

SWOT ANALYSIS AND ANALYTICAL HIERARCHY PROCESS (AHP) TO DETERMINE A SUSTAINABLE DEVELOPMENT STRATEGY IN INDONESIA'S NATIONAL DEFENSE INDUSTRY

Ali Mashudi¹, Moeljadi², Herman S.³, Alfi Haris Wanto⁴

¹ Management Science Study Program,,Brawijaya University, Jl. Veteran, Ketawanggede,
Kec. Lowokwaru, Kota Malang, Jawa Timur 65145, Malang, Indonesia,
kasiwahana@gmail.com

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Abstract

Improving national defense can be done by strengthening the national defense industry. A strong defense industry will produce modern and sophisticated military equipment according to user needs. The large number of military equipment imported from abroad requires efforts to increase the domestic defense industry to meet the needs of military equipment to increase defense capabilities. The purpose of this study is to analyze strategies and programs for the development of the defense industry and to analyze several factors that play a role in the development of the national defense industry. The collection technique in this research is through Focus Group Discussion, the results of which are input for SWOT and AHP analysis. The results of the SWOT analysis show that the defense industry has a strong category of competitiveness, and has a high opportunity to be developed because it has its own market. The three main factors for the sustainability of the defense industry are: the capability of the defense industry, the quality of its human resources, and the accuracy of delivery.

Keywords: Defense, Industry, Strategy, Development, National.

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INTRODUCTION

The Law of the Republic of Indonesia Number 16 of 2012 concerning the Defense Industry explains that the defense industry is a national industry consisting of state-owned enterprises and private-owned enterprises, either individually or in groups determined by the government to partially or wholly produce defense and security equipment. maintenance services to fulfill strategic interests in the field of defense and security located in the territory

of the Unitary State of the Republic of Indonesia¹. Indonesia has several defense industries which are expected to support the needs of military equipment needed by the Indonesian National Army (TNI). Indonesia as a large nation with a fairly wide territorial area and a Large population, should have independence in various fields, including the field of defense equipment, both defense equipment and non-defense equipment².

In this world, there is no country where 100% of its defense equipment is supported from within³. Each country has a specific policy in determining the types of defense products in order to have high competitiveness in the region and even in the world⁴. Most of the TNI's military equipment is still produced from abroad, this results in dependence on foreign products and is vulnerable to embargoes⁵. For this reason, it is necessary to immediately realize a sustainable national defense industry development strategy that is able to support all the needs of the TNI's military equipment, efforts to develop the defense industry by involving research and development institutions and universities will be able to encourage the creation of a strong defense industry capability⁶

State-Owned Enterprises (BUMN) are one of the main components in the defense industry. BUMN acts as lead integrator in the development of national military equipment⁷. The advantage that BUMN has is a separate market in terms of the production of military equipment, so it will be very easy and important to increase the ability of BUMN to produce military equipment.

¹ R Suwandi, H Suryoko, and Rina Marlina, 'Optimization Defense Industry Master to Strengthen Defense Maritime in the Order to Realize Indonesia as World Maritime Axis', *International Journal of ASRO*, 12.2 (2021), 31–42.

² N. F. Jannah and others, 'Rare Earth Metals Utilization Opportunities in the Development of Indonesia Defense Industry Technology', *IOP Conference Series: Materials Science and Engineering*, 850.1 (2020) <<https://doi.org/10.1088/1757-899X/850/1/012050>>.

³ Kam Mookun and Kang Hyungphil, *A Study Of An Effective Offsets Model For Korea*, Naval Postgraduate School, 2017 <<https://apps.dtic.mil/sti/pdfs/AD1046101.pdf>>.

⁴ Kogila Balakrishnan, 'Defence Industrialisation in Malaysia : Development Challenges and the Revolution in Military Affairs', *Security Challenges*, 4.4 (2008), 135–55 <<http://www.securitychallenges.org.au/ArticlePages/vol4no4Balakrishnan.html>>.

⁵ Jomana Amara, 'Military Industrialization and Economic Development: Jordan's Defense Industry', *Review of Financial Economics*, 17.2 (2008), 130–45 <<https://doi.org/10.1016/j.rfe.2007.02.006>>.

⁶ Andi Muhammad Yusuf, Dwi Soediantono, and Sekolah Staf Dan Komando Angkatan Laut, 'Supply Chain Management and Recommendations for Implementation in the Defense Industry: A Literature Review', *International Journal of Social and Management Studies (Ijosmas)*, 3.3 (2022), 63–77.

⁷ Sri Hartati and others, 'Indonesian Defense Industry Model Concept: A Study Framework for Defense Industry Building', *Journal of Advanced Management Science*, 2.4 (2014), 260–66 <<https://doi.org/10.12720/joams.2.4.260-266>>.

However, for now, support for the fulfillment of military equipment in accordance with the needs of users from SOEs is still not in line with expectations, so it has not been able to guarantee the availability of military equipment optimally. In addition, there are also several private industries that have not been fully able to play a role in the defense industry system to support military equipment. Therefore, it is necessary to evaluate and also determine the attractiveness potential and the strategies set for the development and sustainability of several components of the national defense industry, for the sake of balance and sustainability of the development of the national defense industry ⁸.

The development of the defense industry in the context of fulfilling military equipment can be done by increasing the capability of the defense industry components in producing military equipment through strengthening triple helix cooperation⁹. So based on this, the objectives of this research are to: a). analyze the development strategy of the national defense industry to meet the needs of users of military equipment, b). obtain selected strategies that can be implemented for the sustainability of the development of the defense industry. Based on the research objectives above, the research framework can be described as follows:

⁸ Dorothea Sthallhani Jasi and Romie Oktovianus Bura, 'Strategic Capability Development of Human Resources to Achieve Self-Reliant of Indonesia Defense Industry', in *International Conference on Computational Intelligence and Knowledge Economy, ICCIKE 2019*, 2019, pp. 742-45 <<https://doi.org/10.1109/ICCIKE47802.2019.9004340>>.

⁹ Dede Rusdiana, 'Role of Private-Owned Enterprises in the Defense Industry According to the Omnibus Law', *Journal of Economics and Business Letters*, 1.2 (2021), 54-59 <<https://doi.org/10.55942/jeb1.v1i2.95>>.

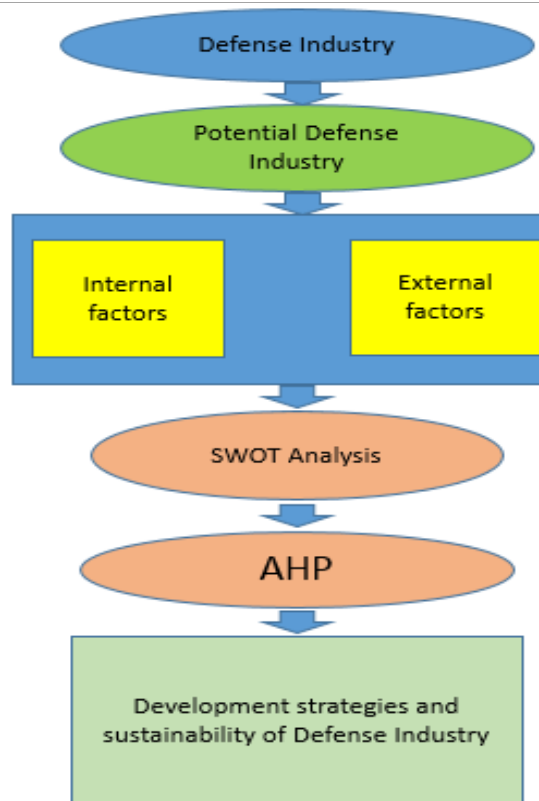


Figure 1. Research Framework

RESEARCH METHOD

Data

In this study, primary data and secondary data are used, where primary data is direct data obtained from informants. While secondary data is data obtained from the first party in the form of documents such as literature, journals, statistical tables, and other references related to research problems¹⁰.

The appointment of respondents who in the qualitative method are referred to as research subjects is carried out purposively, namely to policy holders in the defense industry, namely BUMN, government and academia. In this research, several recommendations for strategy implementation are formulated, so that it can be categorized that all respondents are key informants (Moleong, 2011), namely: (1) those who understand issues related to the defense industry in depth; (2) those who have experience in managing the defense industry; (3) those who are accepted from various circles who have an objective view of the social environment is mainly related to the focus of the defense industry. The main data collection methods used

¹⁰ David Hunger and Thomas Wheelen, *Essential of Strategic Management*, Prentice Hall, 2011.

in this research is a Focus Group Discussion with related stakeholders who are considered as experts.

SWOT Analysis

SWOT can identify several strategic factors systematically which can then be used to formulate strategies. SWOT analysis is carried out to maximize strengths and opportunities, and minimize weaknesses and threats¹¹. SWOT analysis is a method that can be used to strategic planning by evaluating the strengths, weaknesses, opportunities and threats in a particular project.

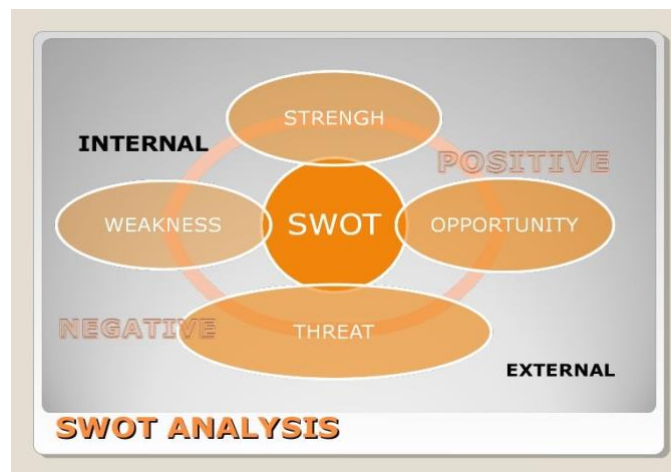


Figure 2. SWOT Analysis

Analytic Hierarchy (AHP)

The Analytic Hierarchy Process (AHP) was developed by Thomas L. Saaty in the early 1970s. The AHP method is one of the methods The most popular pairwise comparisons used for decision making in Multi-Criteria Decision problems. The AHP approach is designed to help decision makers the decision to combine qualitative and quantitative factors from a complex problem¹². The use of AHP in various field has increased significantly, this is because AHP can produce solutions from a variety of conflicting factors. AHP applied in the fields of agriculture, sociology, industry and others so.

¹¹ Emanuel Ario Bimo and others, 'Application of AHP and PESTEL-SWOT Analysis on The Study of Military Amphibious Aircraft Acquisition Decision Making in Indonesia', *Technium Social Sciences Journal*, 27 (2022), 837–53 <<https://doi.org/10.47577/tssj.v27i1.5414>>.

¹² Nikzad Manteghi and Abazar Zohrabi, 'A Proposed Comprehensive Framework for Formulating Strategy: A Hybrid of Balanced Scorecard, SWOT Analysis, Porter's Generic Strategies and Fuzzy Quality Function Deployment', *Procedia - Social and Behavioral Sciences*, 15 (2011), 2068–73 <<https://doi.org/10.1016/j.sbspro.2011.04.055>>.

The working principle of AHP is to form a structure problem. In solving MCDM problems, AHP arrange a hierarchical structure of the problem starting from the very top is called the goal, then below it is called the criterion variable and followed by alternative variables. Decision maker, then provide a numerical assessment based on consideration subjectivity to the existing variables to determine priority level of each of these variables ¹³.

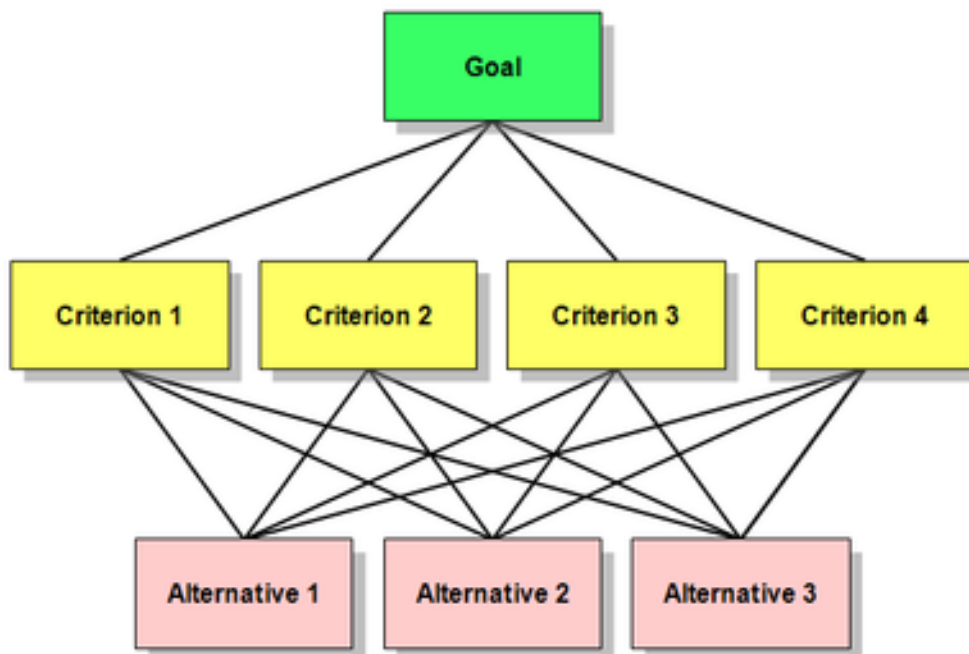


Figure 3. Concept of Analytic Hierarchy Process

DISCUSSION

Strategic Factors For Developing The Defense Industry Internal factors

Based on the results of research and identification of the development of the national defense industry towards the fulfillment of the needs of TNI military equipment, the strength factor is still greater than the weakness, where the strength is 7 points while the weakness is 5 points.

Table 1. Internal factor Identification

Strengths	Weaknesses
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¹³ I Nengah Putra A and others, 'Determining the First Priority of the First Arsenal Location To Support the Operation of the Indonesian War Ship in Security of the Eastern Indonesian Sea Region With Ahp Methods', *Journal Asro*, 11.1 (2020), 112 <<https://doi.org/10.37875/asro.v11i1.208>>.

1. Abundant Human Resources	1. Low quality of human resources
2. Abundant natural resources	2. Management of natural resources that are not optimal
3. Government policies are very supportive	3. Defense industry support capability is still low
4. Formation of industrial cluster	4. Uncertainty in the continuity of defense industry product orders
5. Formation of industrial holding	5. Socio-economic conditions affected by Covid 19
6. The defense budget is getting bigger	
7. Guaranteed security situation	

Based on the results of internal identification, it can be noted that the internal potential of both the government's political support, the abundance of human and natural resources, conducive security conditions and an increased defense budget can minimize the weaknesses of the limited quality of human resources and the lack of support for the production of the defense industry. Therefore, there is a need for intensive efforts to improve and develop opportunities for the production support capability of the defense industry in meeting the needs of military equipment through efforts to increase the capability of the defense industry through triple helix cooperation and coordination¹⁴.

External factors

Based on the results of the identification of the development of the national defense industry that external factors represent greater opportunities than threat factors. This situation shows that the potential of the national defense industry is quite potential in capturing various opportunities in dealing with all possible external threats that may arise at any time¹⁵.

Table 2. External factor Identification

Opportunities	Threats
1. Clear defense industry market	1. Natural disasters
2. The independence of the defense industry is a priority for the state	2. Technology that destroys the nation's morale
3. Is an industry that can absorb a lot of workers	3. Covid 19 pandemic
4. The creation of great economic opportunities	

¹⁴ Lesi Agusria and others, 'The Influence of Work Discipline, Organizational Culture and Competence on Employee Performance', *International Journal of Business, Management and Economics*, 3.4 (2022), 371–81 <<https://doi.org/10.47747/ijbme.v3i4.906>>.

¹⁵ João Carlos Gonçalves Dos Reis, 'Politics, Power, and Influence: Defense Industries in the Post-Cold War', *Social Sciences*, 10.1 (2021), 1–14 <<https://doi.org/10.3390/socsci10010010>>.

Table 3. Internal value calculation result

No	Code	Weight (W)	Rating (R)	W x R
1	S1	0,0894	3	0,2682
2	S2	0,0892	3	0,2676
3	S3	0,0733	2	0,1466
4	S4	0,0809	2	0,1618
5	S5	0,0892	3	0,2676
6	S6	0,0733	2	0,1466
7	S7	0,0978	3	0,2934
Total W x R (O)				1,55
8	W1	0,0892	4	0,3568
9	W2	0,0902	4	0,3608
10	W3	0,0735	4	0,294
11	W4	0,0894	4	0,3576
12	W5	0,0635	4	0,254
Total W x R (T)				1,6232
Axis Y (O-T)				-0,071

Table 4. External value calculation result

No	Code	Weight (W)	Rating (R)	W x R
1	O1	0,1369	4	0,5476
2	O2	0,1202	3	0,3606
3	O3	0,1826	4	0,7304
4	O4	0,1202	3	0,3606
Total W x R (O)				2,00
5	T1	0,1369	2	0,2738
6	T2	0,1536	2	0,3072
7	T3	0,1492	2	0,2984
Total W x R (T)				0,8794
Axis Y (O-T)				1,120

Strategies and Programs of Defense Industry Development

SWOT matrix

The development of the national defense industry in order to fulfill the need for military equipment uses a SWOT analysis of Strengths, Weaknesses, Opportunities and Threats to formulate strategies through identification of internal and external factors. SWOT analysis is the systematic identification of various factors to formulate strategy. This analysis is based on logic that can maximize strengths and opportunities, but while minimizing weaknesses and threats. The strategic decision-making process is always related to the creation of the

company's mission, goals, strategies and policies ¹⁶.The identification of factors is prepared based on the results of the analysis of the assessment of the object of the national defense industry and the support capabilities of defense industry components such as BUMN and BUMS. All potential factors from the defense industry and weaknesses are internal factors, while all opportunities and obstacles originating from outside the defense industry are external factors.

Mapping of internal and external factors in developing the defense industry in order to meet the needs of military equipment includes 19 factors consisting of 12 internal factors and 7 external factors factor. Next is the identification of internal and external factors for the development of the national defense industry. The strengths of the internal factors possessed by the defense industry include: 1). Abundant Human Resources, 2). Abundant natural resources, 3).Government policies are very supportive, 4). Formation of industrial clusters, 5). Formation of industrial holding, 6). The defense budget is getting bigger, 7). Guaranteed security situation. Internal factors which are weaknesses are: 1). Low quality of human resources, 2). Management of natural resources that are not optimal, 3). Defense industry support capability is still low, 4). Uncertainty in the continuity of defense industry product orders, 5). Socio-economic conditions affected by Covid 19.

External factors that become opportunities include: 1). Clear defense industry market, 2). The independence of the defense industry is a priority for the state, 3). Is an industry that can absorb a lot of workers, 4). The creation of great economic opportunities. External factors that pose a threat include: 1). Natural disasters, 2). Technology that destroys the nation's morale, 3). Covid-19 pandemic.

Table 5. SWOT Diagram of Potential Development of Indonesia's Defense Industry

No	Strategy	Symbol
1	Improving the quality of human resources in the defense industry in terms of mastery of technology by collaborating with universities	SO (1)
2	Support the formation of industrial clusters to improve the defense industry ability to ensure product quality according to user's needs.	SO (2)
3	Support the establishment of industrial holdings to ensure continuity of product orders in the defense industry	SO (3)
4	Manage regularly utilization of the defense budget the can be captured to improve the defense industry in terms of the production of military equipments	SO (4)
5	Encouraging the improvement of quality of human resources in defense industry	WO (1)

¹⁶ Lucian Ivan, 'Evaluation of the Romanian Defense Industry', *Business and Management Studies*, 6.4 (2020), 59 <<https://doi.org/10.11114/bms.v6i4.5099>>.

No	Strategy	Symbol
6	Optimizing the management of natural resources to support the capability of the defense industry. Encouraging the certainty of ordering products for defense industry military equipments	WO (2)
7	Encouraging economic improvements due to Covid 19 pandemic to ensure the sustainability of defense industry	WO (3)
8	Encouraging the certainty of ordering products for defense industry military equipments	WO (4)
9	Improving the quality of human resources in the defense industry to deal with world technological developments than can damage morale	ST (1)
10	Support industrial holdings to minimize the impact of natural disasters	ST (2)
11	Encouraging the use of defense budget to minimize the impact of Covid 19	ST (3)
12	Improving the ability of defense industry to support equipment related to Covid 19 mitigation	ST (4)
13	Encouraging the improvement of the quality of human resources to minimize the impact of natural disasters	WT (1)
14	Carry out training and increase the mastery of defense industry	WT (2)

Internal and external obstacles that are still faced by the defense industry are the low quality of the defense industry's human resources in mastering defense technology, the uncertainty of ordering military equipment in the defense industry, the existence of the COVID-19 pandemic which causes a refocusing of the defense budget, less than optimal management of natural resources, regulations government that has not been fully implemented in improving the defense industry. Looking at the internal and external conditions in the development of the defense industry, a comprehensive and integrated strategy is needed to strengthen the development of the defense industry ¹⁷.

Some of these strategies are: (1). Improving the quality of human resources in the defense industry in terms of mastery of technology by collaborating with universities. (2). Support the formation of industrial clusters to improve the defense industry's ability to ensure product quality according to user needs. (3). Support the establishment of industrial holdings to ensure continuity of product orders in the defense industry. (4). Manage regularly the utilization of the defense budget that can be captured to improve the defense industry in terms of the production of military equipment. (5). Encouraging the improvement of the quality of human resources in the defense industry. (6). Optimizing the management of natural resources to support the capability of the defense industry. (7). Encouraging the certainty of ordering products for defense industry military equipment. (8). Encouraging economic

¹⁷ A. Murat Koseoglu, 'The Strategic Management of Defence Industry: A Science and Technology Based Configuration', *SSRN Electronic Journal*, 3.2 (2012), 138–48 <<https://doi.org/10.2139/ssrn.2128477>>.

improvement due to the Covid 19 pandemic to ensure the sustainability of the defense industry. (9). Encouraging the certainty of ordering products for defense industry military equipment. (10). Improving the quality of human resources in the defense industry to deal with world technological developments that can damage morale. (11). Support industrial holdings to minimize the impact of natural disasters. (12). Encouraging the use of the defense budget to minimize the impact of Covid 19. (13). Improving the ability of the defense industry to support equipment related to COVID-19 mitigation. (14). Encouraging the improvement of the quality of human resources to minimize the impact of natural disasters. Carry out training and increase the mastery of defense technology.

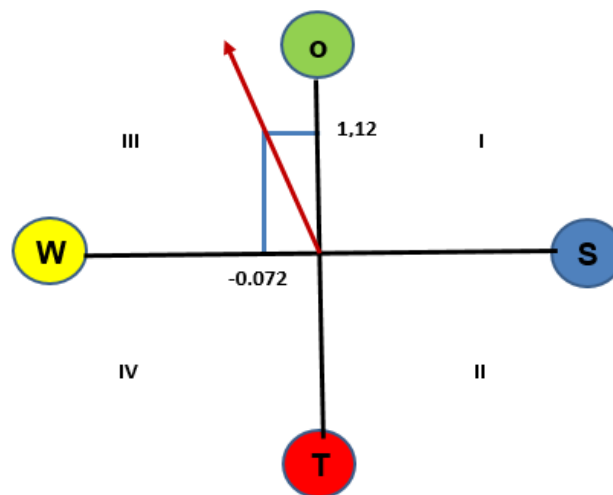


Figure 4. Quadrant SWOT Diagram

It can be seen in Figure 4 that the defense industry is at the coordinates (-0.072, 1.12) then the strategy is focused on WO strategy that focuses on improving existing weaknesses by taking advantage of existing opportunities. The description of the WO strategy is: (1) Encouraging the improvement of the quality of human resources in the defense industry. (2) Optimizing the management of natural resources to support the capability of the defense industry. (3). Encouraging the certainty of ordering products for defense industry military equipment. (4). Encouraging economic improvement due to the Covid 19 pandemic to ensure the sustainability of the defense industry. (5). Encouraging the certainty of ordering products for defense industry military equipment. (6). Improving the quality of human resources in the defense industry to deal with world technological developments that can damage morale. (7). Carry out training and increase the mastery of defense technology.

AHP Criteria Weighting

Next, the weighting of pairwise comparisons is carried out WO strategy criteria, namely the weighting between criteria WO1, WO2, WO3, WO4, WO5, WO6, and WO7 using AHP.

Table 6. Results of the WO strategy criteria normalization matrix

Matrix	WO 1	WO 2	WO 3	WO 4	WO 5	WO 6	WO 7
WO 1	-	3	1/4	1/2	1/5	3	4
WO 2	1/3	-	1/4	3	1/2	2	3
WO 3	4	4	-	4	2	3	3
WO 4	2	1/3	1/4	-	1/3	1/2	1/2
WO 5	5	2	1/2	3	-	3	3
WO 6	1/3	1/2	1/3	2	1/3	-	1/2
WO 7	1/4	1/3	1/3	2	1/3	2	-



Figure 5. Graph of Pairwise Comparison Weighting Criteria WO Strategy

Based on the results of the total weight value in Figure 5 above It is known that the strategy that has a major influence in determining Strategic Planning The development of the defense industry is: Encouraging the certainty of ordering products for defense industry military equipment, Encouraging the certainty of ordering products for defense industry military equipment, Encouraging the improvement of the quality of human resources in the defense industry, Optimizing the management of natural resources to support the capability of the defense industry, Encouraging economic improvement due to the Covid 19 pandemic to ensure the sustainability of the defense industry, Carry out training and increase the mastery of defense technology, Improving the quality of human resources in the defense industry to deal with world technological developments that can damage morale.

Strategy Analysis

The internal and external conditions faced by the defense industry demand the importance of strategy to increase capacity in producing military equipment. Based on the mapping results, in general the SWOT matrix results in the need to minimize weaknesses by

optimizing existing opportunities. In accordance with the results of the ranking, the main program is the certainty of product orders from the defense industry. This can be done by: The President together with the Parlement encourages and requires in the form of a regulation that the TNI-Police of the Republic of Indonesia and Ministries/Agencies buy and use the products produced by the national defense industry¹⁸. The government together with the Parlement are pushing for the realization of regulations related to consistency in long-term continuous purchases of the national defense industry. With the regulation that regulates it, it will be a guarantee for the national defense industry (BUMN, BUMS and other supporting industries) in maintaining and increasing their production output¹⁹. Defense industri commitee together with the components of the national defense industry evaluate the pattern of guidance and supervision in terms of the quality of the products of the national defense industry on a regular basis to improve the quality of the products produced, the results of the evaluation are outlined in a blueprint for long-term development.

The Director of BUMN, BUMS carries out continuous identification of internal and external factors to obtain various problems related to the quality of products produced by the national defense industry, marketing of national defense industry products, product innovation for the military and non-military from the national defense industry, and continuous purchasing. In realizing the ability of SOEs to produce military equipment, it can be done by: The Minister of Defense together with defense industri commitee encourage the realization of military equipment that has technology in accordance with current technological developments, namely Super Class aircraft carrier technology, littoral submarines, the use of marine animals such as sharks/dolphins-lumba (Bio Weapon), Missile Technology, Electro Magnetic Rail Gun, Muzzle Velocity Mach 7, Laser technology (Laser Weapon System), Utilization of the sea for utilities, including for energy generation. Meanwhile, in command and control are Self Defense Initiatives or better known as "Star Wars", satellite technology, Interoperability on three-dimensional command (land, sea, air), Ability to uncover the veil of war, command control over all levels in Real Time in the field. and can be used quickly²⁰.

The Minister of Defense together with the Minister of SOEs made a Memorandum of Understanding (MoU) in the procurement of production facilities and infrastructure as well as research and development facilities. With the methods of regulation, modernization, research, transfer of technology, coordination and cooperation of the national defense

¹⁸ Guntur Eko Saputro, 'Implementation of Defense Industry Policy in Supporting National Economic Growth', *International Journal of Social Science and Human Research*, 05.03 (2022), 1121–27 <<https://doi.org/10.47191/ijsshr/v5-i3-53>>.

¹⁹ Sarman Sarman and Dwi Soediantono, 'Literature Review of Lean Six Sigma (LSS) Implementation and Recommendations for Implementation in the Defense Industries', *Journal of Industrial Engineering & Management Research*, 3.2 (2022), 24–34 <<https://jiemar.org/index.php/jiemar/article/view/273>>.

²⁰ Tresno Wicaksono and Anak Agung Banyu Perwita, 'The Military Industrial Complex In a Developing Country: Lessons from the Republic of Turkey', *Jurnal Hubungan Internasional*, 9.1 (2020) <<https://doi.org/10.18196/hi.91162>>.

industry with other national strategic industries in increasing the ability of facilities and infrastructure to be able to support the empowerment of national defense industry cooperation in meeting the needs of military equipment ²¹.

The Minister of Defense together with the Minister of SOEs and the relevant national defense industry carry out coordination and cooperation to develop the facilities and infrastructure of the national defense industry so as to increase the capability of domestic defense equipment products independently²². The TNI Commander determines the policy of building fighter aircraft, submarines, propellants, rockets, missiles, radar, military satellites, medium tanks, drones and/or underwater sensing and information and communication technology based on Network Centric Warfare²³. Cooperating with the Chancellor of Higher Education in preparing and producing quality human resources and also being able to develop technology controlled by the defense industry, especially in terms of providing academic input on policies and technological innovations that can integrate cyber technology and automation technology²⁴.

Encouraging the strengthening of synergy and cooperation between universities and the defense industry in research, development, and engineering activities needed to improve capabilities and skills in order to increase the independence and competitiveness of the defense industry²⁵. Moreover, encouraging the use of information systems that are continuously developed by integrating the Battle Management System as a subsystem of the Integrated Command and Control System to realize interoperability of control commands in combat towards NCW TNI.

CONCLUSION

The national defense industry has the potential to be developed in the context of fulfilling the TNI's military equipment, with a strong defense industry, reliable, sophisticated and modern military equipment will be produced. Looking at the internal and external conditions in the development of the defense industry, a comprehensive and integrative arrangement is

²¹ Muhammad Arsy Ash Shiddiqy and others, 'The Development of the Indonesian Defence Industry as a Consequence of Security Dilemma and Arms Race in the Southeast Asian Region', *International Journal of Innovation, Creativity and Change*, 10.5 (2019), 214–26.

²² Fernando Situmeang, Imam Suyudi, and April Kukuh Susilo, 'Defense Offset Strategy for Development of the National Defense Industry in Indonesia', *Journal of Defense Resources Management*, 11.2 (2020), 108–23.

²³ Nuning Nurna Dewi and Rudi Wibowo, 'The Effect of Leadership Style, Organizational Culture and Motivation on Employee Performance', *Management Science Letters*, 10.9 (2020), 2037–44 <<https://doi.org/10.5267/j.msl.2020.2.008>>.

²⁴ Muhamad Rizal and Yanyan Yani, 'Cybersecurity Policy and Its Implementation in Indonesia', *JAS (Journal of ASEAN Studies)*, 4.1 (2016), 61 <<https://doi.org/10.21512/jas.v4i1.967>>.

²⁵ Arga Yudhistira and others, 'Strategic Leadership In Indonesia's Commitment To Building A Blue Economy-Based Marine Economy', *Pamator*, 15.1 (2022), 1–23.

needed strategies from internal and external positions so as to strengthen the development of the defense industry. Based on the results of data analysis, it is known that it is necessary to provide certainty regarding ordering defense industry products, improving the quality of defense human resources and increasing the defense industry's ability to produce military equipment according to user needs.

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