, and social media marketing."	Low-budget marketing for brand awareness.
"Starlink has primary technology potential that could shift conventional ISPs."	The threat of Starlink technology disruption.
"Mobile phone internet packages and point-to-point technology can also be a potential threat."	Other technology disruption.
"Economic conditions will drive internet demand."	Economic growth increases internet demand
"The density of cables in busy areas spoils the aesthetics."	Cable installation disturbs the city's aesthetics & requires regulation
"'Internet Rakyat' program of 100k/250Mbps disrupts small ISPs"	The threat of low government price regulation.
"There is no clear regulation regarding illegal ISPs or *RT-RW* Net that sells similar quotas to individual packages."	Illegal competitors distort the market.
"PT SGN is currently preparing for ISP + smart home."	Smart home diversification plan.
"Maintenance staff are spread over several km, as well as after-sales service that is regulated by SLA."	After-sales & SLA excellence.
"Early indicators regarding regulation, technology, economy, marketing index, applications, and sales graphs."	Early warning: regulation, technology, economy
"APJII provides information on disruptions and regulations."	APJII as an information resource.
"Worried about government single-door ISPs."	Uncertainty about future regulations.

After analyzing the FGD information through open coding, the analysis continued using axial coding to understand the category/theme for each open code. Then, the codes will be categorized into the framework analysis in PESTEL, Porter's 5 Forces, and SWOT as a basis for determining uncertainties of the scenarios.

Table 2. Axial Coding

Axial Category	Open Codes	Framework Analysis
Intense competition	a. Prices are falling, and quality demands are rising. b. Illegal competitors distort the market (RT/RW Net). c. Bigger ISP companies could offer lower prices.	Existing Industry Rivalry, Bargaining Power of Buyer (Porter's 5 Forces) Social (PESTEL) Threat (SWOT)
Market strategy and positioning	a. Phased strategy, from corporate to retail. b. Bundling device demand. c. Low-budget marketing for brand awareness (door-to-door, word of mouth, social media). d. Smart home diversification plan. e. After-sales & SLA excellence.	Opportunity (SWOT) Weakness (SWOT) Strength (SWOT)
External	a. Weather risks to service quality. b. Cable installation disturbs the city's aesthetics & requires regulation c. APJII as an information resource.	Environment (PESTEL) Strength (SWOT)
Technological Disruption	a. The threat of Starlink technology disruption. b. Other technology disruption (point-to-point, smartphone internet bundling).	Technological (PESTEL) Threat of substitute products or services (Porter's Five Forces)
Regulatory uncertainty	a. The threat of low government price regulation.	Political (PESTEL)

	b. Uncertainty of future regulation (government single-door ISPs). c. Regulations regarding illegal ISPs (RT RW Net).	Legal (PESTEL)
Consumer behavior	a. Economic growth increases internet demand b. Data plan and *kuota ketengan* (pay-as-you-go) suitable for outdoor.	Opportunity (SWOT) Economic (PESTEL)

The axial coding was conducted to group the codes into the framework analysis to understand each driving force of the macro-environment section, industry competition section, and the internal company's sections.

IV.1.2.1. Driving Forces

Summary of External and Competitive Analysis for PT SGN

PT SGN operates in a highly competitive ISP market characterized by significant external pressures and industry challenges. The PESTEL analysis reveals critical concerns including the "Internet Rakyat" program by SURGE and Telkom offering 200Mbps at Rp100,000, which threatens small ISPs through economies of scale, and the proliferation of illegal *RT-RW* Net services due to weak regulatory enforcement. Technological disruptions from Starlink's satellite-based internet and emerging 5G mobile bundling pose additional competitive threats, while social factors show increasing internet penetration post-pandemic has intensified market competition. Porter's Five Forces analysis confirms a challenging competitive landscape with high threats from new entrants (due to low regulatory barriers), high bargaining power of customers (resulting from low switching costs and price sensitivity), high existing rivalry (1,200 ISPs operating in Indonesia as of February 2025), moderate substitute threats (from mobile data and new technologies), but low supplier bargaining power (due to PT SGN's end-to-end capabilities).

The SWOT analysis identifies PT SGN's competitive

Advantages including end-to-end operational capabilities, strong B2B portfolio, quality after-sales service with SLAs, and agile decision-making as a small independent company. However, weaknesses include limited financial resources, low brand awareness, and reliance on grassroots marketing. Key opportunities lie in targeting high-margin corporate clients, potential collaboration with legalized *RT-RW* Net operators, the booming smart home market (11.93% CAGR from 2024-2028), and VSAT leasing in remote areas. Major threats encompass intense price wars due to low entry barriers, cybersecurity risks, potential technological disruption from Point-to-Point networks and Starlink, and unclear fiber optic regulations. Based on the driving forces analysis, two critical factors emerge with the highest combined impact and uncertainty scores (10.2 each): government policy and regulatory environment, and product diversification opportunities, which form the foundation for strategic scenario planning.

Table 3. Critical Driving Forces Impact and Uncertainty Assessment

No	Factors	Average Impact Score	Average Uncertainty Score	Total Score
1	Government Policy and Regulatory	5.3	4.9	**10.2**
2	Product Diversification	5.2	5.0	**10.2**

3	Environmental	4.6	4.7	9.3
4	The Company's Capability	4.8	4.5	9.3
5	Economic Condition	4.7	4.4	9.1
6	Technology Disruption	4.7	4.1	8.8
7	Social Behavior	4.7	4.0	8.7

Scale: 1 (Lowest Impact/Most Certain) to 7 (Highest Impact/Most Uncertain)

Stage 3 – Scenarios and Narratives Creation

According to the tables, the two factors with the highest impact and uncertainty are Government Policy and Regulatory, and Product diversification. These factors will be used to form a 2x2 matrix framework. Each axis shows a reverse state between its edges and creates four quadrants of the future scenarios.

The first axis is Product Diversification. The development of internet use and technology has encouraged the convenience of the internet, including safety and security. Although internet use for safety and security most likely targets upper-middle-class consumers, at least *PT* SGN could take the opportunity to offer some added value to their internet products instead of competing in the same field with other micro and small ISP companies. Besides that, *PT* SGN has already started its VSAT leasing model business to big clients in underserved areas. Their experiences with big clients as an ISP contractor to Internet Service Providers that provide the components directly to the clients open the opportunity for the company to sell their services apart from sensitive price retail customers.

The second axis is Government Policy and Regulatory, which includes the regulations regarding *RT-RW* Net, which is an illegal business that interferes with legal ISPs' existence, and regulations regarding "Internet Rakyat" that might add disruption to market price. While the upper-middle-class customers are searching for some added value to their internet, the lower-middle-class something cheaper and take advantage of the intense competition between ISP companies.

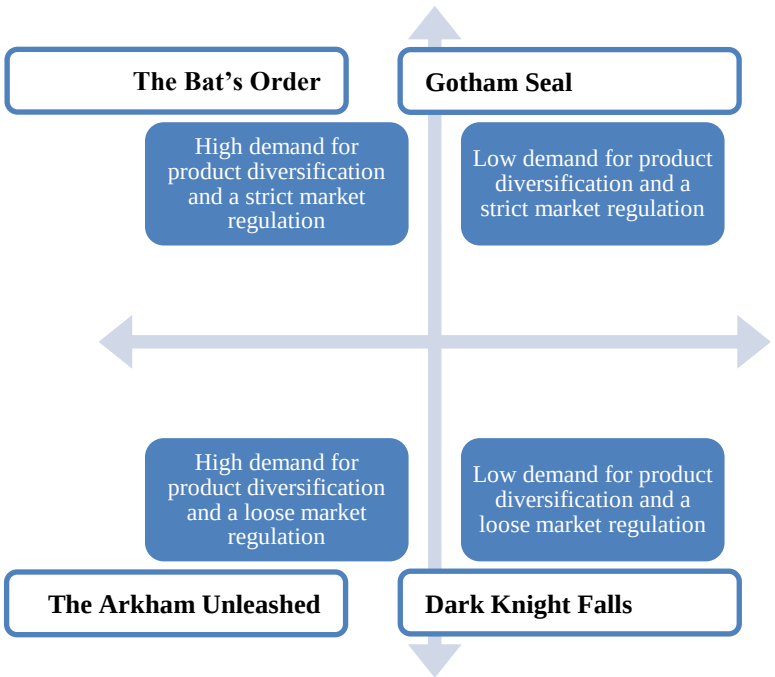

Figure 4. Scenario Matrix

a. The Bat's Order

The ISP business sector is expanding into smart home bundling sales, and the property developers and home consumers, especially the upper middle class, demand connectivity and smart home devices such as CCTV, smart locks, etc, where the internet becomes a lifestyle and security. This high demand helps ISPs to shift from a price focus to a value-added focus. *PT* SGN, as an ISP that prioritizes after-sales service as its advantage, benefits from this.

At the same time, the government regulates the *RT-RW* Net to reduce illegal competitors at the local level. This regulation could take firm action against the existence of *RT RW* Net or legalize *RT-RW* Net by making it an official reseller of licensed ISPs. The regulation would help ISPs restore their profit margins. Legalizing internet resellers could be implemented through a simple and straightforward process, requiring operators to register every few months. If "neighborhood network service" (another term for *RT-RW* Net) operators fail to renew their registration, their operations could be deemed illegal and their installations could be withdrawn. Operators still found to be providing services illegally would be charged premium prices, making their operations economically unprofitable. This policy could be developed collectively with other APJII members, including by urging its implementation.

With the growing demand of internet use in densely populated areas, the "Internet Rakyat" program may be implemented and regulated for more underserved areas. Fiber optic cable installation in this area would likely be very expensive, contradicting the main goal of the "Internet Rakyat" program, which offered affordable internet. Therefore, it's highly likely that the two collaborating companies will seek another way to keep the cost structure, such as *PT* SGN's VSAT lease.

b. Gotham Seal

The demand for smart homes doesn't look promising, households are still hesitant to adopt security features such as smart locks and CCTV using an internet connection. The consumers still focus on price and quality of the internet services, such as connection speed and stability, instead of some added values. The VSAT lease for underserved areas also does not give definite figures, so *PT* SGN is forced to choose the usual ISP sales model.

However, this quality and pricing competition is supported by the government through the *RT-RW* Net's strict regulations. The company can still hold on to its core business and focus on after-sales and service quality. Suppose the government regulates *RT-RW* Net networks by legalizing them and making them resellers. In that case, *PT* SGN can strategize to collaborate with as many *RT-RW* Net networks as possible and achieve high margins. This strict regulation could be implemented by sweeping and punishing the illegal *RT-RW* Nets according to the company's Network Operation Centers report, or by implementing the operator registration and imposition of premium pricing. Regulation of resellers or neighborhood network services will help generate profits and create new business processes, rather than fighting against small ISP vendors.

The government also regulated the "Internet Rakyat" program, which might focus on the less dense areas or the underserved areas. This regulation may help the market compete fairly, even though the competition remains within the same market. The government believes that careful regulation of the program is needed, as the ISP business has created numerous jobs. If many small ISPs close due to inappropriate regulations, economic stability will also be affected.

c. The Arkham Unleashed

Internet demand has been upgraded, with the internet offering added value, such as being bundled with smart homes, particularly by property developers, to the younger generation seeking a more secure new home. The VSAT lease demand is also growing, reflecting the dense population's internet usage. However, this significant opportunity is not supported by the government's stricter *RT-RW* Net regulations, leaving many lower-middle-class consumers likely to choose the cheaper *RT-RW* Net over legitimate ISPs that also offer added value for smart homes. The "Internet Rakyat" program regulations are also not well managed, causing small companies to struggle to survive, facing internet prices that are too cheap and damaging their cost structure.

The increased demand for smart homes and any other product diversification will be beneficial for PT SGN. This scenario could be an advantage for PT SGN by collaborating with property developers to capitalize on the added value of smart homes, compared to more price-sensitive retail customers.

d. Dark Knight Falls

The last scenario is when everything is getting worse. There is no significant market push for any added value of internet usage, so ISP companies are refocused on competing in price and quality in the red ocean. The VSAT lease does not give a significant number for the company. No market expansion drives companies to explore value-added strategies, such as smart homes, smart locks, CCTV, etc. There is also no firm decision taken by the government against illegal ISPs or *RT-RW* Net that force the company to defend itself and have to sweep away the bad guys by itself using its NOC. The ISP business that grows rapidly is only the "Internet Rakyat" program managed by two large ISP companies that offer the cheapest price on the market, and is not properly regulated by the government, even though it causes small ISPs to be unable to compete fairly and choose to leave the market. If this situation goes on for a long period, the company has to take more decisive steps to save itself and its employees. Either return as a contractor for larger ISP companies or leave the ISP market.

Stage 4 – Option Consideration

The option considerations stage is the step where the implications of each scenario are developed to generate any strategic options or responses. The option considerations stage is seen below:

Table 4. Option Consideration

Scenarios	Implication	Strategic Options or Responses
Scenario 1: The Bat's Order **High demand for product diversification and strict market regulation**	High demand for Smart Home Bundling product (Customer trust is high if a lifestyle can be fulfilled by one company.)	• Invest in Smart Home technology or devices and human resources for premium products for after-sales services. • Collaborate with property developers, seek relations with other B2B companies • Create another diverse portfolio. In case there is another product diversification opportunity. If one diversification develops, it will open up others.
	High demand for VSAT leasing	Implement the Blue Ocean Strategy that focuses on Smart Home bundling and VSAT leasing
	The "Internet Rakyat" program has well-managed regulation, and *RT-RW* Net has strict regulation	• Collaborate with *RT-RW* Net if they become the legal reseller according to the government regulation. • Collaborate with APJII and fellow ISPs to sweep/reduce illegal ISPs • Collaborate with the owner of the "People's Internet" program to rent internet components. • Develop market strategies to gain more niche customers that did not sensitive to price.
	Strict ISP regulation	• Restructure OPEX (regarding permits) and monitor the company's legality periodically.
Scenario 2: Gotham Seal **Low demand for product diversification and strict market regulation**	Competition in the conventional market	• Strengthening after-sales service and signal stability (internet quality) for key advantages. • OPEX efficiency (cost leadership) without reducing the quality. • Compete in more niche markets that are less price sensitive.
	Strict *RT-RW* Net regulation	Seek relations and collaborate with legalized *RT-RW* Net to expand customer reach.
	Well-managed "Internet Rakyat" program	• Monitor "Internet Rakyat" user distribution and price • Collaborate with other APJII members regarding the distribution of the "Internet Rakyat" program so it will not disrupt small APJII members and monitor how many ISPs are affected by the "Internet Rakyat" program.

Scenario 3: The Arkham Unleashed **High demand for product diversification and a loose market regulation**	Red ocean competition, hard to gain retail customers	• Diversification in corporate and B2B market (VSAT leasing and Smart Home Bundling with property developers) to leave the crowded market • Increase the standard of excellence to compete with other B2B ISPs • Seek more relationships, because B2B clients tend to collaborate based on trust and after-sales.
	The proliferation of illegal ISPs	• Collaborate with APJII to create an education campaign regarding the risk of using an illegal ISP for customers. • Mitigation of *RT-RW* Net using NOC.
Scenario 4: Dark Knight Falls **Low demand for product diversification and loose market regulation**	Low product diversification demand	• Reduce operational cost (cost leadership) to lower the price
	Market reduce	• Switch business focus to ISP contractor and component supply from the manufacturer *PT* SGN's has • Collaborate or merge to gain economies of scale
	Evaluation for the internal capabilities	• Leverage internal scale to offer wholesale services to large ISPs.

Stage 5 – Integration

The integration stage is the step where Early Warning Signals are created according to the scenario created and how the implications and options are described in the previous stage. The early warning signals for each scenario can be seen below:

Table 5. Early Warning Signals

Critical Uncertainty	Early Warning Signals
Scenario 1: The Bat's Order **High demand for product diversification and strict market regulation**	• Updates regarding the *RT-RW* Net regulation that has been released by Kominfo. The number of *RT-RW* Net cases caught by the legal is increasing rapidly. • The distribution of "Internet Rakyat" users, if it still focuses on underserved areas or specifically for people in need (lower-class society who need internet for their life, e.g., for work). • CAGR growth of Smart Home demand in Indonesia (more than 11.93% projection). • The growth of the VSAT B2B contract or other high-margin business model. • Sales growth of PT SGN's Smart Home bundling package (more than targets).
Scenario 2: Gotham Seal **Low demand for product diversification and strict market regulation**	• Updates regarding the *RT-RW* Net regulation that has been released by Kominfo. Updates regarding the number of *RT-RW* Net have been caught by the legals. • The growth of Smart Home CAGR or demand did not meet the expectations. The market still focuses on basic services and connectivity (speed, price, etc). • Retail market margin is stagnant, but the retention rate or the number of

	customers using the business is still high because of the after-sales service offered by the company.
Scenario 3: The Arkham Unleashed **High demand for product diversification and a loose market regulation**	• There are no actions by the government regarding illegal ISPs. • The "Internet Rakyat" program operates freely, disrupting many small to medium ISPs. Monitor the number of ISPs that experience the shakeout phase and leave the market. • The B2B market, including VSAT lease and Smart Home bundling with property developers, is increasing.
Scenario 4: Dark Knight Falls **Low demand for product diversification and loose market regulation**	• There are no actions by the government regarding illegal ISPs. • The number of ISPs leaving the market also increases because of the "Internet Rakyat" program that disrupts the market price. • Churn rate or switching number of customers is increasing sharply because of the price wars. • There is no Smart Home bundling demand, customers still stick with conventional services. • Decrease in the margin for retail customers. There is also a possibility that the company has to go back to the contractor businesses.

Business Solution

After defining future scenarios based on the driving forces and the score from the key personnel, the next step is to develop resilient and adaptive business solutions to ensure the company's sustainability amidst intense ISP competition. By integrating the identified Early Warning Signals, PT SGN can proactively monitor the business environment and anticipate which scenarios are starting to happen, help the company to adopt and implement prepared future strategies, rather than just reacting to changes, so the company can be more competitive and stable.

To overcome the market dynamics, the proposed business solutions are to monitor the early warning signals to adapt to the market, improve efficiency and core quality, and prepare for the diversification of value-added services.

The first solution proposed is to develop a comprehensive early warning dashboard. As defined in the previous chapter, one of the early warning signals is regulatory changes from the Ministry of Communication and Information Technology (Kominfo) and other government agencies. This includes cooperation and participation in discussions with APJII, as APJII is the intermediary of ISP companies in Indonesia and the regulators. The next early warning signals are the market signals, such as Smart Home CAGR, competitor pricing (including "Internet Rakyat" program), and customer retention rates. The market signals also include market research that identifies value-added internet opportunities, for example, another product besides Smart-Home that might interest new niche markets. This also includes training or workshops to enhance employee skills in the new market to get ahead of other ISP companies.

For the operational side, the focus is on restructuring operational expenditures (OPEX) to prepare for potential price wars (cost leadership) and significantly improving service quality (SLA) and after-sales service. Enhancing NOC monitoring is also needed to independently detect illegal ISPs or *RT-RW* Net, and, if necessary, *PT* SGN could collaborate with APJII to create educational campaigns about the risks of illegal ISPs to reduce the interest of illegal ISP users. If there is luck, APJII and PT SGN can also collaborate with the

government to educate regarding this matter, especially in cybersecurity matters. Meanwhile, to strengthen the core market, the company will strengthen customer loyalty through customer relationship programs and explore less price-sensitive niche markets.

Last, to prepare to leave the saturated market in basic internet sales, *PT* SGN has to prepare for product diversification by establishing a 5-year strategic roadmap, which includes the initial launch of Smart Home bundled products to gauge market demand. Another diversification product also includes participation in B2B tenders for VSAT lease and collaboration with property developers for Smart Home products.

To anticipate disruptions, *PT* SGN could also initiate a collaboration with APJII and major ISPs, evaluate (consider) a merger and acquisition (M&A), or offer wholesale services to major ISPs to ensure business continuity.

Implementation Plan & Justification

Because every scenario has its own implications, options, and early warning signals, the implementation plan will be created according to the activities related to the future scenarios in the next 5 years. The implementation plan was divided into 5, which includes the general implementation plan and another 4 for each scenario.

CONCLUSION

The conclusion synthesizes the analysis and findings from Chapter 4 to address the initial research questions. Key driving forces impacting *PT* Sinyal Global Nusantara (SGN) were identified through PESTEL, Porter's Five Forces, and SWOT analyses, revealing external factors like government regulations, technological disruptions (e.g., Starlink, mobile service bundling), and the demand for product diversification (notably Smart Home solutions). Among these, government policy and market response to product diversification emerged as critical factors influencing future scenarios for SGN, including high and low demands for product diversification combined with varying regulatory strictness. To navigate these scenarios, understanding Early Warning Signals (EWS) such as trends in illegal ISPs and Smart Home market growth is essential. Strategic responses tailored to each scenario—ranging from investment in Smart Home technology to cost efficiency measures and potential mergers are crucial for ensuring long-term sustainability. Recommendations for *PT* SGN include conducting financial feasibility studies, enhancing cybersecurity measures, researching insights from illegal ISP users, exploring additional value-added internet products, and fostering collaboration with industry associations like APJII for up-to-date regulatory information and educational initiatives on cybersecurity.

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