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FREIGHT FORWARDER ROLE: PT. MITSUI-SOKO INDONESIA IN THE PROCESS OF IMPORTING ELECTRIC MOTORCYCLE SPAREPART PRODUCTS (HS CODE: 8501.52) TO PT. PRATAMA AMERTA SOLUTIONS

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Abstract

International trade has become an increasingly important factor in the global economy today. In this context, the role played by Freight Forwarders in facilitating the movement of goods between countries has become very significant. This research focuses on analyzing the role of PT. Mitsui-Soko Indonesia is a Freight Forwarder company importing electric motor spare part products classified under HS Code 8501.52, imported by PT. Pratama Amerta Solusi. This research aims to identify the contributions made by the Freight Forwarder in improving the smoothness of the import process, provide an overview of the import process, outline the documentation required for importing, and analyze the risks that could occur and their impact on the supply chain and the operational sustainability in the case study of PT. Pratama Amerta Solusi's import through the Freight Forwarder: PT. Mitsui - Soko Indonesia. The research methodology is qualitative and quantitative and employs a case study approach, focusing on the import process of PT. Pratama Amerta Solusi through PT. Mitsui Soko - Indonesia as the Freight Forwarder. Primary data were obtained through direct interviews with representatives from PT. Mitsui-Soko Indonesia, who acted as the import forwarder, while secondary data were gathered from books, national and international journals, previous research, and other credible and relevant sources. The quantitative research was conducted to obtain the magnitude of the impact and the importance of risks in PT's export and import logistics processes. Mitsui - Soko Indonesia.

Keywords: *Freight Forwarder, International Trade, Electric Motor Spare Parts, Import, Risk.*

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Introduction

Trading internationally is one of the main pillars of an increasingly global economy integrated. In the era of globalization, many Companies worldwide are involved in activity trading across countries to fulfill domestic and international market needs (Hadiarianti, 2019). One of the elements essential in international trading is the import process, which involves the production and disposal of goods or service services from a foreign country to the recipient country.

Indonesia is one of the Southeast Asian countries with a growth mark. Continued exports and imports develop yearly (Prasetyo et al., 2023). The following is a mark of Indonesian exports and imports from 2018 until 2022 in Millions of USD.

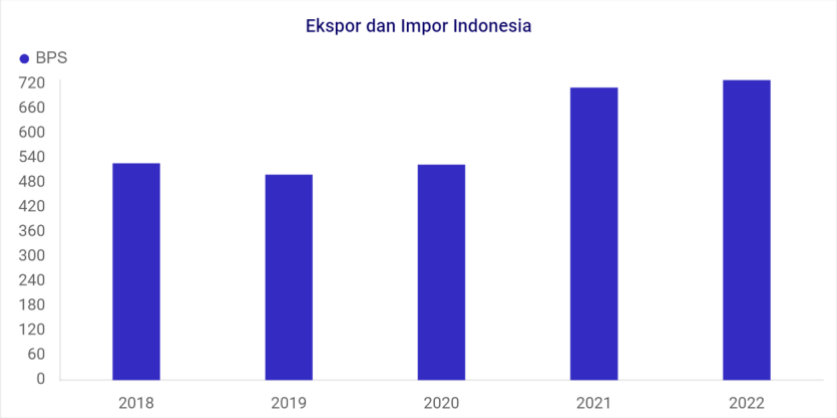


Figure 1 Value of Indonesian Exports and Imports (Source: National Statistics Agency)

Growth in exports and imports in Indonesia has been supporting the development sector of domestic industry and trade (Fathoni, 2020). One of the necessary aspects noticed is the mark import product of ethnic group electric generator spare parts and goods from ethnic group spare incoming power generator to Indonesia. Based on available data, the value of imported products from ethnic groups of electric generator spare parts and goods from ethnic groups of spare electric generators in Indonesia have experienced fluctuation over a number of years. Following is mark import machine or ethnic group spare classified electricity with number HS 8501 of 2018 until 2022.

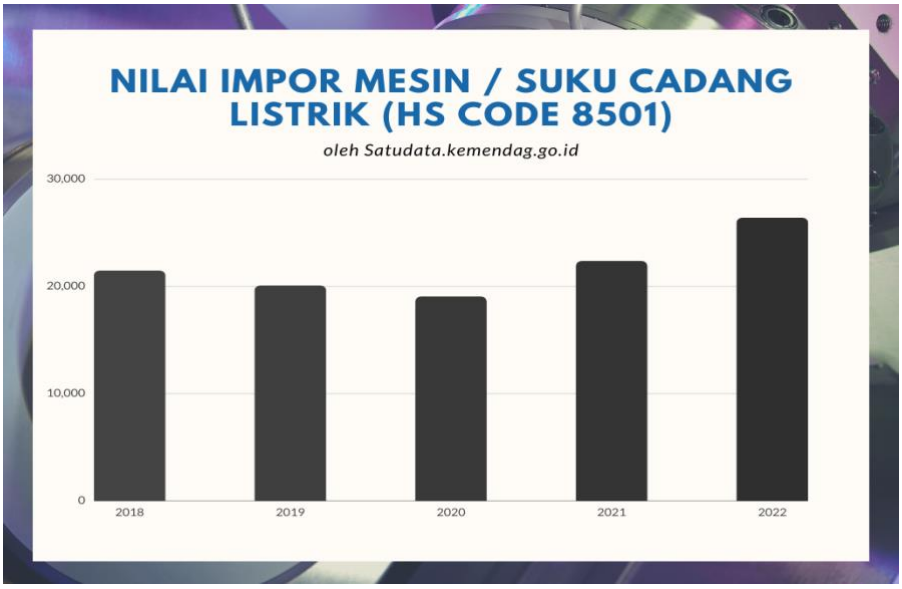


Figure 2 Import Value Machine or Spare parts electricity with HS Code 8501
(Source: Satudata.kendang.go.id)

The second picture shows that there is an increase in sector export and import nor sector import one product to be an example in the study this. The value of imported product machines or ethnic groups' spare electricity with HS Code 8501 can show an increase from sector procurement goods from abroad that can be for sale back in Indonesia with the utilization of a market, a need, or requests from the development sector industry in Indonesia.

Therefore, the study aims To explain or become a source of reading for candidate exporters or importers in carrying out export and import processes through freight forwarder assistance to expedite the process.

In context, this report This final assignment aims to explore and analyze the Freight Forwarder role, focusing on PT. Mitsui-Soko Indonesia is in the process of importing product ethnic group spare electric generator with HS Code 8501.52 imported by PT. Primary Amerta

Solusi from Singapore to Indonesia. The Freight Forwarder's role is related to efficiency operations, costs, and the chain supply and sustainability business (Syamil, Subawa, et al., 2023). As part of the world of commerce, a deeper understanding deep about the role of the Freight Forwarder is important For increasing efficiency and power competitive companies in scenario trading increasingly internationally complex. Therefore, this report is an effort To dig into the outlook of the Freight Forwarder's role in the context of modern trading and as guidelines For all the parties who wish or intend To export and import.

In the import process involving various parties, Freight forwarders or company carrier goods hold a crucial role. They act as intermediaries organizing logistics delivery of goods, managing documentation, and addressing various aspects related to transportation international (Suryaningsih, 2020). Freight Forwarders facilitate the movement of goods and influence the efficiency and sustainability chain for the company they serve (Syamil, Danial, et al., 2023).

In research, This writer studies cases at the Freight Forwarder company PT. Mitsui-Soko Indonesia was formed mainly to provide service warehouse, shipping, management transportation, storage containers, freight, and services transportation.

Apart from sharing facilitator import-export, PT. Mitsui-Soko Indonesia can also utilize expertise and knowledge for connecting and facilitating activity trading internationally with all holder shares or shareholders for give level High service already become hope Lots customers interact with PT Mitsui-Soko at level international.

As proof of his commitment to fulfilling the needs and hopes of customers, PT. Mitsui-Soko Indonesia has established A spacious warehouse in the district Cakung, only 10 kilometers from the main Tanjung Priok harbor. Facility This is located in the Industrial Area. Concave covers an area of land of almost 4 hectares, initially with a storage area of 10,000 square meters and a mezzanine office of 700 square meters, with the possibility of expanding up to 20,000 square meters. Facility This is equipped with 20 dock levelers for the use of containers and equipment handling the latest as well as facility. Ample storage, including a page significant for the storage container, workshop-wide 450 square meters, and a large area for service. This warehouse will be supported by a fleet of prime movers, chassis, trucks, and vehicles to give comprehensive logistics and distribution to customers on Java Island.

To make mission company PT. Mitsui Soko Indonesia, namely a forwarder company that always gives services and services with level to all existing customers will be in Indonesia.

Research methods

Study This applied method analysis studies case at stage import ethnic group Electric generator spare parts handled by Freight Forwarder PT. Mitsui - Soko Indonesia. Research purposes are to investigate the process, identify required documents, and evaluate constraints or possible risks that arise. Research also uses the Analytical Hierarchy Process method to choose the company's most suitable carrier. Through analysis using the AHP method, research will elaborate on risks or obstacles that can happen and suggest action mitigation or appropriate precautions. This matter can give an understanding of the impact on PT's delivery process or logistics. Mitsui - Soko Indonesia. Thus, research Is expected to contribute to determining priority development for strengthening security and smooth logistics processes at PT. Mitsui - Soko Indonesia.

Analytical Hierarchy Process

According to Mulyono (2004), the principles used in solving problems with the AHP method are as follows:

1. Decomposition

   During retrieval, decisions and principles involve solving problems comprehensively, with elaborate problems becoming parts of the form hierarchy. Every part from the hierarchy, each other, relationships, and solutions are done on each part until they reach the level where it is not Possible Again. It produces several levels of problems handled. Structure hierarchy decision complete or not complete. When every element on a level is connected with all elements on a level, the structure is considered complete. Instead, structure hierarchy, no

decision complete, No own connected connection thoroughly. Structure decomposition consists of three levels: decision goals, criteria, and alternatives at the level First.

2. Comparative Judgment

   Draft This gives us insight into how many elements on a level care a certain level at level another. Matrix comparison in pairs, the essence of the Analytical Hierarchy Process (AHP) method, can used To show level preference between various alternatives to specific criteria.

3. Synthesis of Priorities

   In principle, the matrix comparison pair is served on each level. To get priority locally, the eigenvectors are calculated. To get global priorities, synthesis can done between priority local.

4. Logical Consistency

   This is the most essential trait. This was achieved by combining all the eigenvectors obtained from various level hierarchies. Then, the vector combined is weighted, or the resulting combination is a decisive order-taking decision.

Business Continuity Planning

The Business Continuity Plan is something way inside the organization To anticipate and overcome interference so risk loss can reduced and operations business can Keep going. According to Venclova & Urbancova (2013), a Business Continuity Plan is an effort to ensure that business-critical functions will be available for customers, suppliers, and other entities so that the entity can access functions in an organization when the risk happens. BCP is a plan For responding circumstances to emergencies and recovery operation business. BCP allows organizations to return to their normal condition during and after disturbance. BCP ensures that employees, assets, and business processes can recover quickly during disturbance. BCP is planned to prevent and reduce associated risks with interference with research. These are risk logistics that have been assessed with the AHP method.

Results and Discussion

Index Data Processing Risk Delivery Export and Import

The analytical hierarchy process (AHP) is used to get index risk logistics for export and import and carry out the retrieval process decision based on a number of relevant criteria that impact the export and import process. Following is a classification process criteria risk logistics For getting the risk's mariskude.

Analytical Hierarchy Process

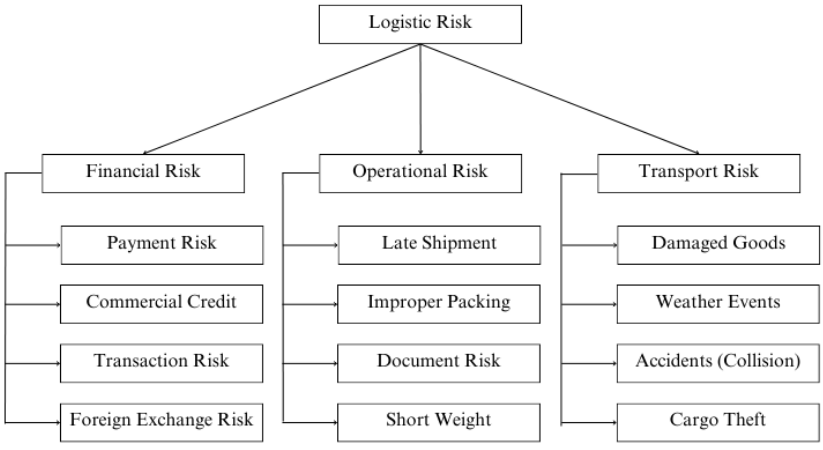


Figure 3 Risk Hierarchy Logistics

They identify and detail criteria and relevant subcriteria in problem-solving decisions (Fitriyani & Helmud, 2016). In context, this criterion, The main factors (Financial Risk,

Operational Risk, and Transport Risk) are part of the structure hierarchy. Subcriteria were identified for every main criterion, forming a clear and structured hierarchy.

Explanation Criteria and Sub-Criteria Logistics

A. Financial Risk

1. Payment Risk

   The risk is that party buyer or seller No can fulfill his obligation for payment per the dance with the condition of the contract (Ilyas, 2019). In context, export-import risk appears when the buyer can or does not want to pay the amount of money that has been agreed upon (Adrian Sutedi, 2014). This matter can caused by the incompetence of financial buyers, problems in law, or a change in the economy in the recipient country.

2. Commercial Credit (Credit Trade)

   Risks arise when a company gives credit to a customer or partners in trade. In the context of logistics export-import, the company can give credit to customer or partner trade To facilitate the transactions. Risk This is related to the possibility of payment pending credit or even Not done. Companies must consider policy good credit and monitor payment customers carefully.

3. Transaction Risk

   Risks arising from existing indicate inconsistency, including possible payments carried out by the party exporter, no reporter. Represenriskisk that party exporter or importer No can fulfill obligation payment by agreement (Fitria & Khairani, 2019). Exporter Possible worry No get payment full or appropriate time, the temporary importer can worry about paid goods only after or the following expectation.

4. Foreign Exchange Risk

   Risks arising from fluctuating mark swap available currency influence mark transaction business (Chatarine et al., 2016). In transactions export-import, changes in mark swap currency can influence mark transactions in a whole way (Silitonga et al., 2017). For example, the value of foreign currency can be down when payment is made, resulting in financial loss for one party. Management risk transaction involves hedging strategies value and monitoring of foreign exchange markets.

B. Operational Risk

1. Late Shipment

   Lateness in the delivery process of goods from One point to another exceeds the scheduled time or expected. Lateness of delivery can caused by various factors, including constraints in chain supply, problems in transportation, or incidents not expected, like weather or accidents. The impact involves customer dissatisfaction, potential cost additional consequences of delivery emergencies, and potential penalty contracts.

2. Improper Packing

   There are errors in the packing process of goods, including using inappropriate packaging materials that need to be improved or following the product's condition. Packing that is not appropriate can cause damage to goods during delivery, improve the risk of theft, and harm reputation provider logistics (ROSITA, 2022). Selection of materials and methods: Correct packing is essential to ensure the integrity of goods during the journey.

3. Document Risk

   Potency-related problems with completeness, accuracy, or lateness related to documents with delivered goods. Errorsentary errors can cause lateness in the clearing process dut,y excise, detention delivery, and potential problem law. Documents that differ from what is accurate result in lost delivery or the wrong route.

4. Short Weight

   There are errors in measuring or weighing goods, including inaccuracy in reporting weight. Less weight can cause financial consequences, invoices that need to be corrected, disputes with customers or suppliers, and potential problems with laws. Accuracy in determining heavy goods is essential, primarily If weight influences the cost of transportation.

C. Transport Risk

1. Damaged Goods (Damage to Goods)

   Damage physique or damage others on goods during the transportation process. Risk This appears when goods are not packed or handled correctly during delivery. Damaged goods can result in financial loss and influence customer satisfaction.

2. Weather Events (Events Weather)

   Disturbance in transportation is caused by extreme weather like hurricanes, floods, or snow. Weather extremes can cause delays, damaged goods, or even accidents. Planning and management of reasonable risk required For face impact, the weather is not expected.

3. Accidents or Collision (Accident)

   Crash, accident, or anything else happened during the transportation process. Risk accidents can cause damage to goods, injuries, or death. Prevention and compliance efforts to rule safety are significant For reduriskisk.

4. Cargo Theft (Theft of Goods)

   Theft or lost goods during the transportation process. Risk theft can harm company logistics and cause financial loss (Vikaliana, 2017). Enhanced security, monitoring, and crime management can help reduriskisk This (Rahmawati, 2017).

Pairwise Comparison For Main Criteria

Evaluation is relatively from one criterion's importance to another's criteria. In AHP, the getter decision gives a comparison partner between two criteria For every level of the hierarchy. For example, how significant is financial risk compared with operational risk, and so on? Comparative data is used To produce matrix weight relative. A Pairwise Comparison was carried out in the research. This was calculated based on the assessment carried out by 3 (three) respondents as internal and employee of PT. Mitsui - Soko Indonesia. A charging questionnaire assessed how many critical criteria and sub-criteria index risks to activities logistics in the company.

Comparison Matrix			
Kriteria	Financial Risk	Operational Risk	Transport Risk
Financial Risk	1	4.2	0.778
Operational Risk	0.238	1	0.267
Transport Risk	1.286	3.75	1
TOTAL	3	9.0	2.044

Figure 4 Comparison Matrix Main Criteria

Based on the assessment carried out by the third respondent, the results of the evaluation matrix explaining risks thriskisk Operational are very influential and dangerous or more critical. To prove the answer, look for its eigenvalue, value priority, and Consistency Index results. Finally, it multiplied with the Random Consistency Index, which, with a value of 0.58, was obtained through the index proposed by Thomas L. Saaty in 1980 in his book Analytical Hierarchy Process.

Random Index (RI)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RI	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48	1.56	1.57	1.58

Figure 5 Random Consistency Index (Saaty, 1980)

Matrix				Priority	Parameter	Value	
Kriteria	Financial Risk	Operational Risk	Transport Risk				
Financial Risk	0.40	0.47	0.38	0.42	Max. Eigen Value	3.018	
Operational Risk	0.09	0.11	0.13	0.11	CI	0.0091	
Transport Risk	0.51	0.42	0.49	0.47	RI	0.58	
TOTAL	1.00	1.00	1.00	1.00	CR = CI/RI	1.56%	Consistency Index is Acceptable

Figure 6 Calculation of Consistency Ratio (Consistency Measurement)

CI: Consistency Index
RI: Random Consistency Index / Random Index
CR: Consistency Ratio

Consistency Measurement

Comparison Matrix assessment obtained through a questionnaire earlier calculated return uses Consistency Measurement for getting mark priority obtained through Comparison Matrix calculation with Consistency Measurement Matrix.

Max Eigen Value is obtained through calculation:

Total Risk Value in the Comparison Matrix x Priority Value in the Consistency Measurement Matrix with Excel formula (=MMULT)

Comparison Matrix			
Kriteria	Financial Risk	Operational Risk	Transport Risk
Financial Risk	1	4.2	0.778
Operational Risk	0.238	1	0.267
Transport Risk	1.286	3.75	1
TOTAL	3	9.0	2.044

Matrix				Priority	Parameter	Value
Kriteria	Financial Risk	Operational Risk	Transport Risk			
Financial Risk	0.40	0.47	0.38	0.42	Max. Eigen Value	=ArrayFormula(mmult(H7:J7,P4:P6))
Operational Risk	0.09	0.11	0.13	0.11	CI	0.0091
Transport Risk	0.51	0.42	0.49	0.47	RI	0.58
TOTAL	1.00	1.00	1.00	1.00	CR = CI/RI	1.56%

Figure 7 Max Calculation. Eigenvalues

Based on the calculation, the maximum eigenvalue is 3.018117877~ 3.018.
Consistency Index: (Max Eigen Value - Total Criteria) / (Total Criteria - 1)
: (3.018 x 3) / (3-1)
: 0.0091
Consistency Ratio: Consistency Index / Random Index
: 0.0091 / 0.58
: 0.01561885952 ~ 0.0156 = 1.56%
Conclusion: Consistency Index is accepted Because CR value ≤ 10%

Squaring the Matrix

After the matrix comparison partner is obtained, a step further is squaring it. This process involves multiple matrix comparison partners with himself Alone. Squared results from the matrix comparison partners give additional information about consistency and significance relative to the given comparison. Specifically, the results square is often used To measure the level of consistency of the matrix comparison partner.

Squaring the Matrix 1st Step					
	Financial Risk	Operational Risk	Transport Risk	Summary	1st Eigen Vector
Financial Risk	3	11.3	2.676	17	0.41552
Operational Risk	0.819	3	0.719	4.538	0.11096
Transport Risk	3.464	12.90	3	19.364	0.47352
				40.894	1

Figure 8 Matrix Squaring 1st Step

Next, with the use of results squared, evaluation consistency is done to ensure that the values provided by the taker are in accordance with rule AHP consistency.

Squaring the Matrix 2nd Step					
	Financial Risk	Operational Risk	Transport Risk	Summary	2nd Eigen Vector
Financial Risk	28	102.4	24.185	154	0.42
Operational Risk	7.403	28	6.503	41.444	0.11
Transport Risk	31.351	116.60	28	175.493	0.47
				371.074	1

Figure 9 Matrix Squaring 2nd Step

Through this process, AHP can help identify the level of consistency in preferences given by the taker's decision and confirm that data is used For analysis hierarchy in accordance with the principle of AHP consistency. 2nd Step, Matrix Squaring calculation, is carried out with the method squaring Matrix Squaring results in the 1st step. Furthermore, the 2nd Eigen Vector results show the magnitude of the result from all the criteria outlined with mark percent (%) of every criterion.

AHP calculation results for Main Criteria

Magnitude of Risk		
Criterion	Rank	%
Transport Risk	1	41.54%
Financial Risk	2	11.17%
Operational Risk	3	47.29%

Figure 10 Magnitude of Risk from Main Risk Criteria

After all calculations, The total Eigen Vector value is obtained, which shows the Magnitude of Risk based on the calculation of the AHP obtained through the evaluation of all criteria from all respondents. Results of AHP calculations show that:

1. Operationriskisk impacts most significantly from all criteria miskick with a get value of 47.29%.
2. Transport Risk ranked second in impact risk with a value of 41.54%.
3. Financiriskisk gets the ranking final with a value of 11.17%

The value above explains that the third criterion, the main risk on the weight of the respective impacts obtained through AHP calculation, can reduce inconsistency from evaluating all respondents.

Next, the steps will be to catoucalculateb- crsub-criteriandex risk. Counting Furthermore will use the same method To explain or show marks from each sub-criterion risk based on the magnitude of the main mark criteria.

Pairwise Comparison for Financial Risk Sub-Criteria

Pairwise comparison (comparison pair) is a technique used in Process Hierarchy Analysis (AHP) to compare relatively between two elements or sub-criteria. In the context of the Financial Risk criteria, a pairwise comparison process is carried out To evaluate the level of interest or influence relatively from one sub-criterion towards others within the context of risk finance.

Comparison Matrix				
Kriteria	Payment Risk	Commercial Credit	Transaction Risk	Foreign Exchange Risk
Payment Risk	1.00	2.00	0.20	2.00
Commercial Credit	0.50	1.00	2.40	0.58
Transaction Risk	5.00	0.42	1.00	2.14
Foreign Exchange Risk	0.50	1.71	0.47	1.00
Total	7.00	5.13	4.07	5.73

Figure 11 Comparison Matrix Financial Risk

The pairwise comparison of financial risk obtained through the charging questionnaire by three respondents shows a preference or priority in view of financial risk criteria. It was found that the comparisons made by respondents show that P, not risk, is given more value compared to other Financial sub-criteria. More value shows that respondents assume payment risk has importance or more significance in risk finance. This result reflects preference relatively from the perspective of respondents against each Financial Risk criterion. Understanding This can be used To form base management decisions and strategies for risk, focusing on the areas considered most essential or prone to context risk finance. Remember that interpretation of pairwise comparison results requires understanding the context and preferences of the respondent concerned.

Consistency Measurement

Matrix					Priority	Parameter	Value	
Kriteria	Payment Risk	Commercial Credit	Transaction Risk	Foreign Exchange Risk				
Payment Risk	0.14	0.39	0.05	0.35	0.23	Max. Eigen Value	5.293	
Commercial Credit	0.07	0.19	0.59	0.10	0.24	CI	0.0732	
Transaction Risk	0.71	0.08	0.25	0.37	0.35	RI	0.90	
Foreign Exchange Risk	0.07	0.33	0.11	0.17	0.17	CR = CI/RI	8.133%	Consistency Index is Acceptable
Total	1.00	1.00	1.00	1.00	1.00			

Figure 12 Consistency Measurement of Financial Risk Sub-Criteria

Based on the calculation to get the maximum eigenvalue, namely, 5,293
Consistency Index: (Max Eigen Value - Total Criteria) / (Total Criteria - 1)
: (5.293 x 4) / (4-1)
: 0.0732
Consistency Ratio: Consistency Index / Random Index
: 0.0732 / 0.90
: 0.08132707052 ~ 0.08133 = 8.133%
Conclusion: Consistency Index is accepted Because CR value ≤ 10%

Squaring the Matrix

Squaring the Matrix 1st Step						
	Payment Risk	Commercial Credit	Transaction Risk	Foreign Exchange Risk	Summary	1st Eigen Vector
Payment Risk	4.000	7.512	6.133	5.595	23.240	0.20158
Commercial Credit	13.292	4.000	5.172	7.310	29.773	0.25825
Transaction Risk	11.280	14.507	4.000	14.529	44.315	0.38438
Foreign Exchange Risk	4.190	4.623	5.148	4.000	17.961	0.15579
					115.290	1.00000
Squaring the Matrix 2nd Step						
	Payment Risk	Commercial Credit	Transaction Risk	Foreign Exchange Risk	Summary	1st Eigen Vector
Payment Risk	208.475	174.937	116.722	188.780	688.914	0.21907
Commercial Credit	195.305	224.670	160.527	207.992	788.494	0.25074
Transaction Risk	343.940	267.954	235.004	285.381	1132.278	0.36006
Foreign Exchange Risk	153.035	143.138	90.794	148.027	534.995	0.17013
					3144.681	1.00000

Figure 13 Squaring the Matrix of Financial Risk Sub-Criteria

Calculation Results Each Sub- Criteria

Magnitude of Risk		
Criterion	Rank	%
Payment Risk	3	21.91%
Commercial Credit	2	25.07%
Transaction Risk	1	36.01%
Foreign Exchange Risk	4	17.01%

Figure 14 Magnitude of Risk Financial Risk Sub-Criteria

Calculation results are completely done using AHP to get that Transaction Risk is a sub-criteria index risk with more impact and importance than other sub-criteria. AHP here gives meager results different than Pairwise Comparison calculations are carried out at the beginning because AHP delivers mark priority based on the average value of the scale from one sub-criterion (not calculated with a comparison between both sub-criteria others), so get mark priority or interest from each sub-criterion.

Pairwise Comparison for Operational Risk Sub-Criteria

Comparison Matrix				
Kriteria	Late Shipment	Improper Packing	Document Risk	Short Weight
Late Shipment	1.00	4.00	0.56	1.33
Improper Packing	0.25	1.00	2.40	0.42
Document Risk	1.80	0.42	1.00	3.57
Short Weight	0.75	2.40	0.28	1.00
Total	3.80	7.82	4.24	6.32

Figure 15 Comparison Matrix of Operational Risk Sub-Criteria

Consistency Measurement

Matrix					Priority	Parameter	Value	
Kriteria	Late Shipment	Improper Packing	Document Risk	Short Weight				
Late Shipment	0.26	0.51	0.13	0.21	0.28	Max. Eigen Value	5.234	
Improper Packing	0.07	0.13	0.57	0.07	0.21	CI	0.0584	
Document Risk	0.47	0.05	0.24	0.56	0.33	RI	0.90	
Short Weight	0.20	0.31	0.07	0.16	0.18	CR = CI/RI	6.491%	Consistency Index is Acceptable
Total	1.00	1.00	1.00	1.00	1.00			

Figure 16 Consistency Measurement of Operational Risk Sub-Criteria

Based on the calculation to get the maximum eigenvalue, namely 5,234
Consistency Index: (Max Eigen Value - Total Criteria) / (Total Criteria - 1)
: (5.234 x 4) / (4-1)
: 0.0584
Consistency Ratio: Consistency Index / Random Index

: 0.0584 / 0.90
: 0.06490650379 ~ 0.06491= 6.491%
Conclusion: Consistency Index is accepted Because CR value ≤ 10%

Squaring the Matrix

Squaring the Matrix 1st Step

	Late Shipment	Improper Packing	Document Risk	Short Weight	Summary	1st Eigen Vector
Late Shipment	4.000	11.431	11.084	6.317	32.833	0.28620
Improper Packing	5.133	4.000	5.056	9.738	23.926	0.20856
Document Risk	6.383	16.605	4.000	9.716	36.704	0.31994
Short Weight	2.604	7.917	6.737	4.000	21.257	0.18530
					114.721	1.00000

Squaring the Matrix 2nd Step

	Late Shipment	Improper Packing	Document Risk	Short Weight	Summary	2nd Eigen Vector
Late Shipment	161.872	325.520	189.027	269.562	945.980	0.29840
Improper Packing	98.686	235.712	162.938	159.451	656.787	0.20718
Document Risk	161.588	282.724	236.152	279.753	960.217	0.30289
Short Weight	104.463	204.962	122.780	175.001	607.205	0.19154
					3170.189	1.00000

Figure 17 Squaring the Matrix of Operational Risk Sub-Criteria

Calculation Results Each Sub- Criteria

Magnitude of Risk		
Criterion	Rank	%
Late Shipment	2	29.84%
Improper Packing	3	20.72%
Document Risk	1	30.29%
Short Weight	4	19.15%

Figure 18 Magnitude of Risk from Operational Risk Sub-Criteria

Calculation results for sub-criteria risk Operational explain that on the rankings First risk Document (Document Risk) is risks that have impact and importance most significant in the logistics process export and import ever run by PT. Mitsui-Soko will, but the number percentage obtained No too Far with ranking second, Lateness Delivery (Late Shipment), only 0.45% adrift. With ranking the third and fourth also get it difference only 1.57%. Explain that operational risk is significant and has the same influential impact on the criteria.

3.7 Pairwise Comparison for Transport Risk Sub-Criteria

Comparison Matrix				
Kriteria	Damaged Goods	Weather Event	Accident or Collision	Cargo Theft
Damaged Goods	1.00	3.00	0.56	1.33
Weather Event	0.33	1.00	1.60	0.42
Accident or Collision	1.80	0.63	1.00	0.20
Cargo Theft	0.75	2.40	5.00	1.00
Total	3.88	7.03	8.16	2.95

Figure 19 Comparison Matrix of Transport Risk Sub-Criteria

Consistency Measurement

Matrix					Priority	Parameter	Value	
Kriteria	Damaged Goods	Weather Event	Accident or Collision	Cargo Theft				
Damaged Goods	0.26	0.43	0.07	0.45	0.30	Max. Eigen Value	4.774	
Weather Event	0.09	0.14	0.20	0.14	0.14	CI	-0.0565	
Accident or Collision	0.46	0.09	0.12	0.07	0.19	RI	0.90	
Cargo Theft	0.19	0.34	0.61	0.34	0.37	CR = CI/RI	-6.275%	Consistency Index is Acceptable
Total	1.00	1.00	1.00	1.00	1.00			

Figure 20 Consistency Measurement of Sub-Criteria Transport Risk

Based on the calculation to get the maximum eigenvalue _ namely, 4,774
Consistency Index: (Max Eigen Value - Total Criteria) / (Total Criteria - 1)
: (4.774 x 4) / (4-1)
: -0.0565
Consistency Ratio: Consistency Index / Random Index
: -0.0565 / 0.90
: -0.06274817718 ~ 0.06275= -6.275%
Conclusion: Consistency Index is accepted Because CR value ≤ 10%

Squaring the Matrix

Squaring the Matrix 1st Step						
	Damaged Goods	Weather Event	Accident or Collision	Cargo Theft	Summary	1st Eigen Vector
Damaged Goods	4.000	9.547	12.578	4.028	30.153	0.29286
Weather Event	3.859	4.000	5.469	1.598	14.925	0.14497
Accident or Collision	3.958	7.130	4.000	3.060	18.149	0.17627
Cargo Theft	11.300	10.175	14.257	4.000	39.732	0.38590
					102.959	1.00000
Squaring the Matrix 2nd Step						
	Damaged Goods	Weather Event	Accident or Collision	Cargo Theft	Summary	2nd Eigen Vector
Damaged Goods	148.145	207.040	210.254	85.970	651.409	0.28073
Weather Event	70.574	108.092	115.067	45.062	338.796	0.14601
Accident or Collision	93.765	125.971	148.409	51.819	419.964	0.18099
Cargo Theft	186.100	290.934	311.824	121.403	910.260	0.39228
					2320.429	1.00000

Figure 21 Squaring the Matrix of Transport Risk Sub-Criteria

Counting all Sub Criteria

Magnitude of Risk		
Criterion	Rank	%
Damaged Goods	2	28.07%
Weather Event	3	14.60%
Accident or Collision	4	18.10%
Cargo Theft	1	39.23%

Figure 22 Magnitude of Risk from the Transport Risk Sub-Criteria

From the results, comparisons made by respondents show that Cargo Theft was given more value than other Transport Risk sub-criteria. More value tall shows that respondents assume Cargo Theft has an impact or more significance significant in context risk transportation. The damaged Goods sub-criteria rank second after Cargo Theft. However, Cargo Theft is considered higher, Damaged Goods fixed their level of significant interest based on comparisons made by respondents. The Accidents or Collision sub-criteria are placed in order of third according to the respondent's mark comparison. This shows that, though impact in context risk transportation, accidents or Collisions are considered to own level more interest low than cargo theft and damaged goods. Weather Event sub-criteria are placed in order fourth according to mark comparison given by the respondent. This shows that a Weather Event is considered to have a more significant impact than three other Transport Risk criteria.

Index Hierarchy Matrix Risk

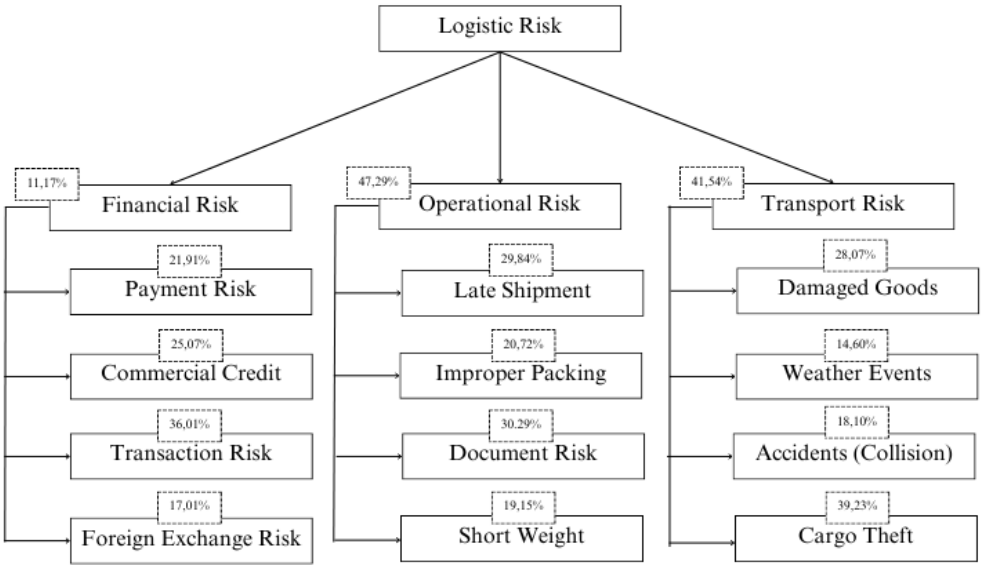


Figure 23 Risk Hierarchy Logistics with Risk Magnitude

Results of AHP calculations carried out in research. This shows that mark end, criteria, and sub-criteria are sorted based on level impact and relative importance. With So, results ranking will reflect preferences and priorities given by respondents to evaluated risks. After getting the vector weight relative, the value ends for every criterion and sub-criteria calculated with the average of vector weight. The final result from calculating pairwise comparison will give mark criteria and sub-criteria reflecting risk preferences and priorities of respondents in the context of moderate risk research. Values can help make decisions and manage better results. Operational risk becomes the focus, followed by Transport Risk and Financial Risk. Understanding this can help make decisions for designing management strategies that are riskier and more effective in logistics. In sub-Algeria, attention is assigned to elements such as Payment Risk, Document Risk, and Cargo Theft, which have a relatively high mark in each criterion.

Business Continuity Plan

BCP aims to reduce risk, reduce impact risk, and ensure businesses operate normally (Fajriansah et al., 2017). Cycle BCP life consists of assessment and determination objectives, identification of critical processes, analysis of impact business, continuity of response strategies, and monitoring, testing, and improving in these areas. The researcher proposes the BCP method to provide suggestions for possible actions carried out by the company. For still operating all business processes, Logistics is a risk that has been assessed by the AHP method, which shows the magnitude or impact of possible risks happen. The BCP stages consist of the above four steps: Identify, Analyze, Create and Measure. 2 steps are already carried out by a pairwise comparison

and calculation process using AHP means. Now, Create and Measure steps will be created based on the risk's magnitude.

1. **Identify and Analyze**

The first step to take is to identify risks and analyze the impact and importance of risks already obtained through the AHP process. Next are sub- sub-criteria risk will ranked based on calculation priority obtained of (Percentage et al. x Percentage of Sub-Criteria).

Rating Risk

Table 1Ratings Risk

1	Cargo Theft	16.29%
2	Document Risk	14.32%
3	Late Shipment	14.11%
4	Damaged Goods	11.66%
5	Improper Packing	9.80%
6	Short Weight	9.06%
7	Accident or Collision	7.52%
8	Weather Events	6.06%
9	Transaction Risk	4.02%
10	Commercial Credit	2.80%
11	Payment Risk	2.45%
12	Foreign Exchange Risk	1.90%

2. Create

Index Risk based on events and their impact on logistics processes

Table 2 Index Risk with Events and Impact

Risk	Incident	Impact (Severity)
Cargo Theft	Theft or lost goods during transportation.	High - Loss financial, delayed delivery, loss of trust customer.
Document Risk	Lost or damaged documents are essential.	High - Business process difficulty, potential Disobedience law.
Late Shipment	Delivery goods No following the timetable.	Medium - Delay production, potential disappointment customer.
Damaged Goods	Goods experience damage during transportation.	High - Loss financial, disappointed customers, potential loss of reputation.
Improper Packing	Goods packaged No following the standard.	Medium - Damaged goods, delayed delivery.

Short Weight	Delivery of goods with less weight from should.	Medium - Mismatch order, dissatisfied customer.
Accident or Collision	Accident or crash during transportation.	High - Damage goods, injuries, delays.
Weather Events	Impact weather extremes like storms or floods.	Medium - Delay delivery, defects.
Transaction Risk	Risk failure in the transaction process finance.	High - Loss financial, unstable finance.
Commercial Credit	Risk-related sale with credit to the customer.	Medium - Delay payment, risk failure payment.
Payment Risk	Risk of lateness or failure payment from the customer.	Medium - Disorder cash flow, loss of trust in customers.
Foreign Exchange Risk	Risk fluctuation marks exchange foreign exchange.	Medium - Cost logistics are predictable, loss financial.

3. Measure
Preventive Action

Table 3 Index Risk with Preventive Actions and Benefits

Risk	Preventive Action	Benefit
Cargo Theft	Use Technology Security Action: Installation of system security such as CCTV and security sensors in storage and transportation areas.	Prevent and detect potency action theft directly.
	Real-Time Monitoring Action: Use system real-time tracking to monitor the movement and location of continuous way.	Give visibility to cargo and allow fast response to situations and emergencies.
	Comprehensive Cargo Insurance Action: Obtain an insurance policy covering theft and damage during transportation.	Reduce financial risk and give protection if theft happens.
Document Risk	System Management Document Structured Action: Implement system management structured document To keep the documents regularly.	Improve accessibility and integrity of documents, and reduce risk of loss or damage.

	Storage Duplicate Documents Action: Save the document double on location different physique or use service storage cloud (cloud storage). Training Employee Action: Deliver training to employees about the importance of care and handling documents with Be careful.	Ensure the availability of essential documents in a situation of emergency. Increase awareness and responsibility for answering security documents.
Late Shipment	Real-Time Schedule Monitoring Action: Use system real-time monitoring to track travel and ensure obedience to timetable delivery. Diversify Delivery Routes Action: Determine route delivery alternative To overcome possible obstacles that happen on the route main. Communication Effective Action: Improve communication with customers about timetable shipping and delivering updates promptly.	Identify potency lateness in a way early and take corrective action. Reduce the risk of lateness consequence obstacles on the main route. Minimize dissatisfaction among customers and deliver transparency regarding delivery status.
Damaged Goods	Procedure Strict Packaging Action: Apply procedure tight packaging following standard industry and characteristics of goods. Inspection Quality Before Delivery Action: Inspection of quality goods in a comprehensive way before sending. Training Employee Action: Deliver training to staff	Reduce the risk of damage during transportation by ensuring goods are packed with Correct. Ensure that goods sent in condition good and identifying potency damage previously. Increase staff awareness of the importance of inspection quality and reduce the risk of damaged goods.

	about the method handle and checking quality goods before delivery.	
Improper Packing	Guidelines Clear Packaging Action: Assign guidelines clear and ensure packaging so that staff understand it.	Reduce risk packaging that does not follow standards, and ensure every good is packed correctly.
	Quality Audit Periodic Action: Conduct a quality audit periodically on the packaging process.	Detect potency error packaging early and take corrective action. Detect potency error packaging early and take corrective action.
Short Weight	Routine Weight Check Action: Schedule heavy routine check-ups of goods during the handling process.	Identify and treat differences heavily since the beginning.
Accident or Collision	Maintenance Routine Vehicles Action: Do maintenance routines and inspections of the vehicle regularly.	Reduce risk accident consequence damage technically no detected.
	Training Driver Action: Deliver training regular to drivers about procedures for safe driving.	Increase awareness and compliance with rules. Then cross, reduce the risk of accidents.
	Monitoring Usage Vehicle Action: Monitor usage vehicles and behaviour drivers through technology tracking.	Identify and reduce risk accidents caused by behaviour fewer drivers safe.
Weather Events	Monitoring Real-Time Weather Action: Use service monitoring real-time weather to detect incident weather extreme.	Possible planning and organization repeat route To avoid impact bad weather.
	Communication Active Action: Improve communication with drivers related to changing weather and instructions safety.	Ensure that there are actions taken in fast moments, whether extreme happens.
	Plan Contingencies Weather	

	Action: Create a particular contingency for overcoming the impact of terrible weather.	Ensure the safety of drivers and cargo during conditions in which the weather is not profitable.
Transaction Risk	Validation and Verification Transaction Action: Implement a rigorous validation and verification process For every transaction finance. She was doing a background check on all parties before the transaction.	Reduce the risk of mistakes and failures in the transaction process.
	System Automation Transaction Action: Use system automation For processing transaction finance.	Increase efficiency and reduce risk error humanely.
	Monitoring Real-time Transactions Action: Monitor the transaction finances in real-time.	Possible identification and handling fast to suspicious activity or potency risk.
Commercial Credit	Evaluation Thorough Credit Action: Do an evaluation of carefully credit to the customer before giving credit.	Identify the potential risk of failure to pay and set appropriate credit limits.
	Monitoring Payment By Periodic Action: Monitoring and evaluating of payment to customers in a way periodically.	Identify the potential risk of failure to pay and set appropriate credit limits.
Payment Risk	Condition Clear Payments in Contract Action: Assign condition clear and detailed payments in the agreement contract.	Give flexibility to customers and minimize impact If One method of payment experiences constraints.
	Customer Financial Monitoring Action: Doing monitoring to finance customers routinely.	Give flexibility to customers and minimize impact If One method of payment experiences constraints.
Foreign Exchange Risk	Foreign Exchange Hedging: Action: Use instrument finance like contract futures or foreign	Protect the company from fluctuation and mark detrimental exchange.

	exchange options To protect the mark.	
	Transaction Currency Diversification: Action: Apply policy diversification internal currency transaction international.	Reduce associated risks with change mark swap-specific currency. Give flexibility to customers and minimize impact If One method of payment experience changes significantly.

In research, the Analytical Hierarchy Process (AHP) and Business Continuity Plan (BCP) methods have been implemented to give an outlook on the profound related risk possible logistics happen in the export and import process of ethnic group spare electric generators. Research results cover identification events, impacts, and preventive actions For various sub-criteria risks described.

In research, In this case, the role of PT freight forwarder. As intermediary transportation internationally, Mitsui-Soko Indonesia becomes very important in managing and mitigating logistics and business process risks and using method analysis, studies cases, the analytical hierarchy process (AHP), and business continuity planning (BCP).

Freight forwarder PT. Mitsui-Soko Indonesia not only facilitates party delivery of goods from the beginning until the end but is also responsible for identifying, evaluating, and managing possible risks that arise during the logistics process. By applying the AHP method, the company can systematically evaluate potential risks big and prioritize action mitigation or appropriate prevention.

Research shows that the freight forwarder significantly impacts ensuring security and smooth logistics processes at PT. Mitsui - Soko Indonesia. By developing mitigation strategies for effective risk, the company can increase efficiency, optimize security delivery, and maintain customer satisfaction.

Conclusion

By combining AHP and BCP, studying provides a strong foundation for managing practical and helpful risks and company logistics to minimize the impact of the operational potency risk. In conclusion, research gives a basis for PT. Mitsui-Soko Indonesia for identifying and overcoming possible challenges in the logistics process. The company improves and develops by understanding the risks involved and implementing steps for appropriate mitigation. Operation To reach the level of security and efficiency while serving the logistics.

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