

## Standard Time for Paperwork Import Clearance Department at Forwarding Company

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### Abstract

*This paper attempts to propose a benchmark for the standard time to complete daily paperwork received at a forwarding company. This research used the define-measure-analyse-improve-control (DMAIC) approach, which was adopted for improving the process capability in an Import Clearance Department. The result from this research found that the import clearance agent required 3 days or more to clear paperwork for duty or tax confirmation. The impact led to delayed shipment delivery, caused by customer dissatisfaction and company loss of trusts amongst customers. It was found that that the number of paperwork received daily was 516, distributed among an average of 15 employees, from January to April 2018. Each employee received an average of 34 paperwork daily. The amount of paperwork received by each employee was at alarming level. The time required to complete paperwork for duty/tax confirmation were 3 days or more for most of the employees, which stood at 62%. Therefore, based on the results of the findings, the proposed benchmark of the standard time for paperwork clearance should not be more than 1 day to allow for same day delivery to the customers, as per the commitment promised by the company.*

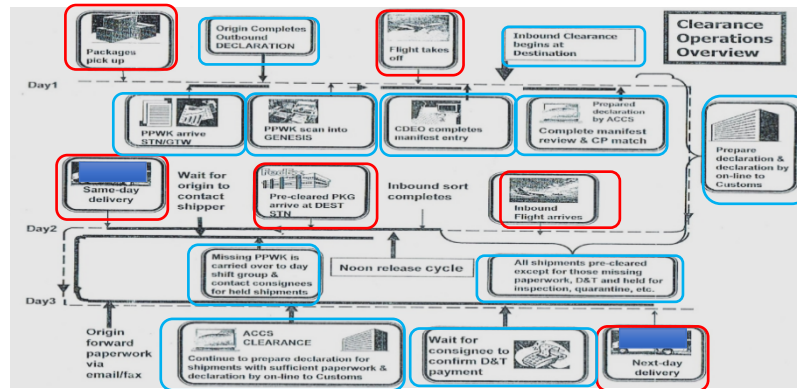
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## 1. Introduction

The operation of a freight forwarding company highly relies on smooth pre-clearance processes to ensure its efficiency and functionability of the business. Figure 1 shows the general operation of activities of a freight forwarding company. Freight forwarding companies move shipments, from documents to high value items of any sizes, up to tonnes of weights, to and from various locations around the world. There are two movements related to shipments; physical packages and paperwork. The red boxes show the physical movement of the shipments, while the blue boxes show the paperwork movement.

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**Figure 1. General operation activities of a freight forwarders company**

Wastages, such as staff waiting for instructions, materials waiting for processes, labour waiting for tools, defectives raw materials, processes without defined standard times, etc., are everywhere. Regardless of the risks of the encounter, businesses should strive to remain updated with the current methodologies, and technological developments. Therefore, it is very important for the companies to look for innovative approaches to improve and optimize their processes to compete successfully globally, in order to remain competitive [1].

Most research in the pasts investigated the demand of timeliness and its effects on international trade, where products that are time-sensitive are imported between nearby countries due to high transportation costs. In their research, [2] investigated the time delay's quality and price effect on the agricultural products due to highly perishable, and short shelf-life, as the quality and selling price could be reduced caused by time delays. It was found that highly perishable products are highly affected by time delays that are caused by significant drop in the quality and selling price. For a medium perishable product, they found that the quality is affected significantly, as the time delay reduced the product quality, but do not too much to the point that could reduce the selling price.

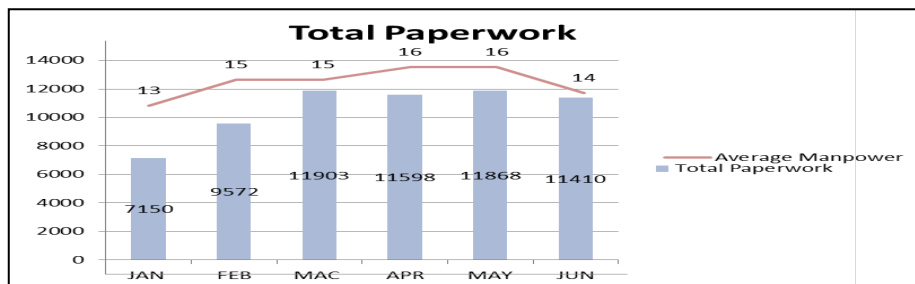
For less perishable products, either the quality effect or the price effect is significant due to less time sensitive characteristics. It was also found that if a country reduces the time delays to half, the import of highly perishable products can increase by around 35%, where medium perishable products can increase by 15%, which led to significant increase of trade and social welfare benefits for both importing and exporting countries. It was suggested that time delays at the border need to focus on other than trade policy reforms and on traditional measures, such as tariffs, by accelerating customs clearance procedures. This enables the countries to promote time-sensitive products and stimulate international trade transaction volumes, as well as provide higher quality products to consumers and exporters, who benefit through higher selling price. Most of the time, traders suffer the most due to loss of profit, delayed delivery, loss of business and increased direct and indirect trade transaction costs.

Table 1 shows the average daily productivity. For the total working days between 18 and 27 working days, an average between 14 to 17 employees are available daily to handle the total paperwork, for as many as 7000 to 12000 per month, as shown in Figure 2. As the amount of paperwork received increased from January to March and remained relatively high until June. Therefore, it is

crucial to identify if the current standard for the employees to complete their daily paperwork is optimum to manage this volume. Otherwise, the company will need to take corrective measures to avoid an unnecessary impact to the business operations.

**Table 0. Average Daily Productivity**

Month	Total Paperwork	Total Working Days	Average Daily Manpower	Average Daily Productivity
JAN	7150	18	16	25
FEB	9572	24	16	25
MAR	11903	27	16	28
APR	11598	25	17	28
MAY	11868	27	16	27
JUN	11410	25	14	32



**Figure 2. Total Paperwork & Average Manpower of CPE (January-June 2017)**

This research attempts to investigate the opportunity in improving the workload balance of the employees. The findings of this research will optimize the working hours and promote healthy working environment among the employees. The research objectives (RO) can be further detailed as follows:

1. To identify the amount of paperwork received daily.
2. To analyze the actual time required to complete paperwork received daily.
3. To propose a benchmark for standard time to complete daily paperwork received.

**2. Methodology**

This research used the define-measure-analyze-improve-control (DMAIC) approach, which was adopted for improving the process capability of the Import Clearance Department. Process control plays an important role, regardless of the quality inspection in order to obtain an improved end product, or service quality. DMAIC consists of a systematic procedure which aims to achieve sustainable improvements in business processes, and ultimately in the end products or services [3]. Several researchers used DMAIC approaches in their researches in an effort for improving process capability, such as [3][4][5][6][7].

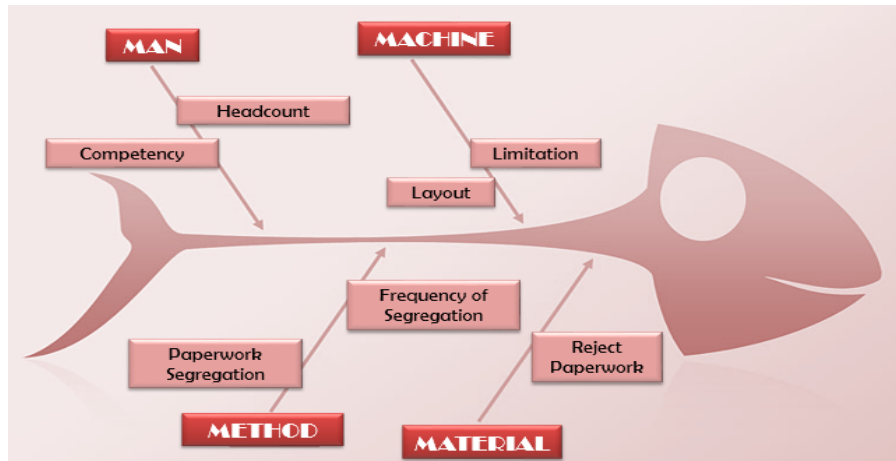
The DMAIC procedure has been adopted worldwide to improve operation process flows and to reduce rejection by employing quality control tools. [8] applied DMAIC in their study to determine wastage and to reduce cycle time production, where 54% of the overall production cycle was considered as waste and non-value added. This study applied the DMAIC method in order to manage

waste and variability that caused paperwork clearance delays. Figure 10 describes further the framework for the research according to the sequence of work to be accomplished.

### 3. Discussions

#### 3.1 Define phase

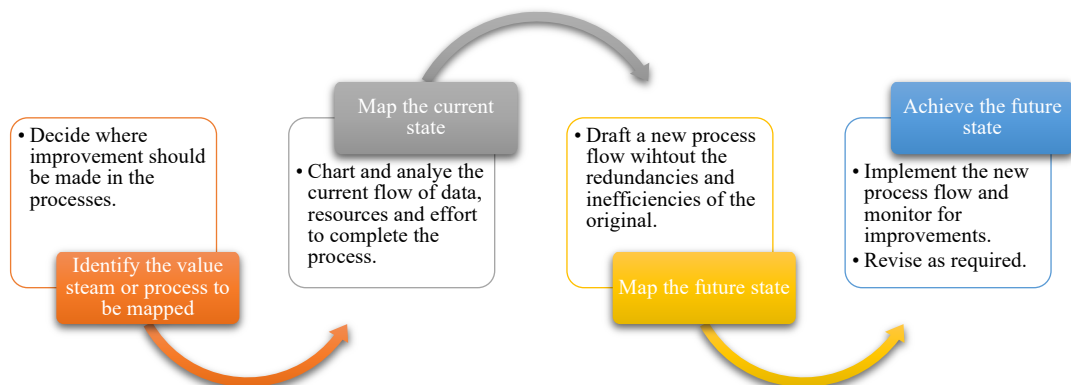
The Define phase in this study identified the cause of the clearance delays using the Ishikawa Diagram as shown in Figure 3. The four main areas include man, machine, method and materials.



**Figure 3. Ishikawa Diagram – Cause & Effect of Paperwork Clearance Delay**

The 3M model incorporated the value stream mapping (VSM) to identify the wastes in the Import Clearance team. Steps for VSM for non-manufacturing processes are shown in Figure 4. By using the 3M model & VSM, office wastes were identified, which included:

1. Long lead times
2. Work queues
3. Excess paperwork and redundant approvals
4. Incomplete and inaccurate information
5. Complex tracking procedures



**Figure 4. VSM steps for non-manufacturing processes**

### 3.1 Measure phase

In the measure phase, the data of the amount of paperwork received was collected and the time required to complete the paperwork clearance was measured. The data was tabulated for the analysis as shown in Table 2 and was later consolidated into Table 3, as shown below.

**Table 2. Paperwork Segregation**

J A N	Date	01/ 01/ 18	04/01 /18	15/01 /18	18/01 /18	19/01 /18	20/01 /18	25/01 /18	26/01 /18	27/01 /18	28/01 /18	31/01 /18	0	Total Day
	Paperwork												0	Total ppwk
	Manpower												0	Ave manpower
F E B	Date	01/ 02/ 18	04/02 /18	15/02 /18	18/02 /18	19/02 /18	20/02 /18	25/02 /18	26/02 /18	27/02 /18	28/02 /18		0	Total Day
	Paperwork												0	Total ppwk
	Manpower												0	Ave manpower
M A C	Date	01/ 03/ 18	04/03 /18	15/03 /18	18/03 /18	19/03 /18	20/03 /18	25/03 /18	26/03 /18	27/03 /18	28/03 /18	31/03 /18	0	Total Day
	Paperwork												0	Total ppwk
	Manpower												0	Ave manpower

**Table 0. Average Daily Productivity**

Month	Total Paperwork	Total Working Days	Average Daily Manpower	Average Daily Productivity
JAN				
FEB				
MAR				

### 3.2 Analyse phase

In analyse phase, analysis was performed, and data was tabulated using the Minitab software to identify the actual time used by the CPE agents to clear paperwork. All factors that contributed to clearance delay within the department were identified for rectifications and further improvement.

### 3.3 Improvement & Control phase

In the improvement phase, the solutions for the root causes of clearance delays were proposed. The quality improvement objective was to reduce the clearance delay by standardizing the time require to complete paperwork, thus improving process and service performance. Last but not least, the control phase which controlled the amount of rejected paperwork, and as the result of this study, where a proper documentation of the SOP was recommended by implementing the lean

concept. The associated causes of the clearance delay and corrective action was produced. Hence, the standard time benchmarking could be revised from time to time according to the current business operation by monitoring the critical process parameters, maintaining documentation and updating information.

**4. Results**

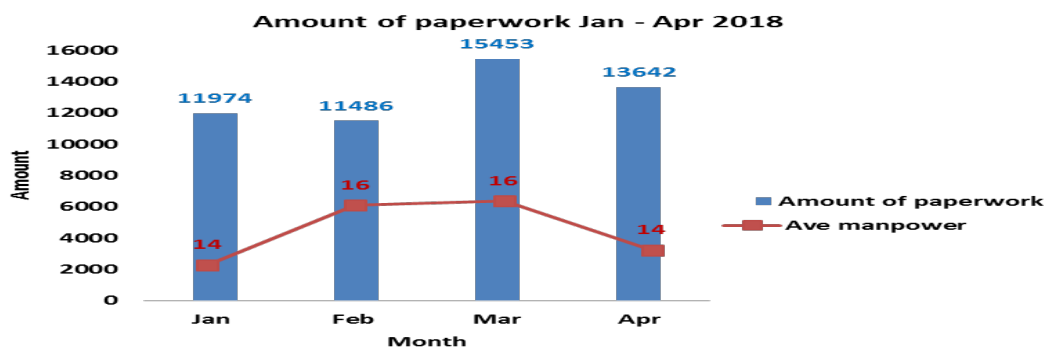
*Objective 1: To identify the amount of paperwork received daily.*

Table 4 shows the number of paperwork received by CPE agents from January to April 2018. The number of paperwork in January and February 2018 decreased from 11974 to 11486 due to less incoming volumes after New Year 2018 and Chinese New Year. Plus, there were quite a number of public holidays between January and February, with most of them involving long weekends. In March 2018, the volume spiked to 15453 as most companies continued their operations after several weekend holidays, but decreased to 13642 in April 2018.

**Table 0. Total Paperwork Jan – Apr 2018**

Month	Jan-18	Feb-18	Mar-18	Apr-18
Amount of paperwork	11974	11486	15453	13642

The actual numbers of staff available who actively carried out paperwork clearance was 17. However, only an average of 14 people was available in January and April 2018, and 16 people in February and March 2018, as shown in Figure 5. Fewer number of employees in January was due to the fact that 2 employees were still under maternity leave, and only came back in February 2018. However, in March 2018, the number of employees decreased again due to staff resignation and termination.



**Figure 5. Number of paperwork received daily**

Figure 6 shows the number of paperwork received and available manpower daily in January 2018. In average, CPE agents received a total of 443 paperwork daily to be distributed among an average of 14 people. They received most paperwork on Day 1, 5 and 6, which were 448, 495 and 539 respectively, where it was when the number of employees was the lowest, at 13 people. CPE agents

received 35, 38 and 41 paperwork each for those days. The number of employees were less due to 2 agents who were still on maternity leave, which left 15 people and a maximum number of 2 employees who were allowed to take leave on any given day.

Figure 7 shows the number of paperwork received and available manpower daily in February 2018. On average, CPE agents received a total of 483 paperwork daily, to be distributed among an average of 16 people. They received most paperwork on Day 1, 5 and 6, which were 527, 519 and 516 respectively, where it was when the number of employees was almost maximum, at 16 people, except on Day 5. CPE agents received 33, 35 and 33 paperwork each, for those days. The number of employees increased due to 2 agents who returned from maternity leave.

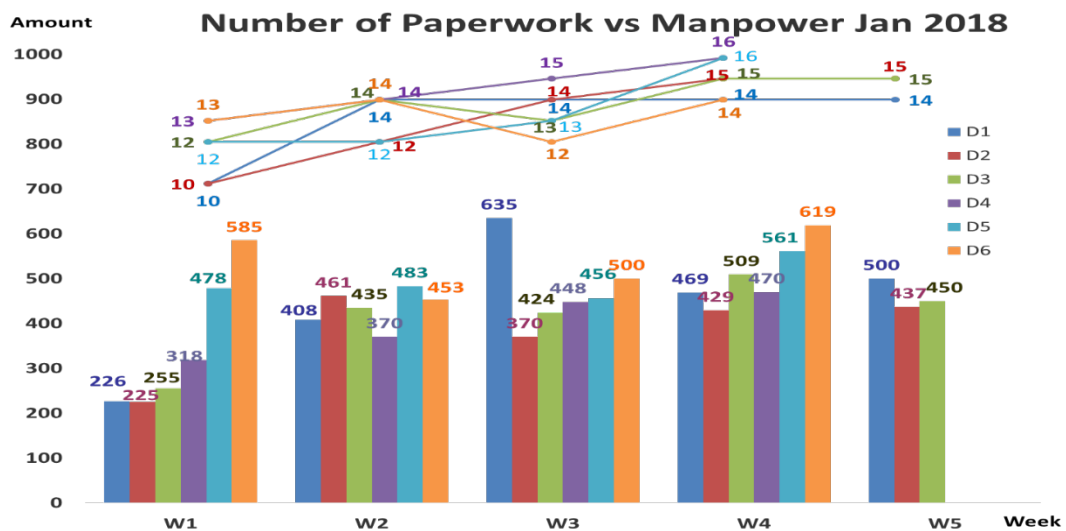


Figure 6. Number of paperwork vs manpower January 2018

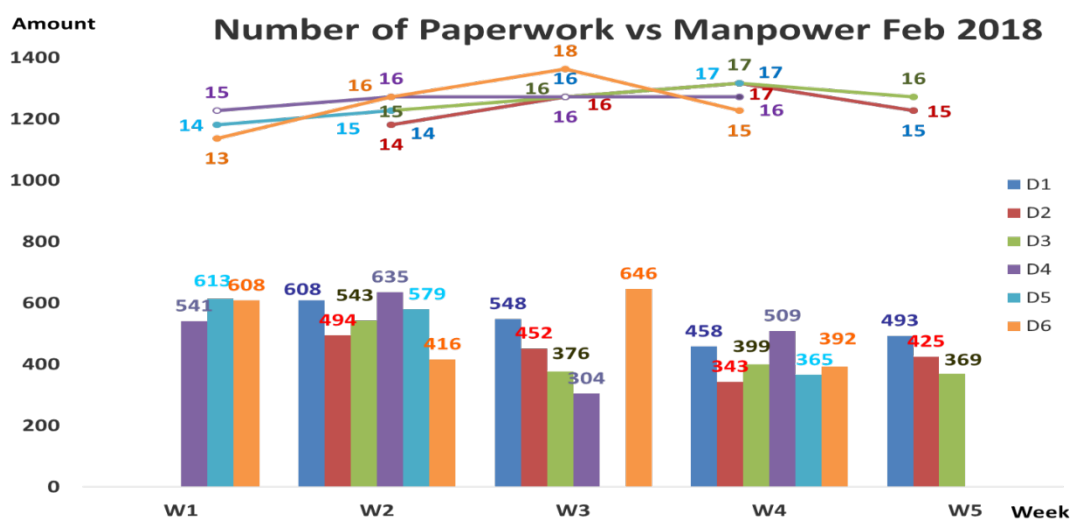
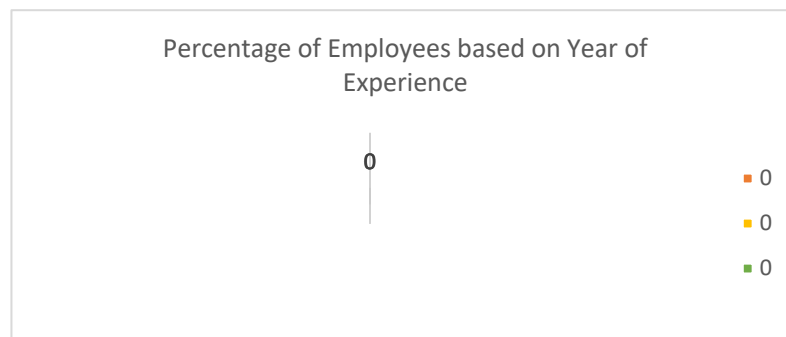


Figure 7. Number of paperwork vs manpower February 2018

#### 4. Results

*Objective 2: To analyze the actual time required to complete paperwork received daily.*

In order to analyse the time required to clear paperwork; the employees were classified based on their experience as shown in Figure 11. From a total of 16 participants, 31% were employees with experience of more than 5 years, and between 3-5 years, where the remaining 38% had experience less than 3 years. The hypothesis at the beginning of the research was that more experienced employees had less clearance delay time. The time taken in this research was only for paperwork submitted for duty/tax confirmation. This was to ensure fairness as the difficulties were about the same and could be handled by any of the employees with any work experience.



**Figure 11:** Percentage of employees based on experience

#### 4.1 Improvement and Control

*Objective 3: To analyze the actual time required to complete paperwork received daily.*

For improvement, this study proposed that the company offer training guidelines to the new employees. The current training is only provided by the senior agents based on their experience, which is not standardized. Different senior agents have different ways of working more productively and efficiently. However, the most important is that the paperwork submission must have complete information to ensure a smaller number of reject/returned paperwork, where most of this paperwork belongs to the least experienced agent.

For improvement and control, the researchers proposed a revision of the Standard Operating Procedure (SOP) for paperwork clearance as shown in Figure 12. It ensures that for any kind of delayed paperwork is submitted with complete information, thus reducing the amount of reject/returned paperwork.



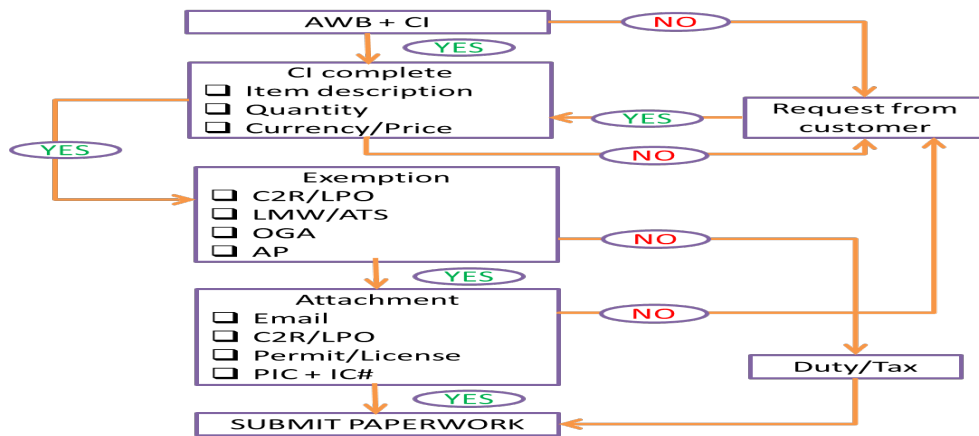


Figure 12. Revised SOP for paperwork submission

## 5. Conclusion

It was concluded that the number of paperwork received daily was 516, which was distributed among an average of 15 employees from January until April 2018. Each employee received an average of 34 paperwork daily. The amount of paperwork received by each employee was at an alarming level. It was also concluded that the time required to complete the paperwork for duty/tax confirmation were 3 days, or more for most of the employees at 62%. Therefore, based on the results of the findings, the proposed benchmark of the standard time for paperwork clearance should not be more than 1 day to allow for same day delivery to the customers as per the commitment promised by the company. This proposed benchmark is relevant due the difficulty level and is the same for all employees. Clearance should be completed before 12.30 pm to meet the noon shuttle which leaves at 1.00 pm daily.

## Acknowledgments

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