

# DEVELOP STANDARD OPERATING PROCEDURE (SOP) FOR AUTHORIZED ECONOMIC OPERATOR (AEO)

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## ABSTRACT

*Authorized Economic Operator (AEO) is a certificate or accreditation granted by Royal Malaysian Customs Department (RMCD) to a company that applies for and is eligible to be an AEO certificate holder. To be qualified for the AEO certificate holder, certain RMCD regulations and restrictions must be met. Company M is working on the AEO application because there are numerous benefits to being an AEO certificate holder. Company M, on the other hand, lacks a standard operating procedure (SOP) for the movement of goods, which is one of the requirements and conditions for acquiring the AEO certificate from RMCD. As a result, this project is presented to address the constraint and achieve the goal of obtaining the AEO accreditation.*

## 1. Introduction

Authorized Economic Operator certification (AEO) is a customs-to-business partnership program whereby its aims are to enhance the security of international supply chains and facilitate the legitimate global trade. (Jazdzewska-Gutta et al., 2020) Implementation of AEO certification may reduce the non-tariff barrier to international trade for a lot of companies that were granted the AEO certificate also reduce in the number of customs inspections which likely reduce the delay for border crossing and recognized as a “trusted partner” among business partners in the global supply chain (Miled & Fiore, 2014).

AEO status is recognized at the international level. A lot of companies either applying for the AEO certificate because they wanted the preservation of the customs simplification and customs licenses. (Operator et al., 2017) With this, AEO certificate holder will have more efficient import and export systems.

Currently, in company M, there is no standard operating procedure (SOP) for the external movement of goods, which becomes one of the obstacles to the company for the enablement of obtaining the AEO certificate. The external movement of goods whether it is import, export or bond-to-bond movement is currently being handled by following the RMCD internal guidelines. Without the standard operating procedure (SOP) for the external movement of goods, it may affect the company's application for the AEO certificate as it is one of the requirements that need to be fulfilled for the enablement of obtaining the certificate.

The objective that wants to be focused on for this research is to develop a new standard operating procedure (SOP) for the movement of goods related to Customs requirement and to analyze the usability and satisfaction of developed Standard Operating Procedure (SOP) to users.

Standard operating procedures or known as SOP had variation of viewpoint regarding its definition. From the US Environmental Protection Agency and also European Medicines Agency perspective, SOP may be defined as a series of written and thorough instructions which document a routine or repetitive activity that an organization follows to create uniformity in the performance of a certain function. (Amare, 2012)

SOP also may be described as a set of actions that a person or a group of individuals must follow in order to finish a task by eliminating variation (Amare, 2012). Other definition of the SOP is a method document that outlines in detail how an operator should carry out a specific task (Akyar, 2012).

Movement of goods may be defined as the process of moving goods from one site to another to ensure product availability where it is needed. This process is critical because the timely delivery of all goods out and into the organization is fundamental to the organization's smooth operation. This movement of goods process usually supported with appropriate choosing of mode of transportation such as transporting goods by road, rail, water/sea, and air. (Movement of Goods Meaning & Example | MBA Skool, n.d., 2022) Movement of goods in the business usually involving the external movement activities which are import and export between two or more organization across the world. If the movement of goods is impeded, the growth of the economy also impedes (RPA | Why Goods Movement Matters, n.d., 2022).

Import and export procedures make up international trade. Export could be defined as the sale of goods, technologies, and services for use and implementation in other countries. Import, on the other hand, is the process of buying and supplying goods, technology, and services on the domestic market for use as well as transit to third countries. (Mikhailova, 2016)

Flows of goods and services exported and imported are indicators of a country's level of international activity (Mikhailova, 2016). Both import and export activity are vital for the growth of the economy for the country. Each country has their own import and export procedures that need to be comply by all importer and exporter to make sure all the import and export activities can be control and preventing any prohibited items from entering the country.

Pareto charts can also be used to assess data from one-time experiments (Kenett, 1991). The idea behind this Pareto chart is that because the weights or effects of the contributing elements that lead to specific outcomes are not equal. So, selecting the critical and important factors and focusing on them first can reduce the time it takes to achieve the intended result, saving time and money. (Mohammad Alkiayat, 2021)

In the quality improvement, the Pareto chart is primarily used throughout the problem-solving step. It is also useful for data analysis and outcome evaluation once a specific intervention has been carried out. The Pareto chart is a visual representation of facts that can be utilized in discussions with top management to get their opinion or action. If a desired outcome must

somehow be maintained, a Pareto chart can be used to determine the "essential contributing factors" that must be maintained in order to keep the desired outcome. (Mohammad Alkiayat, 2021)

Stacked bar charts are a type of visualization that may be used to illustrate the sums of data attributes while also allowing viewers to see how the values of these variables contribute to the totals. it can be used to investigate item rankings based on numerous criteria, visualize survey data obtained using Likert-type scales, and depict probabilities of discrete events, among other things. (Indratmo et al., 2018)

Stacked bar charts and other information graphics have been widely utilized to efficiently display quantitative data and its relationships (Demir et al., 2009). Stacked bar charts are supported by a wide range of software tools, including statistical software, visualization software, and visualization libraries. If the stacked bar charts is not properly designed, then the charts that were build can be ineffective (Indratmo et al., 2018).

A swim lane diagram is a flowchart that divides process steps by function, department, or people. Each lane in the swim lane diagram represents different departments of people and the reason why it is called swim lane is because the map resembles a swimming pool, with lanes indicating the many organizations involved in the process. The swim lane, also known as a deployment flowchart, displays the actual process flow as well as the people, groups, or units involved at each step. Customer-supplier relationships are defined by horizontal lines (Ezeonwumelu et al., 2016).

Fuzzy Delphi method is the modification of the former famous Delphi method established by two scientists, Helmer and Dalkey and frequently used to obtain expert opinions through surveys (Manakandan et al., 2017). This method is used to overcome the problem by implementing the fuzzy theory and classical methodology (de Hierro et al., 2021). Utilizing fuzzy sets is more compatible with human linguistic and often ambiguous descriptions, therefore using fuzzy numbers to make decisions in the actual world is preferable (Habibi et al., 2015).

## 2. Methodology

The current method employed in the company M for the movement of goods is based on the guidance of the Customs Act 1967. All processes involved in the movement of goods adhere to the Customs Act 1967. This Customs Act 1967 is the rules or law that each company need to adhere to when it comes to the movement of goods activities.



Figure 1. SOP development flow chart

## 2.1 Initial Phase

The initial phase of the project consists of three processes which are project scope-based review, custom checklist request and identifying stakeholders. This phase is important as it will determine the direction of the project and what is to be achieved for the enablement of obtaining the AEO certificate.

### 2.1.1 Project Scope-based Review

Defining the project scope is the crucial task that need to be carried out at the initial phase of the project (Fageha & Aibinu, 2013). A lot of matters need to be considered when it comes to defining the project scope (5.3 *Defining the Scope of Your Project – Technical Writing Essentials*, n.d.). Misstep when defining the project scope might have a negative impact on the project's outcome (Fageha & Aibinu, 2013).

### 2.1.2 Customs Checklist

Customs checklist is the document that consists of requirements and conditions that AEO applicants need to review and meet. This document is the self-assessment document that is used for data collection purposes by the AEO applicants to ensure that all the requirements and conditions that RMCD set have been met or not. Stakeholders involved in data collection are identified once the customs checklist is obtained and reviewed.

## 2.2 Mid Phase

Data collection was conducted to assess what the company has or does not have before developing the SOP, and it is primarily focused on the logistics sections, despite having other sections involving other stakeholders as well. The information gathered is based on the requirements and conditions outlined in the customs compliance checklist. The data collected using the customs compliance checklist will then be reviewed and used as a guide to develop the SOP for the movement of goods for the enablement of obtaining the AEO certificate.

Table 1. Data collection progress

Logistics					
Terms	Section	Subsection	Progress	Cumulative	Percentage (%)
A	Demonstrated Compliance with Customs Requirement	5	5	5	14
B	Satisfactory System to Management of Commercial Records	2	2	7	19
D	Consultation, Co-operation and Communication	2	2	9	25
F	Information Exchange, Access and Confidentiality	4	4	13	36
G	Cargo Security	7	7	20	56
H	Conveyance Security	10	10	30	83
L	Crisis Management and Incident Recovery	4	4	34	94
N	Implementation of Customs Procedures	2	2	36	100
Total		36			





Figure 2. Data collection progress

## 2.3 Mid Phase

### 2.1.3 Standard Operating Procedure (SOP) for the Movement of Goods

Standard operating procedures (SOP) for the movement of goods are developed following the completion of data collection for the customs checklist on the logistics sections. The SOP was developed not only with data from the custom checklist, but also with information gathered by consulting with import and export experts. SOP developed by using company templates which have been used in the company not only for local but also globally.

The SOP is divided into two main topics and two subtopics. The main topic is import and export procedures, with subtopics on incoterms and movement types. Before it was published, the SOP was reviewed and finalized to ensure that it adheres to the RMCD procedures and requirements. Even though the SOP has been published, it could still be amended because the SOP is being developed for long-term use at company M.

### 2.3.2 Swim Lane diagram for the Movement of Goods

Swim Lane diagram for goods movement, import and export is developed to show the flow of goods movement from beginning to end. The swim lane diagram is made up of two elements: the left column represents the process, and the top row represents the responsible party or person in charge (PIC) for each of the processes.

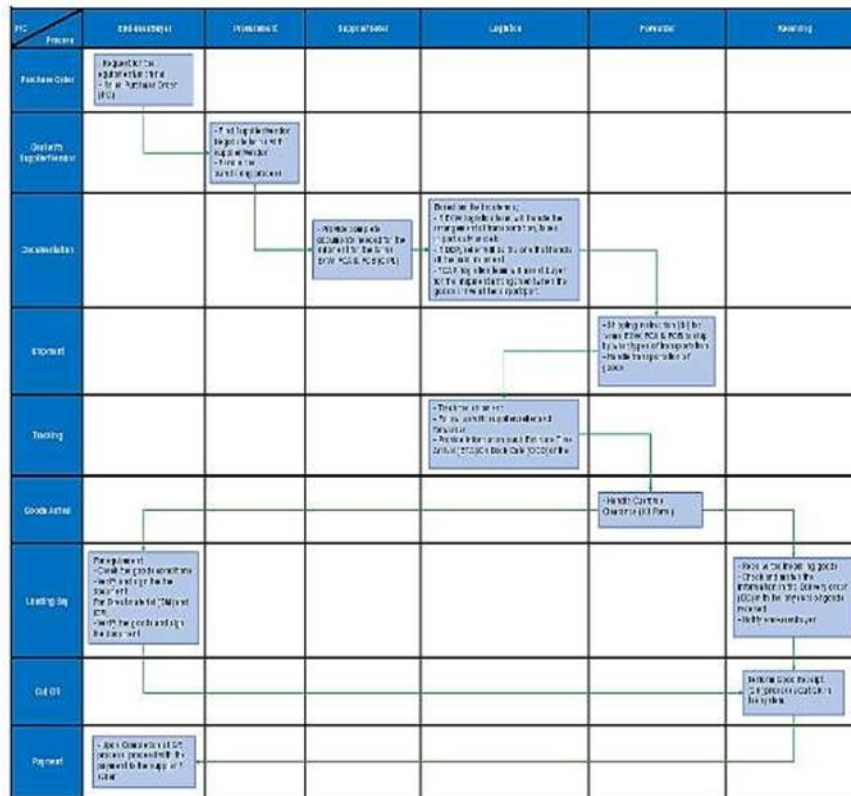


Figure 3. Swim Lane for Importation

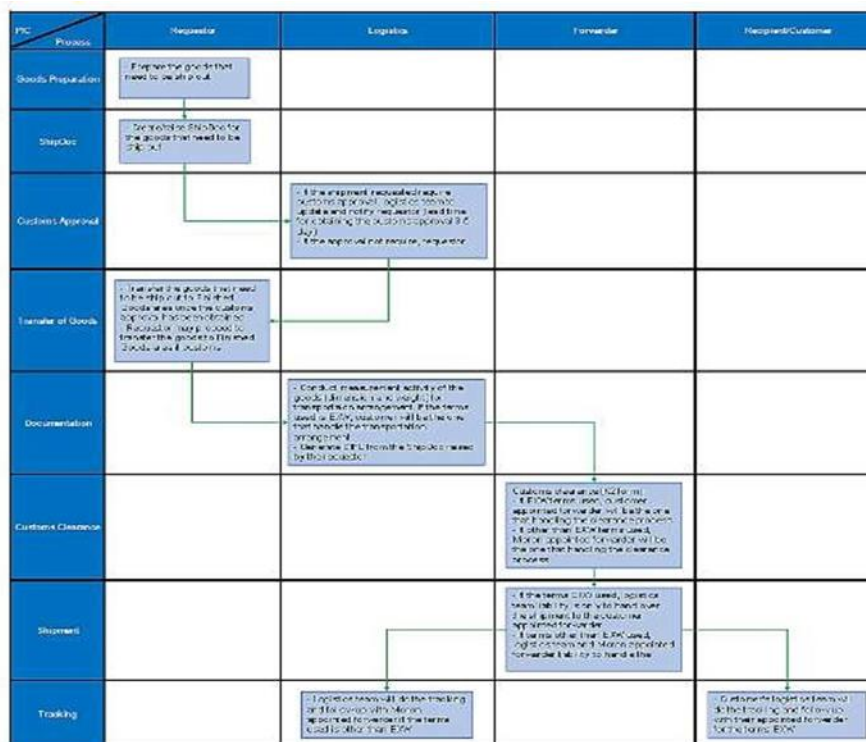


Figure 4. Swim Lane for Exportation

### 2.3.3 Fuzzy Delphi Method – Survey

To achieve the second goal, an analysis is performed using the Fuzzy Delphi method to obtain responses from experts to determine whether the standard operating procedure (SOP) for the movement of goods developed is usable and effective to users. The survey data is important because it will highlight whether the SOP is usable and effective, or if there is still inadequate information or needs to be revised.

The quantitative method was used for the survey, and the questionnaire was distributed to four target groups of experts with expertise in related fields. Managers, supervisors, analysts, and administrators are among the experts who are expected to participate in this survey.

This survey has four target groups of experts, as stated in the survey instrument. To achieve high levels of consistency across experts, the minimum sample size for experts is ten. Therefore, the sample size for each of the survey's target groups is ten, with a total of forty experts.

The survey form developed by using Google Forms consists of ten questions including two extra questions. The extras questions were asked to know the position held by the experts and to get their point of view on the SOP developed as the SOP may have gaps. Thus, by getting their point of view, the SOP may be improved to make sure it is well established.

## 3. Results and Discussion

### 3.1 Published SOP

Following the completion of the developed SOP, the next step is to publish it so that users can utilize it. Before the SOP can be published, it must follow company M business process, which requires the document to be registered in the system as the first step toward document publication.

Upon completion of the SOP document registration, approval is sought from the responsible party that may give approval for the SOP to be used and implemented in the company M. Once approval is granted, the SOP finally may be published, and the target users will be provided training referring to the SOP developed. The survey is completed along with the training to get a group of expert's response on the SOP developed.

### 3.2 Finding

The survey was completed by approaching four groups of experts consisting of managers, supervisors, analysts, and admins that excel in the related field with a total of 40 experts and 10 experts for each of their respective positions. Table 4.1 and figure 4.1 show the data obtained from the survey done by implementing the Fuzzy Delphi method.



Table 2. Survey data

Answer options	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10
Disagree	0	1	1	0	0	0	0	0	0	0
Neutral	5	5	4	6	5	2	7	6	5	2
Agree	35	34	35	34	35	38	33	34	35	38

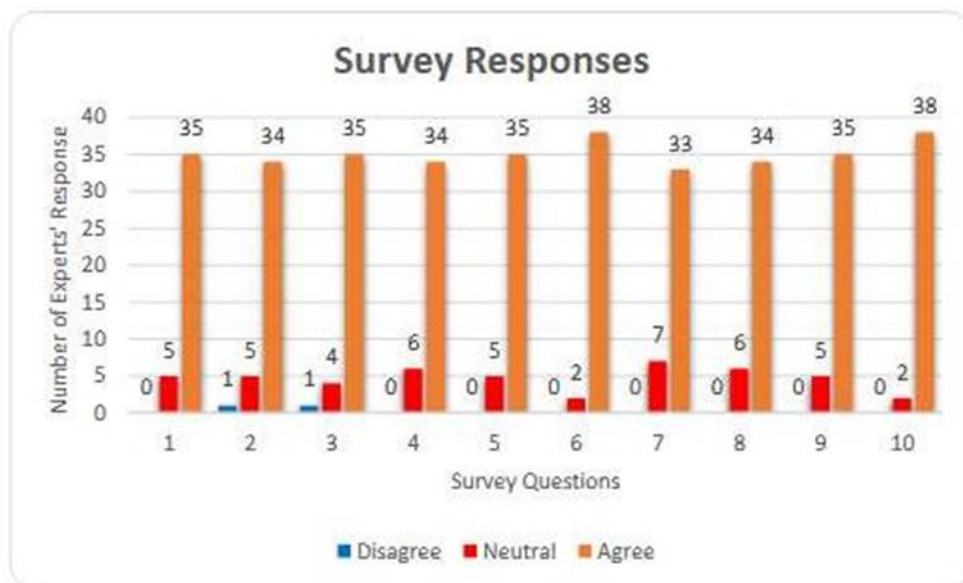


Figure 5. Bar graph of overall survey responses

Each expert has a unique point of view, and each of their responses is essential to the analysis. According to the graph, most expert responses are in favor of agreeing. Despite this, some experts continue to express their opinions on the neutral and disagree alternatives, with less than ten people answering each question.

Even though majority of the expert responses are in favor of agreeing, the fact that some experts also express their opinions on neutral and disagree alternatives shows that the SOP developed may have gaps. However, it may be concluded that most experts still believe that the SOP developed is usable and effective for users. This is based on the response from the experts in survey question 9 which is related to the second objective.

#### 4. Conclusion

In conclusion, the standard operating procedure (SOP) was developed as a requirement for the enablement of obtaining the Authorized Economic Operator (AEO). From data collecting on

the customs checklist to the development and publication of the SOP in the company, everything is done step by step.

A survey is also conducted, with four groups of experts targeted to participate, using the Fuzzy Delphi method approach to analyse the usability and effectiveness of the developed SOP to users.

From the analysis done from the result of the survey, even though majority of the expert response agreed with what was asked. Improvement may be needed as there are still some experts who respond are neutral and disagree which shows the developed SOP still have gaps.

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