STRATEGIES FOR CAPABILITY IMPROVEMENT OF FASHARKAN SURABAYA IN SUPPORTING INDONESIAN WARSHIP OPERATION READINESS

Bachtiar Efendi[1], Avando Bastari[2], Okol Sri Suharyo [3]

[1]Post Graduate System Analysis and Operations Research (ASRO) Student, STTAL, Surabaya
[2]Commanding Officer, Indonesian Naval Technology College (STTAL), Surabaya
[3]Lecturer at the Indonesian Naval Technology College (STTAL), Surabaya

ABSTRACT

In carrying out increasingly complex tasks, and the development of naval technology, Fasharkan requires personnel who are professional in their fields and supported by technology-laden equipment in accordance with the development of the Indonesian Navy's defense equipment system. The purpose of this research is to determine an alternative strategy to increase the capability of Fasharkan Surabaya where Fasharkan Surabaya has a very strategic location because it is located in the Koarmada II environment which is the Home Base of the KRI which will carry out operations or finish operations. This study uses the integration of SWOT analysis and ISM (Interpretative Structural Modeling). SWOT analysis is used to formulate and provide alternatives in the strategy to increase the ability of Fasharkan Surabaya, while ISM is used to determine the order of priority for the selected strategy. Based on the results of the SWOT matrix analysis and weighting using the IFAS and EFAS matrices, the chosen strategy is the WO Strategy which consists of 9 (Nine) strategic steps, so the WO strategy is the first alternative. Furthermore, at the stage of classifying the elements in the WO strategy, the ISM method is used and from the results of the MICMAC analysis, it is found that there are 5 (five) levels of the hierarchical structure. In the hierarchical structure, it can be seen that the sub-strategy (WO2) is at level V, level IV sub-strategy (WO1) (WO3) and (WO7), level III sub-strategy (WO4) and (WO8), level II sub-strategy (WO6) and (WO9) and level I sub-strategy (WO5).

Keywords: Benefit, Cost, Risk, Analytical Hierarchy Process, Benefit-Cost Ratio.

1. INTRODUCTION

1.1 Background

In carrying out its duties, Fasharkan Surabaya has the function of providing maintenance and repair facilities for KRI which will carry out repairs, maintaining the level of readiness of facilities and infrastructure in the Fasharkan environment so that they are able to accept the burden of maintenance and repair of the Indonesian Navy's Alut, planning maintenance and repair activities at the Hardepo and intermediate levels as well as Koarmada II emergency repairs.

In the future, it is hoped that Fasharkan Surabaya will become a Shipyard, an independent Maintenance Facility for all KRIs and other Indonesian Navy ships, with the mission of providing support for maintenance and repair of KRI and KAL as well as utilizing the potential of the local Maritime Services Industry for the readiness of elements of the Navy. Fasharkan Surabaya has the following objectives:

a. Carry out maintenance and repair of KRI emergency, intermediate and Hardepo platforms.

b. Realizing maintenance and repairs that are right on target, effective, efficient, in terms of time, use and cost, make soldiers professional, and provide welfare for soldiers through Swakelola work.

Fasharkan Surabaya is a type A fasharkan. In accordance with the technical advice, a type "A"

fasharkan has the ability to repair and maintain the KRI up to medium level. However, the current condition of Fasharkan Surabaya's ability is still limited in terms of implementing the repair and maintenance of the KRI, this is because the existing human resources, both in terms of quality and quantity, have not been met. Besides that, workshop facilities, safety equipment and supporting transportation equipment are old and still manual so they are still behind with marine technology.

In connection with the above description, the author is interested in conducting in-depth research by taking the title Fasharkan Surabaya Capability Improvement Strategy in Supporting KRI Operational Readiness. The method used in this research capability improvement strategy uses the integration of several methods, including; SWOT analysis is used as a strategy formulation to obtain alternative strategies from Internal and External factors that have the largest gap. with the analysis of internal and external factors, a matrix will be obtained showing the advantages and disadvantages as well as opportunities and threats, so that an analysis can be carried out to determine the right strategy, then the ISM (Integrated Structural Modeling) method is used to determine the priority scale of the strategy to be implemented first to improve the components technology that is of concern to be improved. The ISM method is used because it can identify the relationship between various variables in

the system. ISM is an analytical method that can be used in problem solving interactively to develop several types of structures, including influence structures (eg supporting or exacerbating), priority structures (eg more important than). From the results of the preparation of the ISM method roadmap, if it is not implemented it will have an impact on the risks that will occur. The idea in this method is to use pairwise analysis to transform complex problems by involving many ideas to turn them into a structured and easy-to-understand relationship model. Furthermore, in this study the ISM method was applied in determining priorities in the preparation of the road map on the selected strategy.

1.2 Formulation of the problem

Fasharkan Surabaya is included in the category A fasharkan type, based on the background description stated above, the problem statement in this study is how the strategy is used to increase the capability of Fasharkan Surabaya in order to support the operational readiness of the KRI. The problem statement can be divided into three main problems which become research questions, including:
a.   How to identify the influencing factors in improving the ability of Fasharkan Surabaya so that it will increase the ability according to the ability of Fasharkan type A?
b.   How to determine the weighting of the factors What influences decision making in improving Fasharkan Surabaya's ability?
c.   How is the formulation of alternative strategies used in the preparation of the road map for Capacity Building of Fasharkan Surabaya in order to support the operational readiness KRI.

1.3 Research purposes

The objectives of this research are:
a.   Identify the factors that influence both external and internal that affect the ability of Fasharkan Surabaya.
b.   Determine the weighting of the influencing factors
in decision making.
c.   Formulate alternative strategies to choose the best strategy used in the preparation of the road map for Fasharkan Surabaya's Capability Improvement in order to support the preparation of KRI ops.

1.4 Benefits of research

The benefits of this research can be seen in terms of the benefits of the academic aspect and the practitioner aspect.
a.   The expected academic benefit is that the research results can be used as a reference for efforts to develop Systems Analysis and Operations Research, and become a reference for students who conduct studies on the strategy development system in the Indonesian Navy.

b.   Practitioner benefits Produce the right strategy in improving the capability of Fasharkan Surabaya, so that the Navy leadership can understand, analyze and make the right decisions in making decisions in the field of support for the maintenance and repair of defense equipment.

1.5 Scope of problem

Due to the extent of the problems involved in this strategy to increase the ability of Fasharkan Surabaya, it is necessary to limit the problems in this study, the limitations of this study are
a.   The research was conducted at Fasharkan Lantamal V Surabaya with a limitation on the level of maintenance capability at the Depo Platform level.
b.   Personnel and material data used are based on data from 2020 to 2021
c.   The Strategy to Improve the Capability of Fasharkan Surabaya is faced with the condition of the Indonesian Navy ships and the development of naval technology.

2. LITERATURE REVIEW

2.1 SWOT Analysis

SWOT analysis is a tool commonly used in analyzing the internal and external environment in obtaining a systematic approach and support for decision makers. This technique is very effective because it is structured, objective, and focused on a strategy with a strong purpose. SWOT is an abbreviation in English for strengths (S), weaknesses (W), opportunities (O) and threats (T). Organizational internal factors are represented by the first two factors (strengths and weaknesses), while external factors from the words opportunities and threats cover the wider environmental context in which the entity operates.

In the SWOT analysis, some of the key questions are as follows:
a.   Strength, which is an internal variable in the organization that has a positive value, whose conditions can be controlled and planning can be strengthened.
b.   Weaknesses which are variables that exist in the internal organization of negative values that can be controlled and in planning can be improved.
c.   Opportunity, which is an external condition of the organization that has positive values that cannot be controlled and its benefits can be utilized.
d.   Threats are negative external conditions whose existence cannot be controlled and its impact may be minimized.

2.2 Interpretative Structure Model (ISM)

Interpretative Structure Model (ISM) is an analytical tool used in decision support tool that facilitates a comprehensive understanding of complex situations by linking and organizing ideas in a visual

map. ISM begins with the identification of elements relevant to the problem or problem and extends to group problem solving techniques. A self-structural interaction matrix (SSIM) was developed based on the comparison of paired elements. ISM is able to identify structural relationships between specific variables of the system well

The stages in using the ISM method include:

a. Parameter identification. The elements that must be considered for the identification of the relationship are obtained through the literature surveyor by conducting a survey.

b. Development of Structural Self Interaction Matrix (SSIM). The development of an interpretive structural model begins with the preparation of a structural self-interaction matrix, which shows the direction of the contextual relationships among the elements. In developing the SSIM, the following four symbols have been used to indicate the direction of the relationship between the two barriers i and j.

2.3 Reachability Matrix

Reachability Matrix. From the self-interaction matrix (SSIM), the relational indicators are converted into binary numbers 0 and 1 to get a square matrix, which is called the reachability matrix (Hussain, 2011).

Table1. Matrix Reachability

(i) Enablers (j)	1	2	3	4	5	6	7
1	1	1	1	0	0	0	0
2	0	1	1	0	0	0	0
3	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1

- If (i, j) value in SSIM is V, (i, j) value in reachability matrix will be 1 and (j, i) value will be 0.
- If (i, j) value in SSIM is A, (i, j) value in reachability matrix will be 0 and (j, i) value will be 1.
- If (i, j) the value in SSIM is X, (i, j) the value in the reachability matrix will be 1 and (j, i) the jg value will be 1.
- If (i, j) the value in SSIM is the value O, (i, j) in the reachability matrix will be 0 and (j, i) will also be 0.

2.4 MICMAC analysis

MICMAC analysis refers to the Matrice d'Impacts Croisés Multiplication Appliquée á un Classement (Hussain, 2011) and involves developing a graph to classify various enablers based on driving power and dependence power. The variables have been classified into four categories which are called as Autonomous, Linkage, Dependent and Driving/independent.

3. RESEARCH METHODOLOGY

3.1 Research Approach

In this study, the approach used is qualitative where data is taken directly from the respondents. What is meant by a qualitative approach are methods for understanding meaning and exploring and involving important efforts such as asking questions and procedural procedures, collecting data that specific, analyze the data inductively and interpret the meaning of the data.

3.2 Data Sources, Subjects and Research Objects

Furthermore, the researchers looked for sources of data related to increasing the ability of Fasharkan Surabaya and the methods that would be used in the study.

3.3 Research design

The deductive method uses general facts to make specific conclusions.

In the SWOT analysis there are several stages including identifying internal factors and external

factors, then a matrix of internal factors and external factors is compiled. From these factors, a questionnaire was made and filled in by the respondent about matters related to the research. From the results of the questionnaire, it can be concluded about the respondents' assessment of the existing indicators and compiled in a SWOT matrix. Then make an evaluation of external factors and internal factors by assigning weights to strategic factors on a scale from 1 (bad) to 5 (good). The weighting of the internal and external strategic factor groups through the pairwise comparison method. In developing alternative strategies, a SWOT matrix is used to help match strengths and opportunities (SO strategy), strengths and threats (ST strategy), opportunities and weaknesses (WO strategy) and weaknesses and threats (WT strategy).

After the strategy is made, the ISM method is used to prioritize the alternative strategies. determining which strategy stages are carried out first through the stages of forming a strategic hierarchy using the ISM (Itegrated Structural Modeling) method.

4. ANALYSIS AND DISCUSSION

4.1 Fasharkan Surabaya's current condition

Includes analysis of Fasharkan's duties and functions, condition of human resources, workshop facilities at Fasharkan. The purpose of this analysis is to provide an overview and understanding of the current condition of Fasharkan Surabaya as a reference in designing future Fasharkan Capability Improvement strategies. The data used in this analysis is the result of observation and documentation of Fasharkan's current condition.

4.2 The Concept of Increasing the Ability of Fasharkan Surabaya

The improvement of Fasharkan Surabaya's capabilities aims to obtain capabilities in terms of maintenance and repair of the KRI for Fasharkan class "A" which is able to carry out KRI repairs up to the level of harmen and depot platforms along with their supporting materials so as to increase the effectiveness of the KRI's operational allocation. The targets for improving the capability of Fasharkan Surabaya are as follows:
a. The realization of an increase in the Harkan capability of each workshop to the Harmen level and its supporting materials, so that it will increase the effectiveness of KRI ops.
b. The fulfillment of the number of human resources in accordance with the DSP who have qualifications in their field on an ongoing basis and are certified through professional education, science and technology and training by the Navy and other relevant stakeholders that can improve the performance of personnel.

c. The realization of an increase in the capability of the Fasharkan and the ability of human resources in the mastery of maritime technology so that the independence of the defense equipment system will be realized in accordance with government policy.

4.3 Data analysis

4.3.1 Internal Factor Analysis

The purpose of internal environmental analysis is to identify strengths and weaknesses in internal resources and processes. From the data obtained through interviews and discussions with relevant stakeholders or experts, research documents, observations and some literature, internal factors can be formulated.

4.3.2 External Factor Analysis

External factors are factor outside (external) the organization's internal process in determining strategy, direction and policy choices. Analysis of external factors are opportunities and threats that influence the improvement of Fasharkan Surabaya's capabilities.

4.4 Matrik SWOT

The formulation and strategy results are obtained from the SWOT matrix which describes how external factors, namely the opportunities and threats faced by Fasharkan, are aligned with internal factors, namely strengths and weaknesses. From this matrix, four alternative strategies for improving the ability of the Surabaya fasharkan are obtained from the results of the SWOT matrix analysis:
• The SO strategy consists of 8 (eight) strategic steps.
• ST strategy consists of 6 (six) steps of strategy.
• The WO strategy consists of 9 (ten) strategic steps
• The WT strategy consists of 5 (five) strategic steps.

4.5 Strategy Formulation

Strategy formulation from the weighting criteria of Fasharkan's Capacity Building strategy uses weighting from IFAS and EFAS.

4.5.1 Internal Factor Weighting (IFAS)

After the strengths and weaknesses in the internal factors are known, then the IFAS weighting is carried out which is obtained from the total strength score (Strength) and the total weakness score (Weakness) on the questionnaire filled out by the Expert/respondent, so that the overall total value of the internal factors is obtained as shown in the table following:

Table 2. Internal Factor Weighting Table

Kriteria Faktor Internal	Penilaian (Rata2)	Bobot (B)	Rating (R)	B x R
Kekuatan (S)				
Mampu melaksanakan docking sampai 1500 T	3,67	0,048	3,11	0,149
Dermaga sandar ikut koarmada II	4,67	0,061	2,89	0,176
Lokasi sangat strategis sebagai home base Koarmada II	4,78	0,063	3,11	0,194
Memiliki SDM yang mempunyai skill dan pengalaman dibidangnya	2,67	0,035	3,89	0,136
Memiliki kemampuan interaksi dengan teknologi yang baik	3,00	0,039	3,78	0,148
Kerjasama transfer teknologi sebagai penguasaan teknologi terkini	3,33	0,044	3,78	0,165
Mempunyai sarana dan peralatan bengkel yang lengkap	3,22	0,042	3,78	0,159
Manajerial organisasi cukup solid	3,89	0,051	3,44	0,175
Metode dan prosedur sesuai TNI AL	4,22	0,055	3,33	0,184
Anggaran bersumber dari APBN	4,44	0,058	3,22	0,187
Jumlah Kekuatan	37,89	0,496	34,33	**1,675**
Kelemahan (W)				
Peralatan bengkel sudah tua atau berusia lanjut	4,56	0,060	3,89	0,232
Belum mampu melaksanakan Docking seluruh klas KRI	5,00	0,065	4,00	0,262
Terdapat kekurangan personil ditingkat operator (Ba,Ta)	4,78	0,063	3,89	0,243
Keterbatasan SDM bersertifikasi	4,78	0,063	3,89	0,243
Belum mampu melaksanakan perbaikan KRI sampai tingkat Hardepo	4,11	0,054	3,33	0,179
Peralatan bengkel yang digunakan masih bersifat manual	4,33	0,057	3,44	0,195
Belum punya teknologi pengelasan CNC dan Test bench engine	4,78	0,063	3,56	0,222
Ketergantungan terhadap satuan lain	2,78	0,036	3,33	0,121
Anggaran dari APBN sebagian besar untuk belanja pegawai	3,44	0,045	3,22	0,145
Jumlah Kelemahan	38,56	0,504	32,56	**1,843**
Total	76,44	1,000	66,89	3,517

Calculation of the assessment on the strength criteria no. 1 was obtained from a total of 9 respondents' answers (Table 4.10), namely 33 divided by the number of 9 respondents, namely 33/9 = 3.67. Then the total assessment of the answers of 9 respondents from the strength and weakness factors was 76.44. Calculation of the weight of the power factor in no.1 obtained from a total of 9 respondents' answers divided by the total number of answers, as follows: weight = 3.67/76.44 = 0.048. The weighting of the strategic factors in the table is obtained from the total strength score (Strengths) of 1.675 and the total number of weaknesses scores of 1.843, so that the overall total of internal factors is 3.517.

4.5.2 External Factor Weighting (EFAS)

Furthermore, the EFAS weighting obtained from the total score of opportunities (opportunity) and the number of scores of threats (threats) on the questionnaire filled out by Experts/respondents, obtained the overall total score of External factors as shown in the following table:

Table 3. External Factor Weighting Table

Kriteria Faktor External	Penilaian (Rata2)	Bobot (B)	Rating (R)	B x R
Peluang (O)				
Kebijakan Pemerintah Indonesia sebagai poros maritime	4,22	0,056	3,11	0,175
Kebijakan pemerintah dalam pengembangan industri perkapalan nasional	4,00	0,053	3,11	0,166
Tugas TNI AL menghadirkan Unsur KRI	5,00	0,067	3,78	0,252
Meningkatnya anggaran pertahanan dan keamanan	4,33	0,058	3,33	0,193
Banyaknya permintaan perbaikan kapal	4,22	0,056	3,44	0,194
Adanya BUMN bidang pemeliharaan dan perbaikan kapal	2,67	0,036	3,11	0,111
Penyebaran galangan kapal dan fasilitas perbaikan yang tidak merata	3,56	0,047	2,89	0,137
Industri galangan kapal terbatas dan membutuhkan keahlian khusus	3,67	0,049	2,33	0,114
Industri pertahanan nasional secara bertahap mengalami peningkatan kemampuan	4,33	0,058	3,11	0,180
Adanya transfer teknologi dari negara maju/sahabat	3,56	0,047	2,89	0,137
Jumlah Peluang	**39,56**	**0,527**	**31,11**	**1,658**
Ancaman (T)				
Kesiapan teknis Unsur KRI dalam mendukung operasi di laut	4,11	0,055	3,33	0,183
Kebijakan Suku bunga perbankan yang masih tinggi.	3,67	0,049	2,56	0,125
Anggaran pertahanan masih dibawah standar (2%GDP)	3,56	0,047	3,00	0,142
Membutuhkan anggaran yang besar untuk kebutuhan software dan hardware	3,33	0,044	2,67	0,119
Adanya pandemic Covid-19 mempengaruhi pertumbuhan industry perkapalan nasional	4,00	0,053	3,44	0,184
Ancaman (T)	Penilaian (Rata2)	Bobot (B)	Rating (R)	B x R
Kurangnya integritas kerjasama saling menguntungkan antar BUMN dan swasta dalam pengadaan dan perbaikan kapal	4,11	0,055	3,22	0,177
Masih tergantung dengan teknologi luar negeri	4,33	0,058	3,00	0,173
Transfer teknologi bidang harkan masih rendah	4,11	0,055	3,11	0,171
Tuntutan perkembangan teknologi industry yang memasuki era digital.	4,22	0,056	3,56	0,200
Jumlah Ancaman	**35,44**	**0,473**	**27,89**	**1,473**
Total	**75,00**	**1,00**	**59,00**	**3,131**

The calculation of the assessment on the opportunity criterion number 1 is obtained from a total of 9 respondents' answers (Table 4.11), namely 37 divided by the number of 9 respondents, namely 37/9 = 4.11. Then the total assessment of the answers of 9 respondents from the opportunity and threat factors is 75.00. The calculation of the probability factor weight for no.1 is obtained from a total of 9 respondents' answers divided by the total number of answers, as follows: weight = 4.11/75.00 = 0.055.

The weighting of the strategic factors in the table is obtained from the total opportunity score of 1.658 and the total threat score of 1.473 so that the overall total of external factors is 3.131.

From the results of processing the IFAS and EFAS tables, it can be determined the strategic quadrant position by entering into the weight score table by placing the Strength (S) and Weakness (W) values in the Internal column and the difference in values between (S) and W as the X axis. As for the value Opportunities (O) and Treats (T) are placed in the external column and the difference between O and T as values on the Y axis.

Table 4. Quadrant Processing

Internal (X)	Nilai	Eksternal (Y)	Nilai
Strenght	1,675	Opportunity	1,658
Weaksness	1,843	Treats	1,473
Selisih Nilai	**-0,168**		**0,185**

From the difference in values in table 4.7 then we enter it in the strategy quadrant to determine the

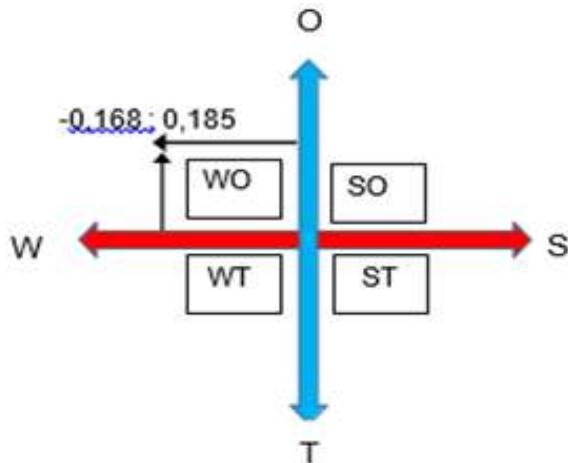chosen strategy, so that we can analyze what strategy is right to be used in problem solving.

Figure 1. Strategy quadrant

Seeing from the picture, that the strategic position lies in the WO quadrant, this shows that the WO strategy is a strategy used to solve problems, namely by overcoming and correcting weaknesses in the organization to maximize existing opportunities.

4.6   Determination of Sub Strategy Formulation

Determining the priority of the sub-strategy used the Interpretative structural modeling (ISM) method. The process of determining the strategy begins with the first step, namely the identification of elements that need to be researched. In this study, these elements are obtained from the results of determining the strategy that has been calculated in the SWOT analysis.

Based on the results of the SWOT matrix analysis, an alternative strategy was chosen, namely the WO strategy which consists of 9 (nine) sub-strategies.

Table 4. Reachability Matrix

KODE	SUB STRATEGI (WO)	SUB STRATEGI									DRIVEN POWER
		1	2	3	4	5	6	7	8	9	
(WO)1	PENINGKATAN KEMAMPUAN Fasharkan diselaras dengan kebijakan pengadaan alutsista terbaru	1	0	0	0	1	1	1	1	0	5
(WO)2	Melakukan pemenuhan SDM sesuai dengan DSP dan kualifikasi / sertifikasi	1	1	1	1	0	1	0	1	1	7
(WO)3	Meningkatkan kemampuan SDM dengan melaksanakan pelatihan dan Pendidikan ilpengtek	0	0	1	0	1	1	0	0	1	3
(WO)4	Upgrade peralatan utama bengkel dengan teknologi indusri 4.0	0	1	1	1	1	0	0	0	0	5
(WO)5	Pengadaan spesial tools dengan teknologi terbaru sesuai dengan teknologi yang ada di kapal	1	0	0	1	1	0	0	0	0	3
(WO)6	Meningkatkan kemampuan Graving dock	1	0	0	0	1	1	0	0	0	3
(WO)7	Menjalin kerjasama dengan industri perkapalan terkait dalam pelaksanaan perbaikan KRI	0	0	0	0	0	0	1	0	1	2
(WO)8	Pengajuan Anggaran berkelanjutan sesuai RKAKL	0	0	0	1	1	1	0	1	1	5
(WO)9	Melaksanakan fungsi manajemen terintegrasi antar satuan	0	0	0	0	0	0	1	1	1	3
DEPENDENCE		4	2	3	4	6	5	3	4	5	
LEVEL		IV	V	IV	III	I	II	IV	III	II	

Furthermore, from the calculation of Dependent (x) and Driven Power (y) obtained point coordinates depicted in the diagram Micmac analysis as follows:
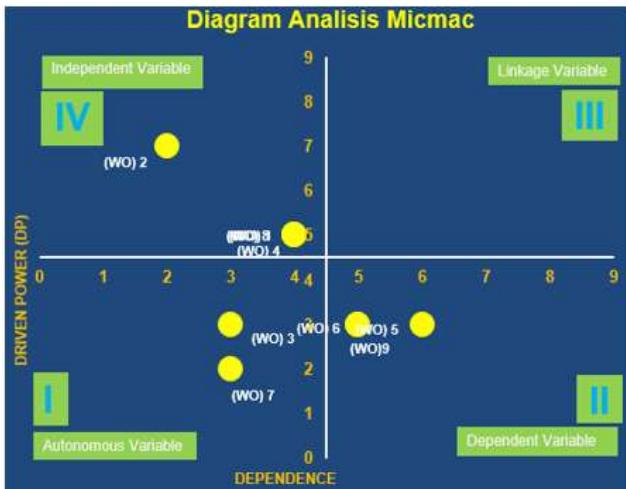

Figure 2. MICMAC Analysis Diagram.

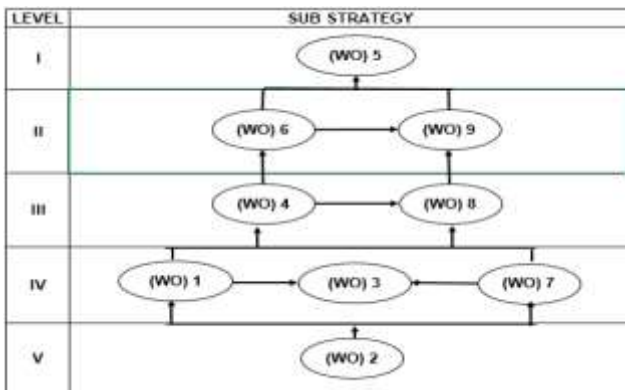The sub-element level is determined by the level partition in the reachability matrix.

Figure 3. Levels of Fasharkan's Ability Improvement Strategy

Based on the results of the classification of elements in the WO strategy, there are 5 (five) levels of hierarchical structure. In the hierarchical structure, it can be seen that:

a. Level V consists of one sub-strategy, namely: (WO2) Fulfilling HR in accordance with DSP and qualifications

b. Level IV consists of 3 (three) sub-strategies, namely: (WO1) Capacity building of Fasharkan aligned with the latest defense equipment procurement policy, (WO3) Improving human resource capacity by conducting training and education in science and technology and (WO7) Collaborating with related shipping industry in implementing improvements KRI.

c. Level III consists of 2 (two) sub strategies, namely (WO4) Upgrading the main workshop equipment with industrial technology 4.0 and (WO8)

Submission of a sustainable budget according to the RKAKL.

d. Level II consists of 2 (two) sub strategies, namely (WO6) Improving Graving Dock capability and (WO9) Implementing integrated management functions between units.

e. Level I is a sub-strategy, namely (W5) Procurement of special tools with the latest technology in accordance with the technology on board.

4.7 Implications for the Development of Fasharkan Surabaya

Fulfillment of competent personnel who have the expertise and profession in accordance with the current DSP needs will certainly have a positive impact on Fasharkan Surabaya's capabilities. The improvement of workshop equipment capabilities with the latest technology toolset equipment as well as the procurement of CNC-based welding support equipment and the procurement of testbench engines are expected to be able to boost Fasharkan Surabaya's performance as the spearhead in terms of repairing the KRI. The use of 4.0 generation industrial technology is a new demand based on the leader's policy in preparing modern and reliable defense equipment.

To support the policy of independence of the defense equipment system, it is necessary to increase the capacity of human resources by carrying out training and education in science and technology for Fasharkan members, it is hoped that the training will increase the ability of personnel in carrying out maintenance of the KRI at the Harmen level and the depot platform.

5. CONCLUSIONS AND SUGGESTIONS

5.1 Conclusions.

This research starts from the problem identification stage, strategy formulation to prioritization and strategic road map. From the stages carried out, conclusions from the research were obtained, as follows::

a. Factors that influence the improvement of Fasharkan Surabaya's ability are grouped into 2 factors, namely internal factors consisting of Strengths 10 (Ten) criteria and Weaknesses 9 (Nine) criteria while external factors consist of Opportunities 10 (Ten) and Threats 9 (Nine) criteria.

b. In formulating the strategy to increase the ability of Fasharkan Surabaya, based on the swot analysis, 4 (four) alternative strategies were obtained, namely SO strategy, ST strategy, WO strategy, and WT strategy. The SO strategy consists of 8 (eight) sub strategies. ST strategy consists of 6 (six) sub strategies. The WO strategy consists of 9 (nine) sub strategies and the WT strategy consists of 5 (five) sub strategies.

c. From the results of the IFAS and EFAS matrices in the SWOT analysis, the main strategy

chosen is the WO strategy which consists of 9 (nine) sub strategies. Furthermore, for the classification of elements in the WO strategy using the ISM method, it is obtained 5 (five) levels of hierarchical structure, where the sub-strategy (WO2) is at level V. Then the sub-strategies (WO1), (WO3) and (WO7) are at level V. IV. At level III, namely (WO4) and (WO8). At level II, there are sub-strategies (WO6) and (WO9). At level I sub strategy (WO5). The sub-strategy elements of the MICMAC diagram can be classified into 4 (four) sectors. The autonomous variable (sector I) consists of two variables, namely sub-strategy (WO3) and (WO7); Sector II (Dependent Variable) consists of three sub-strategies, namely (WO5), (WO6) and (WO9). Sector III (variable linkage) has no variables. Then, sector IV (Independent variable) has four variables, namely sub-strategy (WO1), (WO2), (WO4) and sub-strategy (WO8). From the results above, it can be formulated a Roadmap starting from the strategic hierarchy level that has the greatest influence on other sub strategies, namely at level V where the fulfillment of HR in accordance with qualifications and certification is adjusted to the existing DSP is a sub strategy that has a major influence on improving Fasharkan Surabaya's capabilities.

4.2   Suggestions

Some suggestions that can be given in this research are:

a.   It is hoped that additional personnel who have the qualifications and professional certifications needed in accordance with the DSP at Fasharkan Surabaya, given the current condition of Fasaharkan Surabaya is very short of personnel at every start, in addition to improving the quality of existing human resources adjusting the latest technological developments with the ability to master computers and technology 4.0 .

b.   In further research, it is necessary to develop an analysis of the implementation of the strategy and the plan for evaluating the results of the strategy, as well as calculating the risk of the impact of the strategic policy of increasing the ability of the Surabaya fasharkan. It is necessary for further research to analyze the risk calculation of the strategy and propose alternative strategies to be used if the main strategy cannot be implemented.

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