

DEVELOP NEW STANDARD OPERATING
PROCEDURE (SOP) FOR KNITTING NEEDLES
PACKAGING AT TEXTILE MANUFACTURING
COMPANY



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2024



**DEVELOP NEW STANDARD OPERATING PROCEDURE (SOP) FOR
KNITTING NEEDLES PACKAGING AT TEXTILE
MANUFACTURING COMPANY**

This report is submitted in accordance with requirement of the University Teknikal
Malaysia Melaka (UTeM) for Bachelor Degree of Industrial Engineering (Hons.)



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TECHNOLOGY AND ENGINEERING**

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BORANG PENGESAHAN STATUS LAPORAN PROJEK SARJANA MUDA

Tajuk: **DEVELOP NEW STANDARD OPERATING PROCEDURE (SOP) FOR KNITTING NEEDLES PACKAGING AT TEXTILE MANUFACTURING COMPANY**

Sesi Pengajian: **2023/2024 Semester 2**

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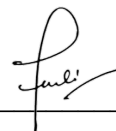
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BORANG PENGESAHAN TAJUK INDUSTRI BAGI PROJEK SARJANA MUDA

Tajuk PSM: Develop Standard Operating Procedure (SOP) for Knitting Needles Packaging at Textile Manufacturing Company

Nama Syarikat: Prym Consumer Malaysia Sdn. Bhd

Sesi Pengajian: 2-2023/2024

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I hereby, declared this report entitled “Develop New Standard Operating Procedure (SOP) For Knitting Needles Packaging at Textile Manufacturing Company” is the result of my own research except as cited in references.

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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APPROVAL

This report is submitted to the Faculty of Industrial and Manufacturing Technology and Engineering of University Teknikal Malaysia Melaka as a partial fulfilment of the requirement for Degree of Industrial Engineering (Hons). The member of the supervisory committee are as follow:



.....
(Professor Ts. Dr. Effendi bin Mohamad)

ABSTRAK

Tujuan projek ini adalah untuk mengkaji prosedur pembungkusan sedia ada untuk jarum jahit, merancang, membangunkan dan memvalidasi prosedur operasi standard baru untuk pembungkusan jarum jahit. Data yang diperlukan untuk prosedur pembungkusan sedia ada untuk jarum jahit dikumpulkan melalui lawatan industri, sesi perbincangan, pemerhatian, dan kajian literatur. SOP direka bentuk dan dibangunkan menggunakan pemerhatian dan dokumentasi, dan keberkesanannya dinilai dengan memvalidasi ketepatan dari pihak berkepentingan yang bertanggungjawab, memberikan latihan, dan menjalankan tinjauan dengan operator dan staf dalam syarikat pembuatan tekstil. Teknik pembungkusan untuk jarum jahit adalah prosedur yang harus mengandungi lipatan kad, memasukkan jarum, melekatkan label, dan menyusun produk dalam kotak luar dan karton. Bahan asas terdiri daripada karton, kotak, kotak luar, inlay, dan label. Alat penepek selofan digunakan untuk mengepek kotak karton dengan berkesan. Operator menjalankan tugas yang diperlukan, manakala pasukan jaminan kualiti mengekalkan standard yang tinggi. SOP yang dibangunkan mengandungi logo syarikat, tajuk, butiran jarum jahit, jenis-jenis label yang digunakan, langkah-langkah pembungkusan, dan validasi. Kemudian, SOP telah disahkan oleh penyelia teknikal, pengurus pengeluaran, dan pengurus jaminan kualiti. Satu tinjauan telah dijalankan dengan 4 operator, penyelia teknikal, ketua barisan, dan staf kawalan kualiti. Berdasarkan tinjauan tersebut, terdapat maklum balas positif daripada mereka. Ia menunjukkan keberkesanan dalam pembangunan SOP. Purata sisihan piawai selepas SOP menunjukkan peningkatan yang sedikit (0.19) berbanding sebelum SOP. Secara keseluruhan, prosedur operasi standard meningkatkan pembungkusan jarum jahit dengan meningkatkan kecekapan, mengurangkan kesilapan, dan menyediakan kualiti produk yang lebih baik serta kecemerlangan industri.

ABSTRACT

The aims of this project is to study the existing packing procedure for knitting needles, design, develop and validate a new standard operating procedure for knitting needle packing. The necessary data for the existing packing procedure for knitting needles was collected through industry visits, brainstorming sessions, observation, and literature review. The SOP was designed and developed using observation and documentation, and its effectiveness was then evaluated by validating accuracy from the stakeholder who are in charge, providing training and conducting surveys with operators and staffs in the textile manufacturing company. The packaging technique for knitting needles is a must procedures that includes folding cards, inserting needles, sticking labels, and arranging products in outer boxes and cartons. Basic materials consist of cartons, boxes, outer box, inlay and labels. The cellophane tape dispensers tool used for effective seal carton box. Operators carry out the necessary tasks, while quality assurance teams maintain high standards. The SOP developed contains the company logo, title, knitting needle details, types of labels used, steps of packing, and validation. Then the SOP has been validated by the technical supervisor, production manager, and quality assurance manager. A survey was conducted with 4 operators, the technical supervisor, line leader, and quality control staff. Based on the survey, there was positive feedback from them. It shows that there is effectiveness in developing the SOP. The standard deviation after the SOP shows a slight increase (0.19) compared to before the SOP. Overall, the Standard operating procedure enhance knitting needle packing by improving efficiency, reduced errors, and providing better product quality and industry excellence.

DEDICATION

Special dedication to my parents, siblings, friends and also my supervisor for giving me knowledge and moral support to complete the project and report.



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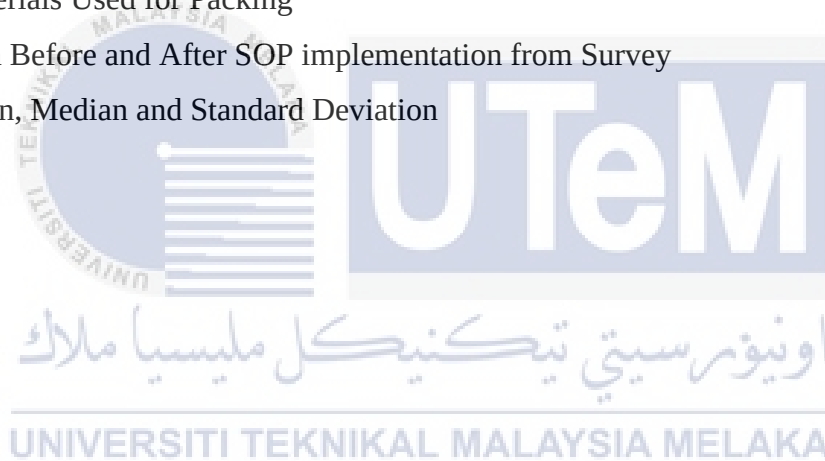
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LIST OF ABBREVIATIONS

SOP	-	Standard Operating Procedure
UTeM	-	Universiti Teknikal Malaysia Melaka
Std	-	Standard



CHAPTER 1

INTRODUCTION

This chapter includes the background of the study, the problem statement, the project's objectives, and the scope. It also briefly describes the project's constraints.

1.1 Background of Study

Beaumont et al. (2022) characterized the ongoing phase of globalization by swift changes, fierce competition, and heightened uncertainty, brought about by significant developments in various sectors. According to Gao and Lau (2021), managing the pace of development and change proves challenging, necessitating companies to establish and implement a standardized process eventually. The expected outcome of the process is to monitor and manage all operational activities in accordance with company expectations. The goal is to help the company achieve its goals and succeed in this era of globalization competition. In the business environment, there are many situations where a company needs to submit a special request related to its operations.

This project is conducted at Prym Consumer Malaysia Sdn. Bhd. addresses the challenges of absence SOP. In general, a variety of tools and techniques are used to evaluate the efficiency of a company's textile manufacturing. Among the array of tools and techniques used in lean manufacturing, the Kanban system is just one, alongside others such as quality circle, 5S housekeeping, continuous improvement, and many more. Lean involves a range of tools designed to identify and eliminate waste, with the potential to enhance both quality and efficiency in production time and cost.

We recommend developing a new Standard Operating Procedure (SOP) for the textile manufacturing company. As per Schmidt and Pierce (2016), a SOP is a written document outlining comprehensive, step-by-step, organized, and systematic work procedures. Implementing SOP within a company can ensure that every action or decision is carried out efficiently and in alignment with the company's objectives. Based on Mager et al. (2007), definition of SOP also known as a procedure as a more explicit and detailed document that explains the method utilized in implementing and conducting the organization's policies and activities as outlined in the guidelines. Besides, it is essential for every company to maintain a SOP as it functions as a guide for the smooth process of job functions. Moreover, it serves as a reference in case any inefficiencies or ineffectiveness are identified in the process. Thus, it can concluded that SOP consists a set of written documents that describe detailed, step-by-step, and systematic work procedures for all routine activities performed by a company.

1.2 Problem Statement

The absence of a SOP in the textile manufacturing company gives rise to several challenges. Initially, there is a lack of consistency in packaging procedures, as operators and subcontractors may adapt different methods, resulting in inconsistencies in the process. Furthermore, the lack of a well-defined SOP creates challenges in training new operators or subcontractors. Without a reference point, individuals may have difficulty understanding the packaging process, leading to a long learning curve and increased risk of errors. The lack of standardized procedures raises concerns about inefficiencies in the packaging process. Divergent approaches adopted by different operators can impact productivity and impede a smooth workflow. Additionally, the lack of clear guidelines increases the risk of errors, accidents or damage during the packaging process because there is no standardized method to follow. To tackle these challenges, it is essential to create and implement a SOP for packaging. Figure 1.1 show operator doing packaging without using SOP as reference.



Figure 1.1: SOP are Not Being Implemented While Working

Table 1.1 shows the lists of various defects that occurred during packaging, affecting product quality. These defects range from incorrect components or labels to faulty packaging materials and even missing items.

Table 1.1: Defects Occurred in Packaging Line
at Prym Consumer Malaysia Sdn. Bhd.

Defects
Mix / wrong component
Mix / wrong packaging
Blister sealing
Labelling
Packaging configuration
Packaging material issue
Component issue
Short count

Figure 1.2 shows the defects occurred during packaging such as outer box wrongly arranged in carton, missing labelling on box, packaging configuration and imbalance carton.



Figure 1.2: Defect

Table 1.2 provides a detailed breakdown of packaging defects documented on a yearly basis from the quality control staff of the company. This data offers insights into the frequency of various defect occurrences over a four-year period (2020-2023).

Table 1.2: The Numbers of Defect Yearly

Row Labels	Blister sealing	Labelling	Mix / wrong component	Mix / wrong packaging	Packaging configuration	Packaging material issue	Short count	Grand Total
2020		3	1	1	1		1	7
2021		4	3	2			1	10
2022	1	1	4		1		1	8
2023	2	3	1	3	2	2	2	15
Grand Total	3	11	9	6	4	2	5	40

The histogram of yearly defects in Figure 1.3 shows the histogram of the number of defects across the years. It reveals how often certain numbers of defects occurred over the time period covered in the data.

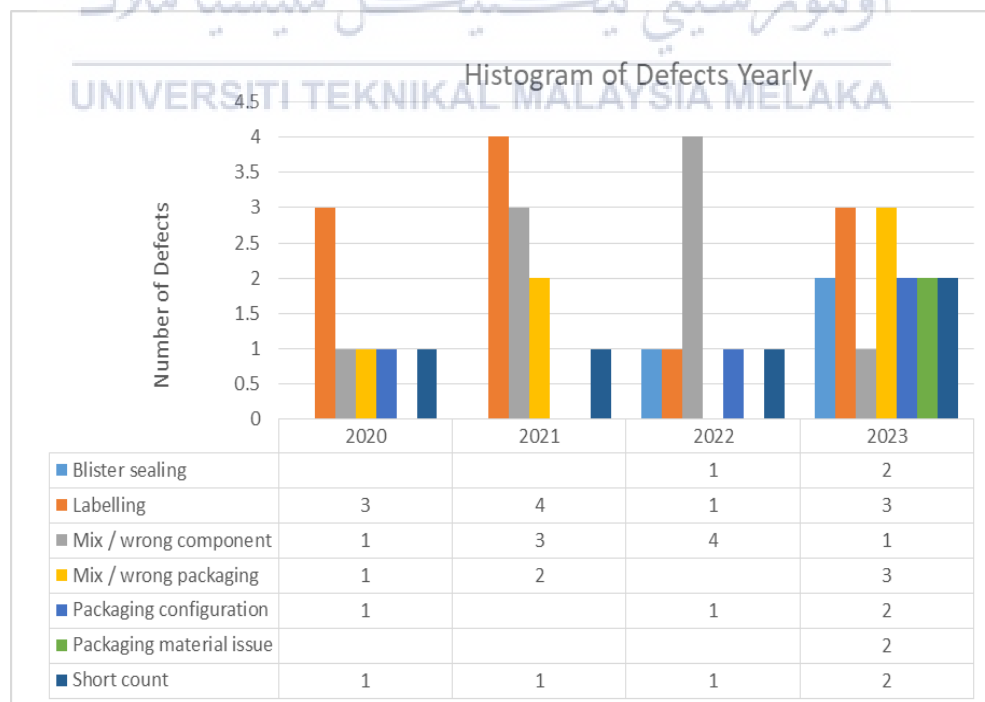


Figure 1.3: Histogram of Defects Yearly

1.2 Objectives of Study

The objectives of this study are:

- (a) To study the existing packing procedure for knitting needles.
- (b) To develop new standard operating procedure for knitting needles packing.
- (c) To validate the standard operating procedure for knitting needles packing.

1.4 Scopes of Study

The project focuses on standardizing procedure of packing in the textile manufacturing company. To ensure the objectives are achieved, some of important element must be considered. The packaging procedure for knitting needles at the packing line is currently being developed into a SOP within the textile manufacturing company.



CHAPTER 2

LITERATURE REVIEW

The value and purpose of Standard Operating Procedures (SOP) in an organizational environment are briefly discussed in the introduction to the chapter on SOP. SOP are structured sets of guidelines created to ensure precision, consistency, and effectiveness while performing certain procedures or duties. This chapter primarily aims to explain the basic ideas underlying SOP, define SOP, emphasize the significance of SOP, construct and carry out SOP, and provide guidance on how to create SOP efficiently. By providing a standard approach to accomplishing various duties, SOP increase effectiveness as a whole, legal compliance and efficiency within an organization. Forming the groundwork for an in-depth study into the development, utilization, and impact of SOP on enhancing the efficiency of operations across a range of sectors is this introduction. Investigation of how SOP are developed, implemented, and impact operational effectiveness across a range of companies.

2.1 Lean Manufacturing

According to Von Hippel (1988), lean is the optimal way of producing goods through the removal of waste. In simple words, lean is simply waste-free production.

2.2 Definition of SOP

Petrigna et al. (2022) defines SOP indicators as system analysis, task analysis, and work procedure analysis. System analysis identify a job's primary duties, processes for executing work procedures, and the system's operation. Task analysis is a detailed and

methodical process for managing work, providing details on the job, position's specifics, and duties. Work procedure analysis determines the chronological sequence of tasks, their completion, and their execution. Procedures are organized by actions required to complete tasks, often executed by multiple individuals. Reliable human resources are crucial in the age of rapid technological innovation. All work procedures are carefully arranged to ensure timely, efficient, and comprehensive completion of duties.

According to Schmidt and Pierce (2016), SOP is a written document that contains detailed, step-by-step, orderly, and systematic work procedures. An organization's standard operating procedure may guarantee that every choice made and action executed will be carried out effectively and efficiently in line with the stated goals of the business.

According to Barbosa et al. (2011), SOP goes beyond simply being instructions. SOP are mandatory guidelines that guarantee consistent and correct execution of operations.

According to Nuraida (2008), SOP includes the steps necessary to manage upcoming tasks, the exact orders for accomplishing particular objectives, and the protocols for executing operations. SOP play an important role in this specific context for assuring customers that every interaction with the business entity will provide a consistently outstanding customer experience, regardless of the time of day.

2.3 Importance of SOP

Labels (2023) points out that SOP simplify the difficulties of overseeing a large number of clients or workers by giving clear directions and controlling elevated activity levels to guarantee overall operational effectiveness. In addition to enhancing performance management and lowering mistakes, SOP also promote reliable compliance with regulations and quality. SOP remain the most important component of every management system.

According to Erica Hayton (2022), SOP can help bring uniformity to the way your team works without requiring manual oversight and instruction. If businesses do not have up-to-date and precise SOP, they face a serious danger of losing clients and violating the law. As Hayton states, the establishment of SOP is crucial to assuring a shared understanding, supporting personnel in managing complicated circumstances, and eliminating barriers to more efficient operations. Effective company scalability is facilitated by well-defined operational procedures. According to a study by Boyles et al. 2022 and Sedivy (2021), the implementation of SOP in organizations has been proven to increase productivity, reduce errors, and ensure consistency in the quality of products or services provided.

According Trisninawati et al. (2023), PT. Semen Baturaja (Persero) Tbk is an Indonesian state-owned enterprise engaged in cement production. As a company, PT. Semen Baturaja (Persero) Tbk has implemented SOP in the special ceiling application operation. SOP is implemented to ensure that the activities carried out are more effective and efficient so that all activities run well, systematically, and according to the company's wishes (Hollmann et al., 2020).

In addition, research also shows that the lack of SOP in organizations can cause confusion, inefficiency, and errors in the process (Putri & Dona, 2019). Through the implementation of an expertly designed and efficient SOP, the organization can guarantee that the sales division's demand for a rise in sales goal will be handled promptly and comprehensively.

SOP are also crucial since they minimize discrepancies and assist the business in maintaining high-quality, consistent operations regardless of staff changes. According to Jain (2008), SOP are like instruction manuals that benefit everyone in a workplace. They provide important information for doing a job safely and correctly, including health, environment, and how things should function. SOP help ensure consistent production, high-quality processes and products, and timely completion of tasks. They also help prevent accidents and make sure everyone follows the rules to keep themselves and the surrounding community safe. Additionally, SOP serve as training guides to teach people how to use them properly.

According to Jain (2008), he have listed some explanation with an explanation. The benefits are shown as in Table 2.1.

Table 2.1: Benefits and Explanation of SOP

Benefits	Explanation
To offer individuals all the effective, health, safety, and environmental information they need in order to do their jobs efficiently.	It eventually costs money to prioritize output over environmental, health, and safety considerations. Providing employees with training in every aspect of their jobs is preferable to eventual mishaps, penalties, and legal action.
To ensure that manufacturing procedures are carried out continuously in order to achieve both process and product quality control.	Customers of every background require goods that meet consistent requirements for quality and functionality. SOP outline methods of operation that aid in standardizing goods and, in turn, their quality.
To be certain that procedures run well and are completed within the time frame specified.	By adhering to SOP, companies may reduce the risk of process shutdowns brought on by malfunctioning equipment or other harm to the plant.
To guarantee that no failures occur in manufacturing and other processes that would harm anyone in the surrounding community	Adhering to SOP health and environmental precautions ensures that there will not be any accidental leaks or emissions that endanger nearby plants or spark dissatisfaction in the community.
To guarantee that established protocols are adhered to in line with business and governmental guidelines.	SOP that are accurate and written effectively contribute to ensuring compliance with legal requirements. They also demonstrate a business's sincere desire to run flawlessly. Authorities from the

	government will only conclude that the company fails to be serious about compliance when you fail to create and implement effective SOP.
To act as a guide for instructing users on the procedure for which the SOP was developed.	SOP that are comprehensive are useful as the basis for providing consistent training to employees who are relatively fresh to a specific job or who require retraining.
To reinforce appropriate performance by acting as a checklist for colleagues who discover job performance.	Constantly supporting coworkers includes one employee mentoring another in every aspect of appropriate job performance. A thoughtfully developed SOP outlines the necessary steps for any coworker to provide guidance to another to assist enhance job abilities.
To act as an auditor's check list.	Job performance auditing is a procedure similar to the monitoring described in the preceding item, with the exception that record keeping is typically included. When creating comprehensive audit checklists, SOP have to be a solid starting point.
It acts as a historical record of the what, how, and when of stages in an established process, providing an actual basis for updating those steps in the event that equipment or the process is modified.	Unwritten expertise and abilities are taken away from the workplace when employees change jobs both inside and between firms. Written SOP that are frequently revised can preserve the greatest information for use by new hires in the event that senior employees retire.
To provide an explanation of a procedure's steps in order that accident investigations can evaluate them.	Even if accidents are unfortunate, consider them as opportunities for learning towards better circumstances. An effective SOP provides an outline for you to start looking

	into incidents.
--	-----------------

2.4 SOP Format

SOP should be developed in a sequential and comprehensible manner by individuals who possess expertise in the relevant area of study and are familiar with the company's procedures and structure (Frank, 2010). The documents should be written by personnel who possess knowledge of the activity and the internal framework of the business. This group of people are essentially professionals in a specific field who actively carry out the work or utilize the procedure. A team accession can also be pursued, especially for multi-tasked procedures where the expertise of multiple personnel is crucial (United States Environmental Protection Agency, 2007).

Effective SOP should begin by clearly describing the objective of the assigned task or process, including any relevant regulatory details or applicable norms, as well as clearly defining the scope of work to indicate what is encompassed. Every specialized or unique terminology needs to be clarified either in a dedicated definition area or inside the appropriate discussion area.

The information provided should be precise and readily comprehensible. Make use of the active form of speech and employ the present verb tense. The SOP should be concise and straightforward. Information must be conveyed with utmost clarity and precision to eliminate any ambiguity on the required content. Flow charts are recommended for visualizing the procedure specified (Jain 2008), (United States Environmental Protection Agency, 2007). The sources used include the United States Environmental Protection Agency (2001) and Almeida-Lynne (2011). It would be advantageous to include additional specialists in order to collect information to assess, evaluate, and authorize preliminary SOP (Frank, 2010).

2.5 Types of SOP

There are various classifications and kinds of SOP. It's possible that other times the term SOP is more suited for describing some scenarios or other issues; in these cases, protocols, guidelines, or even registration forms might be more applicable. Additionally, standardized worksheets for analytical procedures are necessary to prevent people from jotting readings and calculations on random pieces of paper Almeida-Lynne (2011).

Some of the most important SOP types:

- a. Essential SOP. These provide guidelines regarding how to create SOP for the remaining categories.
- b. SOP for methods. These give a description of an entire testing system or research approach.
- c. SOP for safety measures.
- d. Standard operating protocols for apparatus, other equipment, and instruments.
- e. SOP for analytical techniques.
- f. SOP for reagent setup.
- g. SOP for accepting and registering samples.
- h. SOP for Quality Assurance.
- i. SOP for handling complaints and recordkeeping.

In general, SOP could be created for both administrative procedures and any repeated technological task Almeida-Lynne (2011).

Any authoritative or functional programming method that is followed within an organization, along with any repeated technical activity, might have SOP generated for it. Examples of both technical and administrative SOP may be found in the Appendix, along with general guidelines for creating them (United States Environmental Protection Agency, 2007).

2.5.1 Checklist

According to Bit Tech Labs (2021), creating a checklist or to-do list can make the process of creating a SOP document easier. Developing a checklist is the simple method here. It may be produced in a conventional printed version and distributed to staff members or using online note-taking programs like Bit. For the purpose of arranging SOP, checklists provides a simple yet effective solution. Comprising relevant elements that assist staff in accomplishing the assignment, the checklist has an easily readable heading outlining the specific procedure. For every person participating in the process, this approach ensures simplicity of comprehension and implementation.

SOP have to specify the checklist's preparation process or the basis upon which it is to be built Almeida-Lynne (2011). Checklists are used in many tasks to ensure that procedures are carried out precisely. Actions that have been finished are also recorded using checklists. According to the United States Environmental Protection Agency (2007), checklists and forms utilized during an activity should be appended to the SOP after being cited at the appropriate points in the process. Comprehensive checklists are sometimes created especially for a particular task. In certain situations, the SOP should outline the basic process for creating the checklist or the basis for it. The files containing the activity outcomes as well as the SOP should then contain copies of the relevant checklists. Checklists are used in numerous instances to ensure that procedures are executed accurately. Actions that have been completed are also recorded using checklists. When using checklists or forms as part of an activity, they should be referred to at the appropriate places throughout the procedure and then linked to the SOP. Occasionally, detailed checklists are created especially for a certain task. In certain situations, the SOP should specify, at the very least in general, how or what should be used as a starting point for the

checklist's preparation. Then, copies of the relevant checklists have to be kept up to date in the file containing the SOP along with the activity outcomes. Recall that the checklist is a component of the SOP, not the SOP itself (Jain 2008).

2.5.2 Step-by-Step List

As stated by Bit Tech Labs (2021), a step-by-step bullet list works equivalent to checklists by breaking down a process into pertinent, manageable parts. These step-by-step lists may be more than enough to complete the activity at hand effectively while a SOP is being developed for them. This approach's simplicity, when provided in an easy-to-understand and sequential style, makes it easier to understand and carry out the described procedure.

The subject matter specialists familiar with the organization's structure and procedures should draft SOP in an easy-to-read, step-by-step manner (Frank, 2010). Additional specialists might be useful in gathering data and reviewing, testing, and approving draft SOP (Frank, 2010). Individuals who are aware of the operations and the internal workings of the company should write them. These people, who carry out the task or apply the procedure, are essentially subject-matter experts.

Another possibility is to use a team approach, especially for multi-tasking operations where the perspectives of several people are important (United States Environmental Protection Agency, 2007). A clear SOP must first briefly state the goal of the task or procedure, including any applicable regulations or requirements, and then outline the scope of the job to indicate what is addressed. It is necessary to define any specialized or unusual terminology in an additional definition section or within an appropriate discussion section. The details that are offered need to be understandable and unambiguous. It is appropriate to utilize the present tense and active voice. SOP must be brief and easy to follow. To eliminate any confusion about what is required, information must be communicated in a manner that is unambiguous and clear. The process being specified should be illustrated using flow charts. (Jain, 2008), (United States

Environmental Protection Agency, 2007), (Almeida-Lynne, 2011) & (United States Environmental Protection Agency, 2001).

2.5.3 Hierarchical Lists

The use of hierarchical checklists or bullet lists is helpful when dealing with complex procedures which require for more information. This method is especially useful when it is difficult to articulate a job in only one step when there is a need to stay away from going overboard with the SOP. For example, the creation of hierarchical phases improves clarity without adding undue length to a SOP that advises an employee on how to register a new account. As an illustration, Step 1 tells the employee to set up the account, while Steps 1(a) and (b) ask for the user to "enter your username" and "enter your password." This SOP's hierarchical structure keeps it brief and easy to read while providing a thorough manual for carrying out challenging tasks.

2.5.4 Process Flowchart

Using flowcharts is a great way to visually represent how a process operates and provides more context for the workflow. Employees may more easily conceptualize the complete process by using a flowchart, which provides a visual representation of the sequential processes as well as relationships between them. This visual aid facilitates a better comprehension of the job being done by constantly communicating the relationships between the processes. By simply being, flowcharts aid in a thorough and intuitive understanding of intricate processes, which makes them a priceless tool for creating SOP for a wide range of organizational duties.

2.6 Development and Implementation of SOP

Based on United States Environmental Protection Agency (2007), training or retraining the user is perhaps the most important stage when implementing the SOP in the

working environment. It is important to instruct the user so that they understand the process correctly; otherwise, various people could interpret the same information in different ways. When educating the user, the trainer should explain why SOP needs to be followed precisely. When people get the importance of the process, they are able to follow along more easily. Each step in the SOP should be clearly explained and shown by the trainer, who should also reassure them that doing so would improve the quality of the product by ensuring accuracy and safety, which will eventually boost the user's confidence

Individual contributions to a SOP can be written or edited by members of the writing team, and then the combined efforts can be completed by a single individual. Following the combination of the SOP, the draft should be distributed to the initiator for evaluation, and then the final version should be edited for supervisor review and employee testing under supervision. A writing team can operate semi-independently with a single individual acting as coordinator after first meeting at least once to set writing objectives, targets, and tasks. SOP should be reviewed by a number of people who have the competence to determine the SOP completeness and topic matter accuracy.

SOPs should at least mention:

- a. Who should or is capable to create what kind of SOP?
- b. Who should receive SOP proposals, and who should estimate the draft?
- c. The approval procedures.
- d. Who determines the implementation date and who has to be notified?
- e. The procedure for making changes or withdrawing a SOP.

The purpose of the created action plan is to direct and make decisions on the choices and tasks associated with the job. Procedures are a sort of policy that could assist with decision-making through providing more precise instructions on what has to be done and how to do it when executing organizational strategies in specific, recurrent scenarios.

In order to effectively direct and determine decisions and actions within a given task, a plan of action must be implemented (United States Environmental Protection Agency, 2001). Seen as a type of policy, procedures offer comprehensive direction on the actions and order required to carry out organizational policies in particular, recurrent circumstances (United States Environmental Protection Agency, 2001). The SOP which functions as a control mechanism, makes sure that actions follow the predetermined plan by keeping a close eye out for system flaws, human error, and deviance from the planned course. It addresses a number of different aspects, including people, actions, objects, and time (Akyar, 2012).

SOP need to be established in compliance with an organization or institution, considering regional circumstances, resources, and limitations. Cook (1998) contends that SOP should identify basic programmatic and technical responsibilities, and detailed SOP documentation eliminates the demand for conjecture. Following SOP becomes vital because it enables people and groups to adopt suitable and profitable work practices, which promotes organizational effectiveness.

An SOP format can vary, but in general, it should logically split information into sequence of steps to prevent becoming a long list. SOP have to be brief, understandable, and instructive, using an easily understood step-by-step format (Frank, 2010). They usually contain technical and operational information and are written in short, snappy sentences for maximum readability (Stup, 2001). Regardless of their length, comprehensive SOP should present information in an understandable and straightforward manner, dispelling any ambiguity about what has to be accomplished.

In order to clarify procedures, Akyar (2012) suggests using flowcharts in SOP. She also emphasizes that SOP should be written by people who are knowledgeable about organizational structures and activities. SOP have to be specific enough for people with little experience or knowledge to be able to follow the steps without help. Maintaining the relevance of SOP and making sure that policies and procedures are up to date and appropriate require frequent updates, reviews, and validation (Almeida-Lynne, 2011).

SOP must also provide a clear explanation of the objective, any applicable guidelines or requirements, including the scope of the work or process. This covers an explanation of the procedures to be followed, any obstacles to be overcome, equipment demands, manpower needs, and safety concerns. Since SOP are written in a straightforward to comprehend manner, anyone who is well-versed in the broad concept of procedures should be able to grasp them with ease. Flowcharts and diagrams are used to assist break up long text sections and provide the reader with a step-by-step summary. For easy reference in work areas where activities are conducted, readily available print and electronic copies of the most recent SOP are crucial, especially when the SOP has specific goals (United States Environmental Protection Agency, 2007).

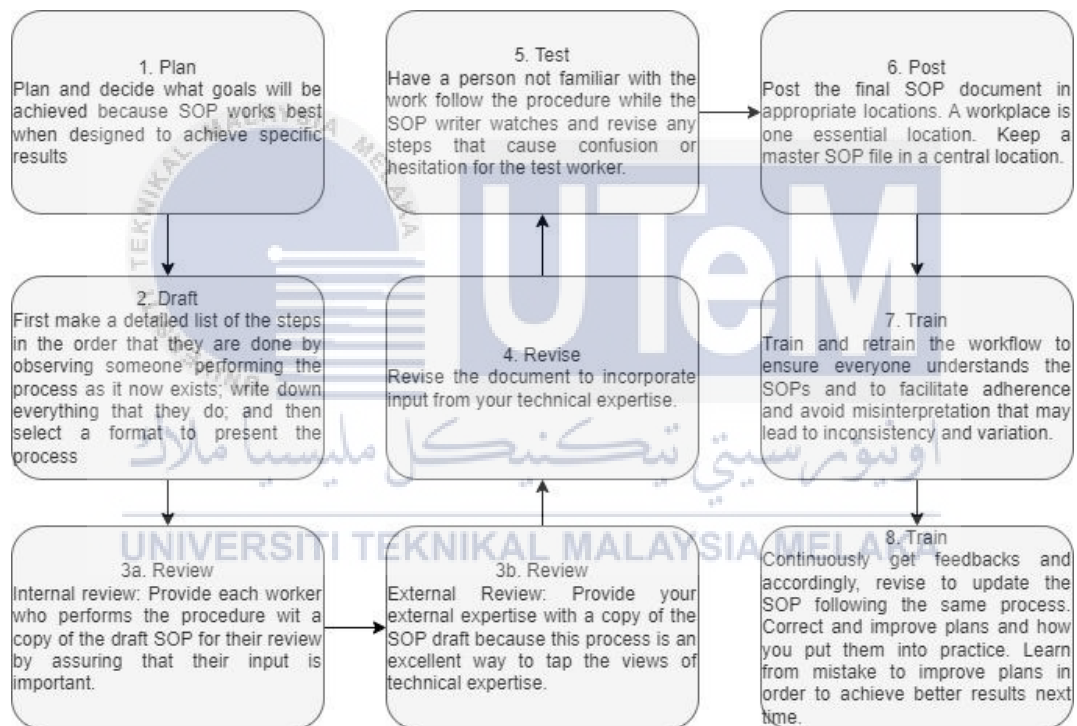


Figure 2.1: Development and Implementation of SOP (Amare, 2012)

2.7 Effective Development of Standard Operating Procedures

The development of efficient SOP is one among the most crucial things you can do to guarantee efficiency, consistency, and security in a workplace or operational setting. SOP are sequential, detailed manuals that serve as comprehensive guides to individuals performing specific tasks or procedures. Maintaining a consistent and orderly method of

operations, which enhances organizational performance and guarantees a safe workplace, requires meticulous documentation of processes. Anderson (2023) had gave some best practices as listed below.

2.7.1 Identifying Key Processes Procedures

Finding the important processes and procedures that need to be standardized is the first step in developing efficient SOP. A thorough examination of your business's operations is necessary for identifying the areas in which consistency is crucial. These areas might include customer service, production processes, and reporting on finances. Establishing a cross-functional group tasked with overseeing the SOP formulation comes next, after the identification of these areas of priority. This team should include representatives from each collaborating department as well as subject matter experts who can provide insightful analysis. It is essential to keep in mind any relevant laws and regulations for your company during the evaluation procedure. This guarantees that the SOP that have been produced adhere to the relevant compliance requirements, which encompass industry-specific laws as well as general health and safety guidelines.

2.7.2 Involvement of Stakeholders in SOP Development

The engaged involvement of stakeholders is of the utmost importance in the establishment of Standard Operating Procedures SOP. These stakeholders include a wide range of parties, such as customers, both internal and external auditors, management, and staff. It is essential to include them as part of the process to guarantee the SOP precision, applicability, and usefulness. Dealing with stakeholders throughout the times requires careful consideration of their diverse goals and various points of view. For instance, although auditors could prioritize ensuring regulatory compliance, staff members might favor the SOP useful components. In addition to bringing in a range of viewpoints, stakeholder engagement in the development process promotes enthusiasm and support for the new SOP. The likelihood that employees will adhere to the established procedures rises as a result of this proactive involvement, increasing the overall effectiveness of the SOP.

2.7.3 Documenting and Standardizing Procedures

Describing each stage of the process in detail and in a clear and concise manner are essential when documenting processes. It's essential to use language clearly when describing complex processes, although flowcharts and diagrams can occasionally be useful. Utilizing the same wording throughout the text is crucial to avoid any misconceptions. When a consistent structure is in place, employees can easily follow processes and comprehend their responsibilities at every stage. Additionally, because of their consistency, SOP are easy for auditors to review, assess, and establish the effectiveness of them. SOP must be reviewed and updated on a regular basis to guarantee their applicability and efficiency. This might entail adopting adjustments in accordance with changing regulatory requirements or taking employee input into consideration. Updating standard operating procedures SOP is a proactive approach that helps ensure that organizational operations remain compliant and efficient over time.

2.7.4 Implementation of Change Management Strategies

An effective change management plan is necessary for the effective adoption of new Standard Operating Procedures SOP in order to provide an easy transition. To ensure that employees are adequately ready for the forthcoming modifications, a comprehensive strategy should incorporate training programs, mechanisms for input, and communication strategies. Effective communication, which includes interacting with the employees who will be impacted by the changes, is the cornerstone of this approach. Therefore, imperative that you provide them with comprehensive and thorough explanations of the modifications' justification and implications for their job. It takes an open communication approach to lessen opposition and promote employee buy-in.

Training on the new SOP becomes important to guarantee appropriate adaptation. Any changes that have been made to present processes or procedures need to be included as part of this training, which may be provided in a variety of methods based on the needs of the business, such as online courses or hands-on training. Establishing a system for feedback where employees can submit queries and recommendations is equally vital. It can

be necessary for management to regularly check in with employees or provide anonymous platforms for feedback in order to guarantee that they feel comfortable giving their honest opinions. With the support of these approaches to change management, organizations may increase the possibility that the new SOP will be successfully integrated and accepted, facilitating a seamless transition to the newly adopted procedures.

2.8 SOP Validation (Review & Approval)

SOP must undergo evaluation by one or more experts who possess the appropriate education and expertise in the specific process (Almeida-Lynne, 2011). It is particularly beneficial to have draft SOP thoroughly tested by someone aside from the original author prior to finalizing the SOP. After the SOP are completed, they need to be reviewed and authorized by those who reviewed them, the QA Manager, and relevant management before they can be used. A standardized format for styling, mandatory information, and a numbering system are necessary, along with a biannual or yearly review to guarantee the procedure remains current. An archive system is necessary to guarantee the preservation of old documents and restrict access to only the most up-to-date SOP for staff utilization (United States Environmental Protection Agency, 2007).

The recognized SOP must be finalized in accordance with the organization's Quality Management Plan or its very own SOP for the production of SOP. Typically, the person in charge, including a section or branch chief, as well as the company's quality assurance officer assess and authorize each SOP. Signature approval signifies that a SOP has undergone thorough examination and received official endorsement from the top management. Electronic signatures, electronic maintenance, and electronic submission can be used as a suitable alternative to paper where it is feasible.

The basic structure of a SOP outlines a comprehensive set of management tasks that encompass planning, implementation, documentation, assessment, and enhancement. Its purpose is to guarantee that a process or item meets the specific type and quality requirements for the project. The above statement is supported by the United States Environmental Protection Agency (2007) and Jain (2008).

2.9 Digitalized SOP (E-SOP)

In accordance with Chen and Liu (2016), Cloud Computing emerges as a trend in computer science. While the concept is not entirely novel, it builds upon parallel and distributed computing, incorporating innovative concepts and techniques. Cloud computing services enable users to access cloud storage services, allowing data to be stored securely and reliably over the internet.

Cloud storage comprises both hardware and software components, representing a fusion of servers, software, networks, and storage (Zhang et al., 2013). Transferring data from local storage to remote locations has become essential for safeguarding data, a process commonly referred to as cloud storage (Zhang et al., 2013). These services grant users accessibility to all their data from any location, a crucial benefit particularly in cases where local computers or devices sustain damage. In such instances, clients can access their data using any computer or smartphone. Approximately 50 companies offer cloud storage services to clients, with most providing storage space for free up to a specific limit. Beyond this limit, clients are required to pay for additional space. According to Institut Teknologi Bandung (2012), users can utilize cloud storage services to store, manage, and secure data via the internet, which in turn presents various challenges, particularly regarding the security and privacy of digital data. Numerous companies offer cloud storage services, including Google with Google Drive, Apple with iCloud, and Microsoft with OneDrive. Each of these companies provides cloud storage services with distinct features tailored for commercial use.

According to Alotaibi et al. (2019), Microsoft launched its own cloud storage service in 2007, branded as OneDrive. The user base of OneDrive had reached 55 million. This service enables clients to access their data from any device, even without an internet connection, by downloading the application. Additionally, OneDrive encrypts files to ensure privacy and security. Initially, OneDrive provides 5GB of storage for free. Users seeking additional space for their data or files can opt for paid plans, which include 50GB for \$1.99 per month, 1TB for \$6.99 per month, and 5TB for \$9.99 per month. OneDrive for Business enables users who wish to create or update files to access the SharePoint server. The files are saved in the document library, and the content is stored in

the OneDrive database, providing personal storage to the user. Figure 2.6 illustrates the OneDrive architecture.

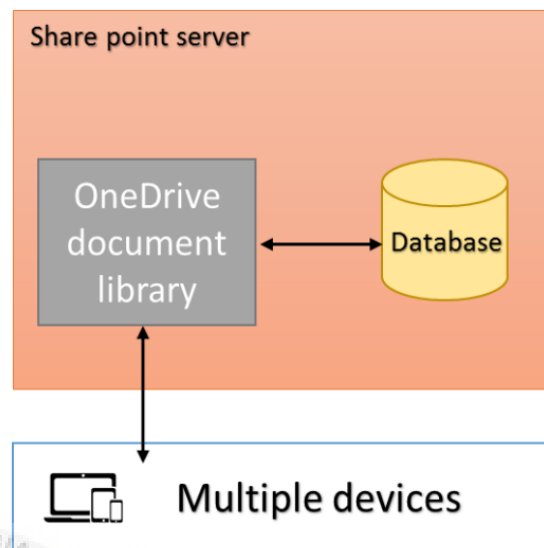
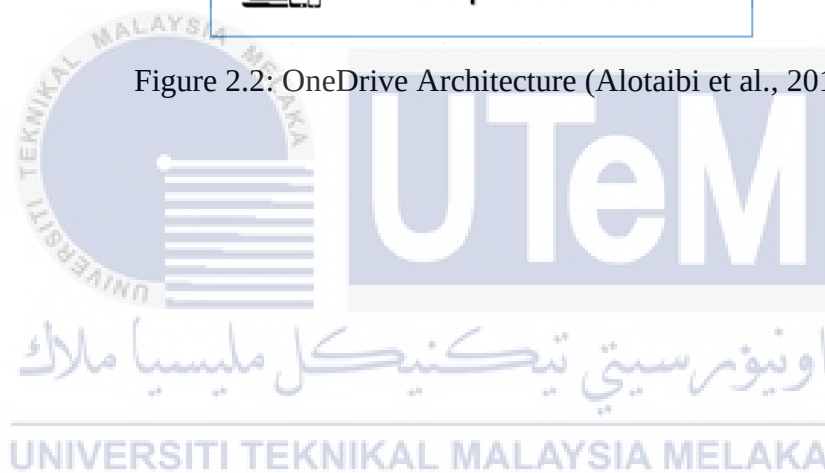


Figure 2.2: OneDrive Architecture (Alotaibi et al., 2019)



CHAPTER 3

METHODOLOGY

This chapter reveals the comprehensive technique which was utilized to conduct an in-depth study of the research. This section furthermore offers a methodological context alongside an objective toward accomplishing the goals of the research. The primary concept of methodology includes providing essential approaches, suitable tools, and methods to complete this research project. After thoughtful consideration about the requirements as well as additional specifics about previously carried out studies, the selection of material, designing, processing, and evaluating would also be provided. On top of that, the methodology has been carefully planned, by applying data obtained via articles, books, and websites, among various sources of details. In order to achieve accurate results and conclude to a precise conclusion, the information which was obtained would be thoroughly analysed.

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3.1 Overview of Methodology

This study relies on a comprehensive methodology to solve research matters. It includes creating the nation following numerous essential visits and cautiously reading the applicable literature. Subsequently in accordance with the literature, data is assembled and evaluated in the field. Eventually, the purpose of the investigation is effectively accomplished. The following flowchart provides a visual portrayal of the complete procedure.

3.1.1 The Process Planning Flowchart

The process planning flowchart offers a systematic and orderly approach to comprehending, conveying, and executing the study technique. It assists researchers and stakeholders in visualizing the complete process, guaranteeing clarity and consistency in the implementation of the study. Figure 3.1 shows every individual step depicted in the flowchart has a role in attaining the overarching study goal.

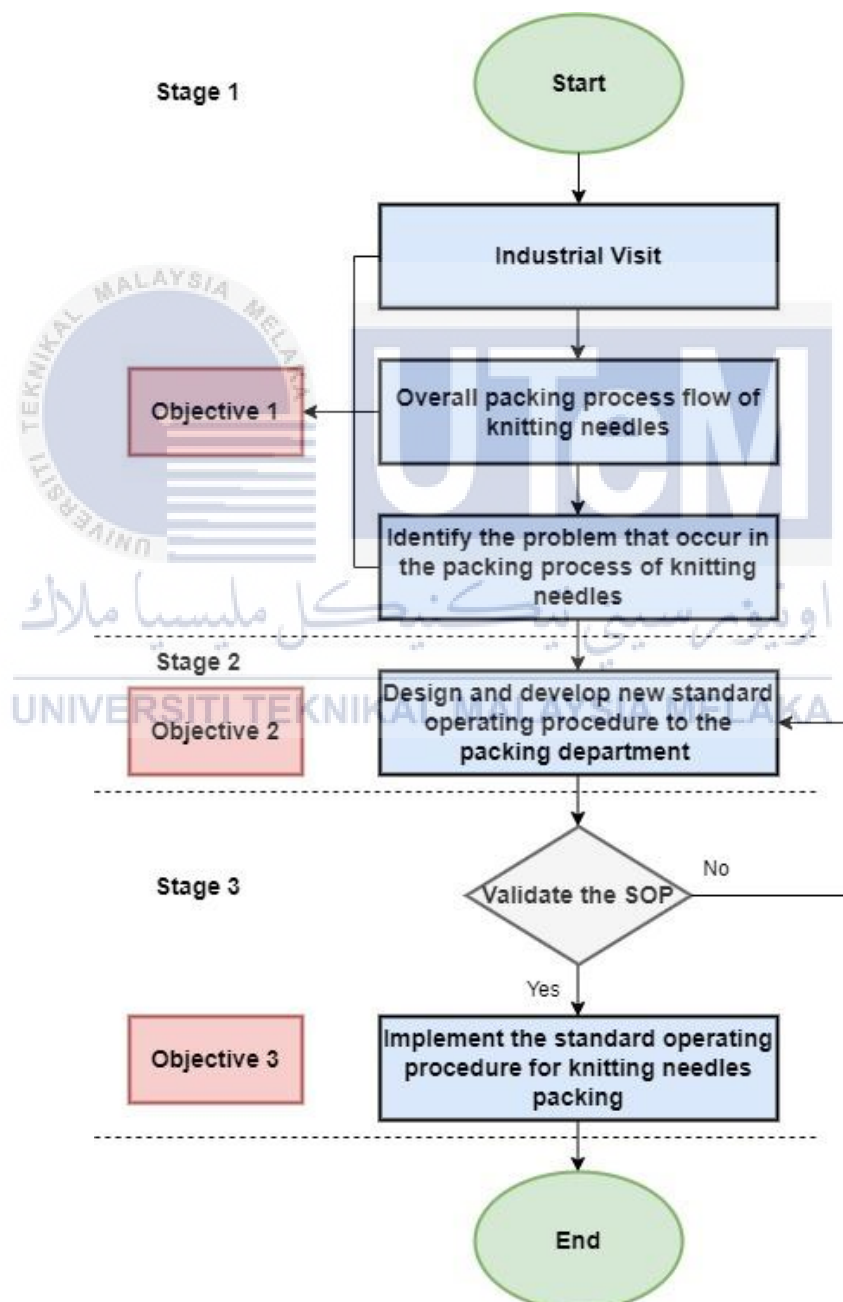


Figure 3.1: The Overall Methodology of PSM.

3.2 Relationship between Objectives and Methodology

Various ways are being used to create SOP for this project. Multiple methods will be used. The relationship among the approach with the objectives is shown in Table 3.1. The table below outlines the implementation of the chosen approach in order to achieve the specified objectives.

Table 3.1: The Overall Methodology of PSM

Objectives	Methodology
To study the current packaging procedure for knitting needles.	• Industrial visit • Brainstorming • Observation (Process flow) • Finding literature review
To create and develop a new standard operating procedure for the packaging of knitting needles.	• Observation (Taking picture) • Documentation
To verify the standard operating procedure for packaging knitting needles.	• Validate • Training • Survey

3.2.1 Methodology for Objective 1

In order to achieve objective 1, all the needed data were gathered through a combination of industry visits, brainstorming meetings, observation, and literature review.

a. Industrial visit

Upon receiving confirmation from the employer, supervisor informed student to independently organize transportation for the visit. Upon reaching PRYM, students were expected to preprint a designated form to provide to the security personnel at the door for the purpose of registration. Table 3.2 presents a summary of the industry visits that took place during Semester 1 and 2 of the academic year

2023/2024 for both the FYP 1 and FYP 2. Figure 3.2 show the picture of site visit at Prym Consumer Malaysia Sdn. Bhd.

Table 3.2: Industrial visits in Semester 1 and 2 2023/2024

Final Year Project 1: Semester 2 2023/2024		Final Year Project 2: Semester 2 2023/2024	
No	Date	No	Date
1	15/11/23	1	23/3/24
2	22/11/23 23/11/23	2	28/3/24
3	30/11/23	3	03/04/24
4	21/12/23	4	04/04/24
5	08/02/24	5	22/04/24
6	15/02/24	6	08/05/24
7	13/03/24	7	27/05/24
8	20/03/24	8	30/05/24



Figure 3.2: Site Visit at Prym Consumer Malaysia Sdn. Bhd.

b. Brainstorming

Mr. Safwan presented a concise summary of the firm and the project's title. Subsequently, he guided the student to the designated conference room to engage in a brainstorming session with Mr. Prakash. The session started with the UTeM students introducing themselves, followed by Mr. Prakash providing a brief overview of the project title. In all, there were five participants, consisting of two PRYM staff members and the three students. Upon receiving the explanation, every student were assigned an industrial supervisor to provide more information on the specific scope of their project. During the period of waiting for my designated supervisor, Mr. Joel, Student engaged in a conversation on the project alongside Mr. Firdaus. The purpose of this discussion was to help identify problems and objectives. Mr. Firdaus provided an explanation of the existing difficulties with production and the intended objective. In addition, he provided details on knitting needles and the necessary SOP format. Subsequently, Mr. Joel provided a comprehensive tour of the packaging process, explaining the significance of each individual stage. Following a fruitful brainstorming session with the quality control crew, a number of inquiries pertaining to packing problems. More precisely, the most common sorts of defects that are seen and the frequency, which is measured on a yearly basis. Figure 3.3 show brainstorming with the technical supervisor and the quality control staff.



Figure 3.3: Brainstorming with Technical Supervisor and Quality Control

c. Observation

The technical supervisor led student through the knitting needle packaging procedure to ensure that student fully understood everything. This included both observation and explanation. Student attentively monitored the whole packing process, from needle reception to final sealing and labelling. Throughout my observation, particular attention paid to the exact elements, including the equipment used in each process, the tasks done by the employees, and the packing materials used. This includes checking for information such as how the needles were received, the various types of packing materials utilized (boxes, labels, inserts), labelling, organizing, and any quality control checks that were integrated into the process. A good grasp of the full knitting needle packing cycle were obtained by combining observation and explanations from the supervisor. Figure 3.4 shows the picture of observation taken at the packing.



Figure 3.4: Observation at Packaging Line

d. Literature Review

Data collection is one of the most crucial sources for gathering all required theoretical data for this project. Examples of secondary sources include books, journals, articles, and the internet. These resources provide additional information for the literature review and other project-related topics. Standard Work for the Shopfloor: Training employees on the standard work that will be applied in this project. This book was chosen because it contains information about applying standardization and standard work in the workplace. The methods and objectives presented are closely tied to the lean manufacturing system. Top firms throughout the world use lean manufacturing techniques to maintain their competitive advantage.

Articles and journals are shorter and address more specific topics than books. In addition, a journal contains a collection of articles published on a regular basis throughout the year. Journals include the latest recent research, which is authored by professionals. Articles/journals could be printed or published online. The articles/journals are useful for the literature review chapter. Online journals can be searched using ResearchGate, Google Scholar, Course Hero, and other tools.

Besides from the book, journal, and article, the internet is a crucial resource in this project. The majority of resources can be accessed for free online. Most crucially, an internet connection was needed so that we may readily browse project-related information. The internet has supplied an immense amount of information on initiatives that have been performed.

3.2.2 Methodology for Objective 2

In order to achieve objective 2, a mix of concentrated observation and analysis was utilized to gather the necessary data.

a. Observation (Taking Pictures)

Observing procedures and taking images are important tools for evaluating processes, improving quality, and training. They provide a direct understanding of

how activities are carried out, revealing insights that may not be obvious using other approaches. It is vital to take note and capture the following requirements:

- Label of outer and carton
- Any additional label and its position on the box
- Quantity and position of the box in outer box
- The position of label outer on the outer box
- The outer box position inside carton box
- The position of label carton on the carton box

b. Documentation

It is important to record each stage of the data analysis process, particularly the techniques used, decisions taken, and any limits or assumptions made. This documentation plays an important role in ensuring transparency and consistency. The acquired data must be inserted into the SOP template, which has been designed based on plenty of instances from the literature review. Figure 3.5 displays the SOP template developed for this project.

The form is titled 'PACKING ITEM SPECIFICATION' and includes the following sections and fields:

- Header:** Pym CONSUMER MALAYSIA (1), PACKING ITEM SPECIFICATION (2)
- Item Information:** PCM ITEM / BPCS No. (3), CUSTOMER ITEM No. (4), ITEM DESCRIPTION (5)
- Component Information:** COMPONENT No. (6), COMPONENT DESCRIPTION (SAP) (7), COMMON DESCRIPTION (8), U.M. (9)
- Labels:** LABEL OUTER (10), LABEL CARTON (11)
- Additional Label:** ADDITIONAL LABEL / LABEL TAMBAHAN – If any / Jika ada (12)

COMPONENT No. (6)		COMPONENT DESCRIPTION (SAP) (7)	COMMON DESCRIPTION (8)	U.M. (9)
SAP No.	BPCS No.			

Material on cards @ blister @ box / Label L to the right. Keadaan material pada card @ blister @

Cards @ blister @ box position in outer box / 5 Pcs. Kedudukan kad @ blister @ kotak didalam outer.

Label outer position on outer box / Kedudukan label outer pada kotak outer.

Outer box position inside carton box / Kedudukan kotak outer di dalam kotak carton.

Carton label position on carton box / Kedudukan label carton pada kotak carton.

DOCUMENT NO		APPROVED	CHECKED	PREPARED
REVISION NO		ALNAHAR	SURESH	JOEL
REGISTERED DATE		22	23	24
REVISION DATE				

Figure 3.5: SOP Template

SOP are designed using clearly defined sections in order to give clear instructions and ensure good performance in the workplace. Every component of a SOP plays a crucial function, giving precise directions which lead users throughout each stage of the process. Figure 3.6 gives role of each section of the SOP template in developing clear and informative SOP.

1	Company logo	7	Component description (SAP)	13		19	Revision no.
2	Title	8	Common Description	14		20	Registered date
3	Packing item no.	9	U/M	15		21	Revision date
4	Customer item no.	10	Label outer	16		22	
5	Item Description	11	Label Carton	17		23	Check and approve
6	Component no.	12	Additional label	18	Document no.	24	

Figure 3.6: The Section in SOP Template

3.2.3 Methodology for Objective 3

To achieve objective 3, three methods for evaluating accuracy offering validation, training, and performing surveys to collect the essential information.

a. Validate

SOP validation involves the process of ensuring that a company's SOP are accurate, effective, and in accordance with applicable standards and regulations. The validation method is critical for assuring the accuracy of SOP as well as that they achieve their intended objectives. To enhance the approval process, a formal system that incorporates all parties involved must be established. Obtaining signatures or approvals validates that management has properly examined and approved the SOP.

b. Training

A well-functioning SOP is dependent on the crucial component of effective operator training. This training goes beyond memorizing to ensure that operators grasp the "why" and "how" underlying each step and are able to successfully adapt procedures to real-world circumstances. Companies that emphasize thorough training guarantee that their SOPs are practical tools that enable staff to complete jobs consistently and efficiently.

c. Survey

A detailed survey was conducted to assess the effectiveness of the adopted SOP. The survey was completed by four operators, one line leader, a technical supervisor, and a quality staff member. The intention behind this selection was to gather feedback from various company roles and perspectives. Their insights of the SOP awareness, efficacy, and applicability will be vital. The information obtained will be used to identify areas for improvement, ensuring that the SOP remains reliable and efficient in real-life circumstances.

CHAPTER 4

RESULTS AND DISCUSSION

The purpose of the study is to examine the present knitting needle packaging method, design and develop a new SOP, validate and train the SOP. This chapter clearly explains the results, followed by an in-depth discussion and analysis of quantitative data and qualitative observations. The aim is to use the acquired information to improve the packing process.

4.1 Objective 1: To Study the Existing Packing Procedure for Knitting Needles

4.1.1 Procedure for Packing Knitting Needles

The current knitting needle packaging approach is a thorough, step-by-step process that ensures proper packaging, quantity and labelling. This method includes folding cards, inserting knitting needles, and adding labels, putting things in outer boxes, utilizing the right sizes, labelling outer boxes, and placing them in cartons for precise positioning. Figure 4.1 shows procedure of packing knitting needles.

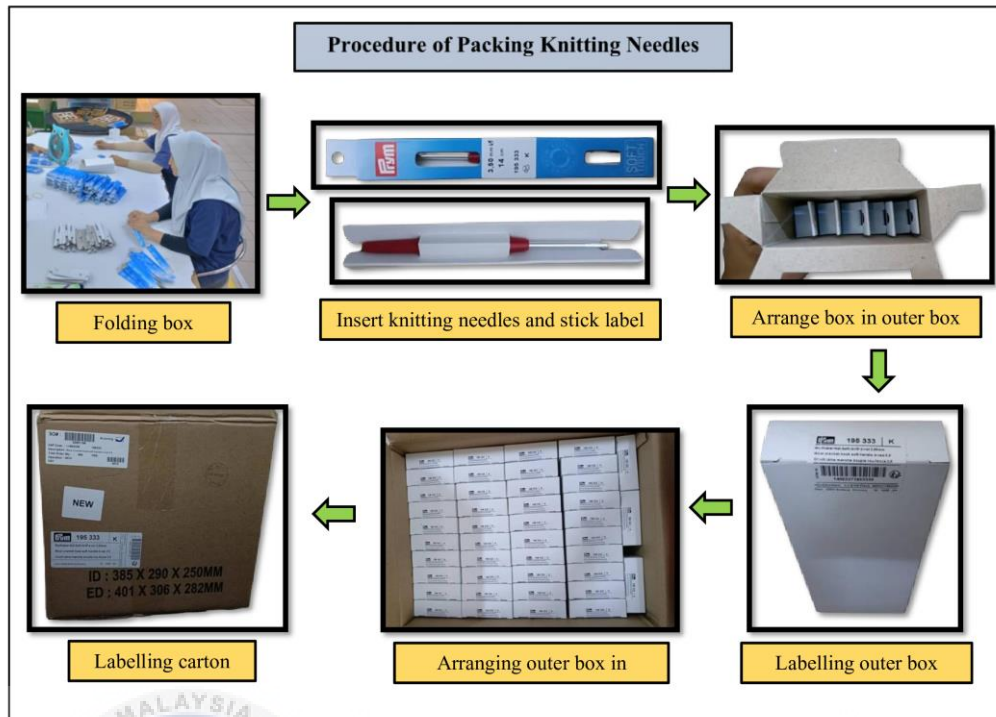


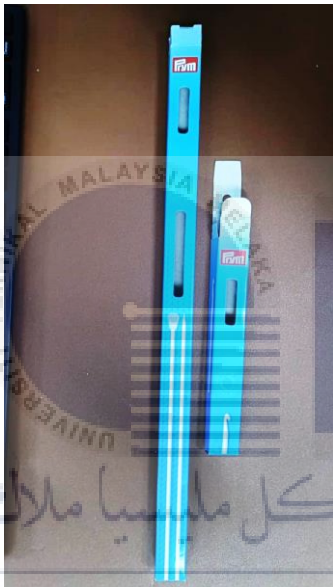
Figure 4.1: Procedure of Packing Knitting Needles

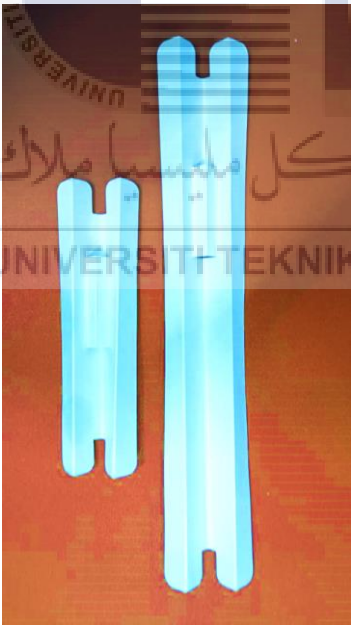
4.1.2 Packing Materials for Knitting Needles

To guarantee safe and orderly packaging of knitting needles, various essential components were used and each fulfilling a specific purpose. Table 4.1 represent the materials that has been used for the packaging along with description and picture.

Table 4.1: Materials Used for Packing

No.	Picture	Material	Description
1.		Carton	This is the huge outer container that accommodates many outer boxes. It protects the knitting needles during transportation and storage, assuring their safety and reducing the possibility of damages.

2.		Outer Box	The outer box is a smaller container that fits inside the carton. It combines multiple different boxes, cards, or blister packs. The outer box keeps these smaller items grouped and adds an extra degree of protection.
3.		Box/Card/Blister	These are the individual packing components that directly hold the knitting needles. The needles are stored in particular places and amounts in the boxes, cards, or blisters, which protects them from damage and keeps them well organized.
4.		Outer Label (Label-K)	This label is applied to the exterior box. It provides crucial information, that includes product specifications, handling guidelines, and identification codes, which makes it easier to control inventories and guarantee proper handling throughout transportation.
5.		Carton Label	The carton label is affixed to the huge carton. It includes

			the same information as the exterior label, allowing the contents of the carton to be readily identified and monitored throughout the shipment and storage process.
6.		Additional Label (Label L)	These labels are applied to the individual boxes, cards, or blisters. They give additional information or comply with specialized labelling needs, such as specifying special handling instructions or detecting particular product variants.
7.		Inlay	Inlays are used to keep knitting needles in place within specific packaging units (boxes, cards, or blisters). They guarantee that the needles remain in position during shipment, preventing damage while maintaining their orderly arrangement.

4.1.3 Packing Equipment

The process of packaging knitting needles uses an equipment to guarantee that the packing is completed swiftly and securely. One important piece of equipment is the cellophane tape dispenser as shown in Figure 4.2. This instrument is used to seal the boxes at various stages of the packing process. It assists with the rapid and even application of cellophane tape, which secures the contents inside the boxes and prevents them from opening during handling and shipping. This tool not simply improves packing productivity, but it also helps to maintain the overall integrity along with presentation of the packaged goods.



Figure 4.2: Packing Equipment

4.1.4 Workforce Roles in Packing Process

The workers engaged within the knitting needle packaging process are:

a. Operator

As shown in Figure 4.3, the operator's involvement throughout the knitting needle packing process is essential in ensuring that each stage is completed properly and efficiently. They start by folding the cards, blisters, or boxes that will store the knitting needles, making sure they are properly prepared for the next

stages. Once folded, the Operator cautiously puts the knitting needles and any other materials into the containers, following specific instructions for placement and quantity.



Figure 4.3: Operators

b. Quality Assurance

The quality assurance team plays an important role in the packaging process through upholding high standards and making sure all procedures are followed effectively. They carefully inspect each stage of the packaging process to ensure that it fulfil the prescribed quality requirements. This involves ensuring that labels are appropriately positioned and orientated on the containers, as well as packing and arranging the correct number of knitting needles in every container.

Moreover, quality assurance undertakes comprehensive inspections to ensure that the exterior boxes and cartons are the proper size for the knitting needles being packaged. They additionally verify the inlays within the packaging units to guarantee that they are properly positioned to keep the needles safe during shipping. Quality assurance assists to prevent mistakes and

ensures that the final packed items align with the company's quality criteria prior to they are distributed to customers. Figure 4.4 shows Quality Assurance workplace.



Figure 4.4: Quality Assurance Workplace

4.2 Objective 2: To Design and Develop New SOP for Knitting Needles Packing.

The product (PCM ITEM / BPCS No. 11255490, CUSTOMER ITEM No. 125549) comes in sets of six. Six pieces are packed on a card, ten cards go into a small box, and one hundred of these small boxes fit into a large box. This way, a large box holds a total of 1000 pieces. Figure 4.5 illustrates the packaging process for Stick Needles (SOP 1).

RYM CONSUMER MALAYSIA

PACKING ITEM SPECIFICATION PCM-PIS-CRM-002

PCM ITEM / BPCS No.	11255490		
CUSTOMER ITEM No.	125549		
ITEM DESCRIPTION	6 Pins Per Card 10 Cards Per Outer 100 Outer Per Master Carton		

SOP No.	COMPONENT No.	COMPONENT DESCRIPTION (KAP)	COMMON DESCRIPTION	UOM
3021128	T161650PO	Tapessity 16 1.6x55 Orient Nickel Pins		Pc
30210105	PET111MM	PET-A PCOL 11X55.50MM		Ka
30211822	C125549-PET	C125549-PET RYM 6 Tapessity (Pin 16)	Card	Pc
30212496	33320	33320 Packing Box 50x55x100mm	Outer	Pc
30211831	LABEL-3	Packing Label - 50mm x 40mm	Label Outer	Pc
30212238	C2638MG-NEW	HSC-385 X 290 X 250 MM	Carton	Pc
30211832	LABEL-2	Packing Label - 60mm x 120mm	Label Carton	Pc
30220256	LABEL-1	Packing Label - 60mm X 100mm	Label Carton	Pc

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on card @ Master @ box /
Kandungan material pada card @ Master @ kotak

Card @ Master @ box position in outer box / 10
Pos. Kandungan card @ Master @ kotak dalam outer

Label outer position on outer box / Packing Block
Kandungan label outer pada kotak outer

Outer box position inside carton box /
Kandungan kotak outer di dalam kotak carton

Carton label position on carton box /
Kandungan label carton pada kotak carton

DOCUMENT NO	PCM-PIS-CRM-002	APPROVED	CHECKED	PREPARED
REVISION NO	1	APPROVED	CHECKED	PREPARED
REVISION DATE	11.06.2020			
REVISION DATE	06.06.2020			

Figure 4.5: SOP 1

This Hand Sewing Needle (PCM ITEM / BPCS No. 11311210, CUSTOMER ITEM No. 131121) is packaged in a way that makes handling and shipping easier. Six needles come on a card, and five of these cards are packed together in a small box. Then, thirty of these small boxes fit into a larger carton. So, each large carton holds a total of 150 needles. Figure 4.6 illustrates the packaging process (SOP 2) for this needle.



PACKING ITEM SPECIFICATION

PCM ITEM / BPCS No. 11311210
CUSTOMER ITEM No. 131121

ITEM DESCRIPTION		ITEM	
6 Pins Per Card 30 Cards Per Master Carton 150 Cards Per Master Carton			

COMPONENT No.	COMPONENT DESCRIPTION (SAP)	CONVERSION	UNIT
SAP No.	ITEM No.		
3052149	MKG24203PO	Matinee Rd 8" 2.4x203 Osmat NF	Hand Sewing Needle
3052149	W4024150PS	Washing Rd 4 2.4x150 Stet Nickel Free	Hand Sewing Needle
3052149	PRF7024127PO	Peak Rd 10x20mm 1" 2.4x127 Osmat NF	Hand Sewing Needle
3052149	T11247PO	Twiner 11 2.4x70 Osmat Nickel Free	Hand Sewing Needle
3052149	OL101512PO	Olivera Leather 250 1.3x152 Osmat NF	Hand Sewing Needle
3052149	UN0019127P	Updatatory Needle 6 (5") 1.0x127 NF	Hand Sewing Needle
3052149	C131121-PET	C131121-PET 6 Craft Needle(L)	Card
3052149	BL24	Blower No. 36 (21x21x14)	PET Filter
3052149	Folding Box 24x5x10mm		Order
3052149	LABEL-B	Packing Label - 50mm x 40mm	Label Order
3052149	C2538MC-NEW	Pack-385 X 290 X 250 MM	Carton
3052149	LABEL-C	Packing Label - 50mm x 120mm	Label Carton
3052149	LABEL-D	Packing Label - 40mm x 120mm	Label Carton

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on card @ Master @ box /
Kardus material pada card @ Master @ box



Card @ Master @ box position in inner box / 3
Pas: Kardus kard @ Master @ box di dalam kardus



Label outer position on outer box / Packing Back
Kardus label outer pada kardus outer



Outer box position inside carton box /
Kardus kard outer di dalam kardus carton



Carton label position on carton box /
Kardus label kardus pada kardus carton



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APPROVED DATE	11 JUL 2024			
REVISION DATE				

Figure 4.6: SOP 2

This Hand Sewing Needle (PCM ITEM / BPCS No. 11311400, CUSTOMER ITEM No. 131140) is packaged in a way that makes handling and shipping easier. Three needles come on a card, and five of these cards are packed together in a small box. Then, thirty of these small boxes fit into a larger carton. So, each large carton holds a total of 150 needles. Figure 4.7 illustrates the packaging process (SOP 3) for this needle.


PACKING ITEM SPECIFICATION

PCM-015-CIM-0010

PCM ITEM - BPCS No.		11311400		
CUSTOMER ITEM No.		131140		
ITEM DESCRIPTION		3 Pcs. Per Card 5 Cards Per Outer 30 Outer Per Master Carton 150 Cards Per Master Carton		
SAP No.	COMPONENT No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UM
30521020	L2004050RO	Long Diameter 3.0x70 Orient Nickel Fine	Hand Sewing Ndl.	Pc.
30521055	D351008PO	Dock Needle 3.1/2" x180 Orient NF	Hand Sewing Ndl.	Pc.
30520059	L2001012PF	Long Dock Needle 5" x127 Nickel Fine	Hand Sewing Ndl.	Pc.
30010014	BILLIT	Blower No. 117 (125x40x50)	PET Blower	Pc.
30032041	C331140-PKT	C331140-PKT 3 Dock Needles (M)	Card	Pc.
30032040	187050	Folding Box 18x70x10mm	Outer	Pc.
30011001	LABEL-B	Packing Label - 50mm x 40mm	Label outer	Pc.
30011003	1105MC	48.5 X 27 X 18.7 CM	Carton	Pc.
30011002	LABEL-C	Packing Label - 50mm x 120mm	Label Carton	Pc.
30010056	LABEL-H	Packing Label - 45mm X 100mm	Label Carton	Pc.

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on card @ Master @ box /
Kandungan material pada card @ Master @ box



Label outer position on outer box / Label on the left.
Kandungan label outer pada kotak outer.



Carton label position on carton box /
Kandungan label carton pada kotak carton.



Card @ Master @ box position inside box / 5
Pas. Kandungan card @ Master @ box di dalam kotak outer



Outer box position inside carton box /
Kandungan kotak outer di dalam kotak carton



DOCUMENT NO	PCM-015-CIM-0010	APPROVED	CHECKED	PREPARED
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REGISTERED DATE	11/01/2018			
REVISION DATE				

Figure 4.7: SOP 3

This Leather Needle (PCM ITEM / BPCS No. 11312930, CUSTOMER ITEM No. 131293) has a well-organized packaging system for efficient handling. Each envelope holds 25 needles, and twenty of these envelopes are bundled together in a smaller box. Then, twenty-four of these small boxes fit into a larger carton. So, each large carton holds a total of 480 needles. Figure 4.8 illustrates the packaging process (SOP 4) for this needle.

PCM ITEM / BPCS No.		CUSTOMER ITEM No.		ITEM DESCRIPTION	
11312930		131293		25 Pieces Per Envelope 30 Envelopes Per Outer 24 Outer Per Master Carton 480 Envelopes Per Master Carton	
COMPONENT No.		COMPONENT DESCRIPTION (SAP)		COMMON DESCRIPTION	
SAP No.	BPCS No.				
3001002	01300043RD	Gleason/Leather 3 0.5x43 Outer NF		Leather Needle	
3001003		Foil Al inside width 70mm		Blister	
3001005	1131293-MC	1131293-MC Label leather needle 3		Label Envelope	
3001004	7P50	7 P505 PIN CONSTRUCT		Outer	
3001100	LABEL-B	Packing Label - 50mm x 40mm		Label Outer	
3001101	1401140	Packing Box Inside 140x140x50mm OK 450		Carton	
3001102	LABEL-C	Packing Label - 50mm x 120mm		Label Carton	

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on cards @ blister @ box /
Kandungan material pada card @ blister @ kotak

Cards @ blister @ box position in outer box / 3D
Pos. Kandungan card @ blister @ kotak didalam outer

Label outer position on outer box /
Kandungan label outer pada kotak outer

Outer box position inside carton box /
Kandungan kotak outer di dalam kotak carton

Carton label position on carton box /
Kandungan label carton pada kotak carton

DOCUMENT NO	PCM-PIS-CIM-009	APPROVED	CHECKED	PREPARED
REVISION NO	0	11/11/18	11/11/18	11/11/18
REGISTERED DATE	06.06.2018			
REVISION DATE				

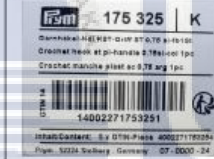
Figure 4.8: SOP 4

This Steel Hook with Handle (PCM ITEM / BPCS No. 11753250, CUSTOMER ITEM No. 175325) is packaged in a way that makes handling and shipping efficient. Each box contains one hook and an inlay. Five of these boxes are packed together in a small box. Then, thirty-nine of these small boxes fit into a larger carton. So, each large carton holds a total of 195 boxes. Figure 4.9 illustrates the packaging process (SOP 5) for this hook.


PACKING ITEM SPECIFICATION
PCM-FIS-2017

PCM ITEM / BPCS No.		11753250		
CUSTOMER ITEM No.		175325		
ITEM DESCRIPTION		1 Box Per Box W/Inlay 3 Box Per Order 39 Order Per Master Carton 195 Box Per Master Carton		
SAP No.	COMPONENT No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UOM
3054313	ST03013012-AN	SH Hook PRYM Handle Item 1401307500-AN	Steel Hook W/Handle	Pc.
3032269	ST+PLA-GRN125061750	ST+PLA GRN CRO HIK STABLE 12.5, 6.6-1.75 BX	Box	Pc.
3032214	CINLAY-GRN-ST+PLA	CINLAY-GRN ST+PLA CRO BOOK 12.5 8.6-1.75	Inlay	Pc.
3032272	1688350AO	Order Ale Cms Hook 60 x 30 x 168mm	Order	Pc.
3031209	R12311MC-NEW	RSC-100 X 300 X 180 MM	Carton	Pc.
3031160	LABEL-K (CUTTER/M2M)	Packing Label - 45mm x 75mm	Label Outer	Pc.
3031163	LABEL-C	Packing Label - 55mm x 120mm	Label Carton	Pc.
3031284	LABEL-L(DP)	PACKING LABEL-33MMx33MM-DIPANEL	Label Box	Pc.
3032056	LABEL-B	Packing Label - 45mm x 100mm	Label Carton	Pc.

LABEL OUTER

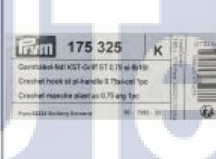


175 325 K

Barcode: 14002271753251

HEADQUARTERS: S.Y. DTM-Passa 400271753254
P.O. Box 52234, Subang, Selangor - 07-0007-24

LABEL CARTON



175 325 K

Barcode: 14002271753251

HEADQUARTERS: S.Y. DTM-Passa 400271753254
P.O. Box 52234, Subang, Selangor - 07-0007-24

ADDITIONAL LABEL / LABEL TAMBAHAN – If any / Jika ada

Material on card @ blister @ box / Label L to the right. Kandungan material pada card @ blister @ box



Label outer position on outer box / Packing Sheet. Kandungan label outer pada blaisk outer



Carton label position on carton box / Kandungan label carton pada blaisk carton



Card @ blister @ box position in outer box / 3 Pcs. Kandungan card @ blister @ blaisk dalam blaisk outer



Outer box position inside carton box / Kandungan blaisk outer di dalam blaisk carton



300 X 180MM
316 X 212MM

DOCUMENT NO.	PCM-FIS-2017	APPROVED	CHECKED	PREPARED
REVISION NO.	0	AI SARINA	AI SARINA	AI SARINA
REGISTERED DATE	06.06.2018			
REVISION DATE				

Figure 4.9: SOP 5

This Aluminium Double Point Needle (PCM ITEM / BPCS No. 11913630, CUSTOMER ITEM No. 191363) has a well-designed packaging system for efficient handling. Each box contains five needles and an inlay. Five of these boxes are bundled together in a smaller box. Then, forty-three of these small boxes fit into a larger carton. So, each large carton holds a total of 215 boxes. Figure 4.10 illustrates the packaging process (SOP 6) for this needle.

PACKING ITEM SPECIFICATION

PCM-191363

PCM ITEM / BPCS No.	11913630
CUSTOMER ITEM No.	191363
ITEM DESCRIPTION	5 Pcs Per Box Whilday 5 Box Per Outer 43 Outer Per Master Carton 215 Box Per Master Carton

SAP No.	BPCS No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UOM
3056027	AL020150MPO-BIC	Alu dpt gr ruff post grey 570015000-BIC	Alu. Dpt. Post. Nbl.	Pc.
3022509	ALU-SSN15-2-40	ALU DP NEEDLE SSN 15 BOX 2-4MM	Box	Pc.
3022508	CAS3MC-NEW	BIC-305 X 240 X 250 MM	Master Carton	Pc.
3022408	21502BAG	500-ALPO Blding box / 21.540x28mm	Outer	Pc.
3011103	LABEL-C	Packing Label - 50mm x 120mm	Label carton	Pc.
3011090	LABEL-K (OUTERMGM)	Packing Label - 45mm x 37mm	Label Outer	Pc.
3032223	CINLAY-SSN 15 ALU DP 2-4MM		Inlay	Pc.
3011244	LABEL-L(DIV)	PACKING LABEL-35MMx35MM-DIPANEL	Label Box	Pc.
3022056	LABEL-B	Packing Label - 45mm X 120mm	Label Carton	Pc.

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on card @ Master @ box / Label L to the Right / Kadapan material pada card @ Master @ Box

Label outer position on outer box / Packing Piece / Kedudukan label outer pada kotak outer

Carton label position on carton box / Kedudukan label carton pada kotak carton

Carton @ Master @ box position on outer box / 5 Pcs / Kedudukan kotak @ Master @ Box pada kotak outer

Outer box position inside carton box / Kedudukan kotak outer di dalam kotak carton

DOCUMENT ID	PCM-191363	APPROVED	CHECKED	REPAIRED
REVISION NO.	1	01/01/2018	01/01/2018	01/01/2018
REVISION DATE	18.08.2018			
REVISION DATE	08.04.2018			

Figure 4.10: SOP 6

This Aluminium Single Point Needle (PCM ITEM / BPCS No. 11914170, CUSTOMER ITEM No. 191417) is packaged for easy handling. Two needles are held together with a rubber band to make a pair. Ten of these pairs are then bundled in a small box. Finally, seventy-two of these small boxes fit into a larger carton. So, each large carton holds a total of 720 pairs of needles. Figure 4.11 illustrates the packaging process (SOP 7) for this needle.

PACKING ITEM SPECIFICATION

PCM ITEM / BPCS No. 11914170
CUSTOMER ITEM No. 191417
ITEM DESCRIPTION 2 Pcs. With Rubber Band (1Pair)
30 Pairs Per Carton
72 Outer Per Master Carton
720 Pairs Per Master Carton

COMPONENT No.		COMPONENT DESCRIPTION (SAF)	CUSTOMER DESCRIPTION	UOM
SAP No.	BPCS No.			
30540602	AL01017040PQ-AN	Alu. adl. PBYM 530X17040PQ-AN	Alu. Singl. Point Needle	Pc
30221208	C253BMC-NEW	BSC-385 X 250 X 250 MM	Master Carton	Pc
30222403	2124RAD	500-AERO FOLDING BOX / 212X40X28MM	Outer	Pc
3011182	LABEL-C	Packing Label - 50mm x 120mm	Label Carton	Pc
3011183	LABEL-E (OUTERMING)	Packing Label - 45mm x 310mm	Label Carton	Pc
3024024	LABEL-B	Packing Label - 40mm x 310mm	Label Carton	Pc

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on cards @ Master @ box / Transparent rubber band per pair (2 Pcs.), Excellent material pack card @ Master @ Inside

Carton @ Master @ box position in outer box / 30 Pairs. Zedudukan karton @ Master @ Inside dalam outer

Label outer position on outer box / Finding Pinet Zedudukan label outer pada kotak outer

Outer box position inside carton box / Zedudukan kotak outer di dalam kotak carton

Carton label position on carton box / Zedudukan label carton pada kotak carton

P2

DOCUMENT NO.	PCM-FPS-2003	APPROVED	CHECKED	PREPARED
REVISION NO.	0	AL NAKILAS	02/08/20	02/08/20
APPROVED DATE	11/01/2020			
REVISION DATE	-			

Figure 4.11: SOP 7

This Aluminium Single Point Needle (PCM ITEM / BPCS No. 11914560, CUSTOMER ITEM No. 191456) is packaged with a system for easy handling and shipping. Each box holds 2 needles, and 5 of these boxes are packed together in a small box. Then, 24 of these small boxes fit into a larger carton. So, each large carton holds a total of 120 needles. Figure 4.12 illustrates the packaging process (SOP 8) for this needle.


PACKING ITEM SPECIFICATION
PCM-PIS-1465

PCM ITEM / BPCS No.		11914560	
CUSTOMER ITEM No.		191456	
ITEM DESCRIPTION		2 Pcs Per Box 5 Box Per Outer 24 Outer Per Master Carton 120 Box Per Master Carton	
COMPONENT No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UOM
SAP No.	BPCS No.		
3050406	ALU1000000000-AN	Alu. spt. PWTM 5000000000-AN	Pc.
3052256	ALU-20000000-20	ALU KNIT NEEDLE RN 30 BOX 2-7MM	Box
3052128	C3030MC-NEW	BSC-305 X 250 X 250 MM	Master Carton
3052252	333535AO	Outer Alu. Knit Need 85 x 30 x 337mm	Outer
3051182	LABEL-C	Packing Label - 55mm x 120mm	Label Carton
3051190	LABEL-K (EXTERIOR)	Packing Label - 45mm x 37mm	Label Outer
3051234	LABEL-L (DVP)	PACKING LABEL-55MMx35MM-D/PANEL	Label Box
3052026	LABEL-H	Packing Label - 45mm X 100mm	Label Carton

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada



Material on cards @ Master @ box / Label L to the right. *Kandungan material pada card @ Master @*



Label outer position on outer box /
Kedudukan label outer pada brack outer.



Cards @ Master @ box position in outer box / 5
Pcs. Kedudukan card @ Master @ brack dibalik outer.



Carton label position on carton box /
Kedudukan label carton pada brack carton.



Outer box position inside carton box /
Kedudukan brack outer di dalam brack carton.



DOCUMENT NO.	PCM-PIS-1465	APPROVED	CHECKED	PREPARED
REVISION NO.	1	MAKALISA	PTI/MS/20	CAR
REVISION DATE	07.01.2019			
REVISION DATE	11.01.2024			

Figure 4.12: SOP 8

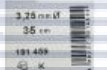
This Aluminium Single Point Needle (PCM/BPCS No. 11914590, Customer Item No. 191459) is packaged carefully for protection and efficiency. Each box holds 2 needles and an inlay. Five of these boxes are bundled together in a smaller box. Then, 40 of these small boxes fit into a larger carton. So, each large carton holds a total of 200 boxes. Figure 4.13 illustrates the packaging process (SOP 9) for this needle.


PACKING ITEM SPECIFICATION
PCM-PIS-2004

PCM ITEM / BPCS No.		11914590	
CUSTOMER ITEM No.		191459	
ITEM DESCRIPTION		2 Pcs. Per Box With Inlay 5 Box Per Outer 40 Outer Per Master Carton 200 Boxes Per Master Carton	
COMPONENT No.		COMPONENT DESCRIPTION (KAP)	COMMON DESCRIPTION
SAP No.	BPCS No.		UM
3056046	ALU00350320PIS-AN	Alu sd PLYM 5000350320-AN	Alu Ensl. Point NdL
3053247	ALL-BK025-2-70	ALL KNIT NEEDLE 2IN 35 BOX 2-7MM	Box
3052181	47403MAC-NEW	BSC-472 X 410 X 262MM	Carton
3052570	33503MAC	Outer Alu Knit NdL 15 x 30 x 385mm	Outer
3051102	LABEL-C	Packing Label - 55mm x 120mm	Label Carton
3051100	LABEL-K (OUTERMUM)	Packing Label - 45mm x 37mm	Label Outer
3053201	CINLAY-BK03-ALL	CINLAY-2IN 35 ALL KNIT NEEDLE 2-7MM	Card
3051234	LABEL-L(DVP)	PACKING LABEL-35MMx35MM-DIPANEL	Label Box
3053026	LABEL-H	Packing Label - 45mm X 105mm	Label Carton

LABEL OUTER


LABEL CARTON


ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada


Material on cards @ Master @ box / L. Label to the right. *Kardus material pada card @ Master @ box.*



Label outer position on outer box / *Pada Pos*
Kedudukan label outer pada kotak outer.



Card @ Master @ box position in outer box / *Pos. Kedudukan kard @ Master @ kotak didalam kotak.*



Carton label position on carton box / *Kedudukan label carton pada kotak carton.*



Outer box position inside carton box / *Kedudukan kotak outer di dalam kotak carton.*



Carton dimensions: 472 X 410 X 262MM
Outer box dimensions: 425 X 425 X 274MM

DOCUMENT NO.	PCM-PIS-2004	APPROVED	CHECKED	PREPARED
REVISION NO.	0			
REGISTERED DATE	11.01.2024			
REVISION DATE	-			

Figure 4.13: SOP 9

This Aluminium Single Point Needle (PCM/BPCS No. 11914690, Customer Item No. 191469) is packaged for organization and safe transport. Each box holds 2 needles, and five of these boxes are bundled together in a smaller box. Then, 40 of these small boxes are supposed to fit into a larger carton. Figure 4.14 illustrates the packaging process (SOP 10) for this needle.

PACKING ITEM SPECIFICATION

PCK-RS-1514

PCM ITEM / BPCS No.		11914690	
CUSTOMER ITEM No.		191469	
ITEM DESCRIPTION		2 Pcs. Per Box 5 Boxes Per Outer 40 Outer Per Master Carton 200 Outer per Master Carton	

COMPONENT No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UM
SAP No.	BPCS No.		
30160471	ALU1015000P09-AN	Alu. spt. PLYM 5003500003-AN	Alu. Sptl. Piste N41 Pcs.
3012547	ALU-2105-2-70	ALU. KNT. NEEDLE 2. BOX 33 BOX 2-7MM	Box Pcs.
30121241	47240MC-NEW	BSC-472 X 410 X 242MM	Carton Pcs.
30122570	38303DAO	Outer Ala. Knt. Need 85 x 30 x 383mm	Outer Pcs.
30111853	LABEL-C	Packing Label - 25mm x 125mm	Label Carton Pcs.
30111919	LABEL-K (OUTERMGM)	Packing Label - 45mm x 27mm	Label Outer Pcs.
30112344	LABEL-L(DPP)	PACKING LABEL-35MMx35MM-D/PANEL	Label Box Pcs.
30120256	LABEL-H	Packing Label - 45mm X 105mm	Label Carton Pcs.

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada



Material on cards @ Master @ box / Label Liko the right. Kerdolan material pada card @ Master @ kotak

Label outer position on outer box / Packing Piste
Kerdolan label outer pada kotak outer.



Cards @ Master @ box position in outer box / 5 Pcs. Kerdolan kard @ Master @ kotak didalam outer.



Carton label position on carton box /
Kerdolan label carton pada kotak carton.



Outer box position inside carton box /
Kerdolan kotak outer di dalam kotak carton.



ID : 472 X 410 X 242MM
ED : 418 X 426 X 274MM

DOCUMENT NO	PCK-RS-1514	AFFIRMED	CHECKED	PREPARED
REVISION NO	1	APPROVED	APPROVED	APPROVED
REGISTERED DATE	15.03.2019			
REVISION DATE	11.01.2024			

Figure 4.14: SOP 10

This Aluminium Single Point Needle (PCM/BPCS No. 11914750, Customer Item No. 191475) is carefully packaged for protection and organization. Each box holds 2 needles and an inlay. Five of these boxes are bundled together in a smaller box. Then, 34 of these small boxes fit into a larger carton, totaling 170 boxes. Figure 4.15 illustrates the packaging process (SOP 11) for this needle.

PCM
CUNGKUP
PILIHAN

PACKING ITEM SPECIFICATION

PCM-PB-1571

PCM ITEM / BPCS No.	11914750
CUSTOMER ITEM No.	191475
ITEM DESCRIPTION	2 Pcs Per Box Whisker 5 Box Per Carton 34 Outer Per Master Carton 170 Box Per Master Carton

COMPONENT No.	COMPONENT DESCRIPTION (SAF)	COMMON DESCRIPTION	UOM
3050047	ALU 0140035PCPB-AN	Alu. ad. PRYM 53004003501-AN	Alu. Sgl. Print Ngl.
3050049	ALL-53040-2-70	ALL KNIF NEEDLE 530 40 BOX 2-7MM	Box
3051241	4750000C-NEW	BPC-475 3.410 X 30MM	Carton
3052253	435850AO	Outer Ala. Knit Need 85 x 30 x 435mm	Outer
3051182	LABEL-C	Packing Label - 55mm x 120mm	Label Carton
3051190	LABEL-K (OUTERM2M)	Packing Label - 45mm x 120mm	Label Outer
3052026	LABEL-B	Packing Label - 45mm x 105mm	Label Carton
3053223	CINLAY-53040-ALL	CINLAY-530 40 ALL KNIF NEEDLE 2-7MM	Card
3051234	LABEL-L (DIP)	PACKING LABEL-530MMx30MM-DIPANEL	Label Box

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

3,50 mm x 40 mm

191 475

K

Material on cards @ Master @ box / Label L is the right. Kembalikan material pada card @ Master @ Awal

Label outer position on outer box / Packing Front
Kembalikan label outer pada kotak outer.

Card @ Master @ box position in outer box / 5 Pcs. Kembalikan Card @ Master @ kotak dibalut outer.

Carton label position on carton box / Kembalikan label carton pada kotak carton.

Outer box position inside carton box / Kembalikan kotak outer di dalam kotak carton.

70 1

D : 475 X 410 X 242MM
D : 460 X 428 X 274MM

DOCUMENT NO	PCM-PB-1571	APPROVED	CHECKED	PREPARED
REVISION NO	1			
REVISION DATE	02.09.2019			
REVISION DATE	11.01.2024			

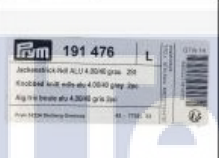
Figure 4.15: SOP 11

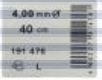
This Aluminium Single Point Needle (PCM/BPCS No. 11914760, Customer Item No. 191476) is packaged with a system that protects and organizes them. Each box holds 2 needles and an inlay. Five of these boxes are bundled together in a smaller box. Then, 34 of these small boxes fit into a larger carton, totalling 170 boxes. Figure 4.16 illustrates the packaging process (SOP 12) for this needle.


PACKING ITEM SPECIFICATION
PCM-PIS-1476

PCM ITEM / BPCS No.		11914760		
CUSTOMER ITEM No.		191476		
ITEM DESCRIPTION		2 Pcs Per Box With Inlay 5 Boxes Per Outer 34 Outer Per Master Carton 170 Boxes Per Master Carton		
COMPONENT No.	BPCS No.	COMPONENT DESCRIPTION (SAF)	COMMON DESCRIPTION	UOM
30100478	AL01040040PCPB-AN	Alu adl PRYM 3300400403-AM	Alu Engr. Point NdL	Pc.
3012249	ALU-BIN40-2-7D	ALU KNIT NEEDLE 2IN 40 BOX 2-7MM	Box	Pc.
30121261	4724108MC-NFW	BSC-472 X 410 X 242MM	Carton	Pc.
3012243	41853YMO	Outer Alu Knit Need 35 x 35 x 435mm	Outer	Pc.
3011182	LABEL-C	Packing Label - 50mm x 125mm	Label Carton	Pc.
3011180	LABEL-K (OUTERMIM)	Packing Label - 45mm x 37mm	Label Outer	Pc.
3013253	CINLAY-BIN40-ALU	CINLAY-2IN 40 ALU KNIT NEEDLE 2-7MM	Inlay	Pc.
3012244	LABEL-L(DP)	PACKING LABEL-33MMx30MM-DPANEL	Label Box	Pc.
3012026	LABEL-R	Packing Label - 45mm X 105mm	Label Carton	Pc.

LABEL OUTER


LABEL CARTON


ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada


Material on card @ Master @ box / Label L to the right. Kadukan material pada card @ Master @ box



Card @ blister @ box position in outer box / 5 Pcs Kadukan card @ blister @ kotak didalam outer



Label outer position on outer box / Packing Thread Kadukan label outer pada kotak outer



Outer box position inside carton box / Kadukan kotak outer di dalam kotak carton



Carton label position on carton box / Kadukan label carton pada kotak carton



DOCUMENT NO	PCM-PIS-1476	APPROVED	CHECKED	PREPARED
REVISION NO	1	11.01.2019	11.01.2019	2007
REGISTERED DATE	11.01.2019			
REVISION DATE	11.01.2024			

Figure 4.16: SOP 12

This Aluminium Single Point Needle (PCM/BPCS No. 11914790, Customer Item No. 191479) is packaged for efficiency. Each box holds 2 needles, and five of these boxes are bundled together in a smaller box. Then, 34 of these small boxes fit into a larger carton. This system keeps things organized and protects the needles. Figure 4.17 illustrates the packaging process (SOP 13) for this needle.

PCM
CONSULPER
MALAYSIA

PACKING ITEM SPECIFICATION PCM-995-1667

PCM ITEM / BPCS No.	11914790
CUSTOMER ITEM No.	191479
ITEM DESCRIPTION	2 Pcs. Per Box 5 Box Per Outer 34 Outer Per Master Carton 370 Box Per Master Carton

COMPONENT No.	COMPONENT DESCRIPTION (BAP)	COMMON DESCRIPTION	U/M
SAP No.	BPCS No.		
3090401	ALU10400510P8-AN	Alu n6 PRYM 53004005501-AN	Alu. Sgd. Pent N6
3092269	ALL-BEN400-70	ALL KNIT NEEDLE 40 BOX 2-7MM	Box
3092281	472410AC-SHEW	ROSC 775 5 410 X 242MM	Carton
3092283	438530AO	Outer Alu Knit N6 85 x 30 x 43mm	Outer
3091182	LABEL-C	Packing Label - 50mm x 120mm	Label Carton
3091189	LABEL-B (OUTERM230)	Packing Label - 45mm x 37mm	Label Outer
3091284	LABEL-A (DP)	PACKING LABEL-55MMx30MM-DIPANEL	Label Box

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / 3ks side

Material on card @ blister @ box /
Kandungan material pada card @ blister @ kotak

Label outer position on outer box / Packing Sheet
Kandungan label outer pada kotak outer

Card @ blister @ box position in outer box / 5 Pcs.
Kandungan card @ blister @ kotak didalam kotak outer

Outer box position inside carton box / 2 Layers
Kandungan kotak outer di dalam kotak carton

Carton label position on carton box /
Kandungan label carton pada kotak carton

DOCUMENT NO. PCM-995-1667

REVISION NO. 1

REGISTERED DATE 14.10.2019

REVISION DATE 07.11.2023

APPROVED: [Signature]

CHECKED: [Signature]

PREPARED: [Signature]

Figure 4.17: SOP 13

This Aluminium Double Point Needle (PCM/BPCS No. 11914910, Customer Item No. 191491) comes in a well-designed package that protects the needles and keeps them organized. Each box holds 5 needles with an inlay. Five of these boxes are then bundled together in a smaller box. Figure 4.18 illustrates the packaging process (SOP 14) for this needle.


PACKING ITEM SPECIFICATION
PCM-FIS-1572

PCM ITEM / BPCS No.		11914910	
CUSTOMER ITEM No.		191 491	
ITEM DESCRIPTION		5 Pcs Per Box W/Inlay 5 Boxes Per Outer 30 Outer Per Master Carton 150 Pcs Per Master Carton	

COMPONENT No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UOM
SAP No.	BPCS No.		
30540217	ALU-SSN20-3-5D	Alu dkt pnti panel grey 53020035-0C	Pc.
30521540	ALU-SSN20-3-5D	ALU DP NEEDLE SSN 20 BOX 3-5MM	Box
30521238	CHROM-NEW	BSC-185 X 200 X 250 MM	Carton
30521240	CHROM-NEW	Outer Alu Rail/Inlay 85 x 20 x 235mm	Outer
30511952	LABEL-C	Packing Label - 50mm x 125mm	Carton
30511950	LABEL-K (OUTERMGM)	Packing Label - 45mm x 37mm	Label Outer
30512244	LABEL-LGDP	PACKING LABEL-35MMx50MM-D/PANEL	Label Box
30512224	CHLAY-SSN20-ALU	CHLAY-SSN 20 ALU DP 2-5MM	Inlay
30520255	LABEL-JI	Packing Label - 40mm x 100mm	Label Carton

LABEL OUTER


LABEL CARTON


ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada


Material on cards @ blister @ box / Label L to the Right. Masukkan material pada card @ blister @ box.



Cards @ blister @ box position inside box / 5 Pcs. Masukkan card @ blister @ box di dalam kotak.



Label outer position on outer box / Packing Front. Masukkan label outer pada kotak outer.



Outer box position inside carton box / Masukkan kotak outer di dalam kotak carton.



Carton label position on carton box / Masukkan label carton pada kotak carton.



DOCUMENT NO.	PCM-FIS-1572	APPROVED	CHECKED	PREPARED
REVISION NO.	1			
REGISTERED DATE	01.04.2019			
REVISION DATE	05.04.2019			

Figure 4.18: SOP 14

This Aluminium Hook with Handle (PCM/BPCS No. 11951780, Customer Item No. 195178) is carefully packaged to prevent damage and keep things organized. Each hook is placed in a box with an inlay and five of these boxes are bundled together in a smaller box. For larger shipments, 43 of these small boxes fit into a larger carton, totaling 215 boxes. Figure 4.19 illustrates the packaging process (SOP 15) for this hook.


PACKING ITEM SPECIFICATION
PCM-FIS-1469

PCM ITEM - BPCS No.		11951780	
CUSTOMER ITEM No.		195178	
ITEM DESCRIPTION		1 Pcs. Per Box Withlay 5 Box. Per Outer 43 Outer Per Master Carton 215 Box Per Master Carton	

SAP No.	BPCS No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UNIT
30571006	AL04015050PCGO-AH	ALU HOOK W/HDL PCM 2301505000-AH	Alu. Hook With Handle	Pc.
30522504	ALU+PLA-WIN160	ALU+PLA WIN CROCKET HK ALU 16 BOX	Box	Pc.
30532206	CINLAY-WIN-ALU	CINLAY-WIN ALU CRO HOOK 16-WIN	Inlay	Pc.
30522408	215022860	215-ABRO 16mm box / 215mmx22mm	Outer	Pc.
30511908	CINLAY-C-WIN	PSC-385 X 290 X 250 MM	Carton	Pc.
30511909	LABEL-K (OUTERMGM)	Packing Label - 45mm x 77mm	Label Outer	Pc.
30511912	LABEL-C	Packing Label - 50mm x 130mm	Label Carton	Pc.
30512304	LABEL-L (DP)	PACKING LABEL-33MMx70MM-DYPANEL	Label Box	Pc.
30510206	LABEL-H	Packing Label - 45mm x 100mm	Label Carton	Pc.

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada



Material on cards @ Master @ box / Label L to the right.
Kandungan material pada card @ Master @ Box



Label outer position on outer box / Packing Free
Kandungan label outer pada label outer.



Carton label position on carton box /
Kandungan label carton pada label carton.



Cards @ Master @ box position in outer box / 5 Pcs. Kandungan card @ Master @ Box di dalam outer.



Outer box position inside carton box /
Kandungan label outer di dalam label carton.



ID : 385 X 290 X 250MM
ED : 401 X 306 X 282MM

DOCUMENT NO	PCM-FIS-1469	APPROVED	CHECKED	PREPARED
REVISION NO	1	By: [Signature]	By: [Signature]	By: [Signature]
REGISTERED DATE	07.01.2019			
REVISION DATE	11.01.2024			

Figure 4.19: SOP 15

This Aluminium Hook (PCM/BPCS No. 11951830, Customer Item No. 195183) has a well-designed package that protects the hook and makes it look nice. Each hook is in a box with an inlay, and five of these boxes are bundled together in a smaller box. Then, 43 of these small boxes fit into a larger carton. Figure 4.20 illustrates the packaging process, SOP 16.

PCM
CONSUMER
MALAYSIA

PACKING ITEM SPECIFICATION

PCM ITEM / BPCS No. 11951830
CUSTOMER ITEM No. 195183
ITEM DESCRIPTION 1 Box Per Box/Windlay
5 Box Per Outer
43 Outer Per Master Carton
215 Box Per Master Carton

PCB-PIS-1418

COMPONENT No.	COMPONENT DESCRIPTION (MAY)	COMMON DESCRIPTION	UOM
SAP No.	BPCS No.		
3052222	ALUHOOK-NEW	Alu hook PCM other 2020102000-BC	Alu Hook
3052253	ALU-WINDLAY	ALU WIND CROCHET BK ALU 16 BOX	Box
3052248	214802AD	1082-ALUO folding box / 2148022item	Outer
3052228	C2038MC-NEW	RS-C385 X 290 X 250 MM	Carton
30511955	LABEL-L (OUTERMCM)	Packing Label - 40mm x 17mm	Label Outer
30511952	LABEL-C	Packing Label - 50mm x 120mm	Label carton
30512215	CINLAY-CHIN-ST	CINLAY-CHIN ST CRO HOOK 12.5 0.6-1.75-CHIN	Inlay
30512244	LABEL-L (DIP)	PACKING LABEL-33MMX30MM-DIPANEL	Label Box
30520216	LABEL-H	Packing Label - 40mm X 100mm	Label Carton

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

3.00 mm CF
14 cm
195 183
43 - 0

Material on card @ Master @ box / Label L to the Right. Kembalikan material pada card @ Master @ box.

Card @ Master @ box position in outer box / 5 Box. Kembalikan card @ Master @ box di dalam outer.

Label outer position on outer box / Packing Print. Kembalikan label outer pada label outer.

Outer box position inside carton box / Kembalikan label outer di dalam label carton.

Carton label position on carton box / Kembalikan label carton pada label carton.

DOCUMENT NO. PCB-PIS-1418
REVISION NO. 1
REVISION DATE 24.08.2018
REVISION DATE 05.04.2024

APPROVED
CHECKED
PREPARED

Figure 4.20: SOP 16

This Aluminium Hook (PCM/BPCS No. 11951830, Customer Item No. 195183) is packaged for both function and efficiency. Each hook is securely attached to a card, making it easy to display in stores. Five of these cards are then bundled together in a smaller box. Finally, a much larger carton holds 151 of these small boxes, for a total of 755 cards. Figure 4.21 shows the packaging process, SOP 17.

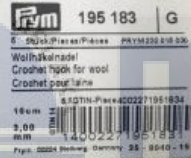


PACKING ITEM SPECIFICATION

PCM 200-1418

PCM ITEM / BPCS No.		11951830	
CUSTOMER ITEM No.		195183	
ITEM DESCRIPTION		1 Pc Per Card 5 Cards Per Outer 151 Outer Per Master Carton 755 Cards Per Master Carton	
COMPONENT No.	COMPONENT DESCRIPTION (BAP)	COMMON DESCRIPTION	UM
SAP No.	BPCS No.		
3096329	AL00150305-BC	Alu hook PRYM silver 2320150305-BC	Alu Hook Silver Pc.
3091093	PVC25MM	PVC RIBBED NORMAL CRISTAL 80 - 250 MM	PVC Blister Kg.
3093398	CS195183-12CAV	Card sheet PRYM 2320150305-BC-12CAV	Card Pc.
3092403	2124RAD	3029-AIRFO FOLDING BOX / 212540X218MM	Outer Pc.
3092183	A3313MC	650 X 400 X 140 MM	Carton Pc.
3091180	LABEL-A (OUTERM2M)	Packing Label - 45mm x 37mm	Label Pc.
3091182	LABEL-C	Packing Label - 50mm x 130mm	Label Pc.

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN – If any / Jika ada

Material on cards @ Master @ box /
Kandungan material pada card @ blister @ kotak



Label outer position on outer box / Facing Front
Kandungan label outer pada kotak outer



Carton label position on carton box /
Kandungan label carton pada kotak carton



Card @ blister @ box position in outer box /
3 Pcs. Kandungan card @ blister @ kotak didalam outer



Outer box position inside carton box / All items
Kandungan kotak outer di dalam kotak carton



DOCUMENT NO	PCM 200-1418	APPROVED	CHECKED	PREPARED
REVISION NO	0	KALAYANAN	FORREIRO	JOEL
IMPLEMENTED DATE	26/09/2019			
REVISION DATE				

Figure 4.21: SOP 17

This Aluminium Tunisian Hook (PCM/BPCS No. 11952190, Customer Item No. 195219) is carefully packaged to keep it safe and organized. Each hook is placed in a box with an inlay and five of these boxes are bundled together in a smaller box. For shipping and stores, 24 of these small boxes fit into a larger carton, totalling 120 boxes. Figure 4.22 shows the packaging process, SOP 18.

PCM
CONSUMER
MALAYSIA

PACKING ITEM SPECIFICATION PCM-195-1464

PCM ITEM / BPCS No.	11952190		
CUSTOMER ITEM No.	195219		
ITEM DESCRIPTION	1 Pcs. Per Box Winding 5 Box Per Outer 24 Outer Per Master Carton 120 Box Per Master Carton		
COMPONENT No.	COMPONENT DESCRIPTION (RAP)	COMMON DESCRIPTION	UM
RAP No.	BPCS No.		
30546144	AL-2020050-AH	Hook tps ALU psl gr PEYM 1110200500-AH	Alu. Tunisian Hook
30522127	ALU-WINDING	ALU WIND CROCHET HS ALU 30 BOX	Box
30522162	3338510AO	Outer Alu Kart Ned 85 x 10 x 33mm	Outer
30521238	C25BMC-NFW	BSC-385 X 280 X 250 MM	Carton
30511949	LABEL-6 (OUTERM2M)	Packing Label - 60mm x 17mm	Label Outer
30511953	LABEL-7	Packing Label - 50mm x 120mm	Label Carton
30532212	CINLAY-WHN-ALU10	CINLAY-WHN ALU CRO HOOK 30-WHN	Inlay
30512244	LABEL-L(DVP)	PACKING LABEL-35MMx30MM-DIPANEL	Label Box
30532256	LABEL-8	Packing Label - 40mm X 100mm	Label Carton

LABEL OUTER **LABEL CARTON**




ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada



5,00 mm of

30 cm

195 219

CS - M

Material on card @ blister @ box /
Kandungan material pada card @ blister @ kotak



Label outer position on outer box / Packing Print
Kandungan label outer pada kotak outer



Card @ blister @ box position in outer box / 5
Pcs. Kandungan kard @ blister @ kotak didalam kotak



Outer box position inside carton box /
Kandungan kotak outer di dalam kotak carton



Carton label position on carton box /
Kandungan label carton pada kotak carton



DOCUMENT NO	PCM-195-1464	APPROVED	CHECKED	PREPARED
REVISION NO	2	AL-195-1464	21-195-220	2021
PREPARED DATE	07.09.2019			
REVISION DATE	11.07.2020			

Figure 4.22: SOP 18

This Aluminium Hook with Handle (PCM/BPCS No. 11953610, Customer Item No. 195361) has a well-designed package that keeps it safe and looking nice. Each hook is in a box with an inlay (probably for extra protection or better appearance), and five of these boxes are bundled together in a smaller box. Then, 43 of these small boxes fit into a larger carton, for a total of 215 boxes. Figure 4.23 illustrates the packaging process, SOP 19.


PACKING ITEM SPECIFICATION

PCM-FIS-1979

PCM ITEM / BPCS No.		11953610	
CUSTOMER ITEM No.		195361	
ITEM DESCRIPTION		1 Pc. Per Box W/Inlay 5 Box Per Outer 43 Outer Per Master Carton 215 Box Per Master Carton	
COMPONENT No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UOM
3004096	ALU40104096-AH	Alu hook 16 w/hdl pl PRYM 2350170000-AH	Alu Hook W/Handle
3002254	ALU+PLA-WIN160	ALU+PLA WIN CROCHET HK ALU 16 BOX	Box
3002240B	21982BAO	1002-AERO 64mm box / 21.98mm 28mm	Outer
3002128B	C303MMC-NEW	RSC-3MS X 250 X 250 MM	Carton
30011890	LABEL-K (OUTERMIM)	Packing Label - 45mm x 37mm	Label Outer
30011952	LABEL-C	Packing Label - 50mm x 120mm	Label Carton
30032216	CINLAY-WIN-ALU	CINLAY-WIN ALU CRO HOOK 16-WIN	Inlay
30011284	LABEL-L(DIV)	PACKING LABEL-35MMx35MM-DIPANEL	Label Box
30020256	LABEL-R	Packing Label - 45mm X 100mm	Label Carton

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on card @ Master @ box / Label L to the right. *Kandungan material pada card @ dalam @ kotak*



Label outer position on outer box / Packing Print
Kekedudukan label outer pada kotak outer



Carton label position on carton box / *Kekedudukan label carton pada kotak carton*



Card @ Master @ box position in outer box / 5 Pcs. *Kekedudukan card @ Master @ kotak didalam outer*



Outer box position inside carton box / *Kekedudukan kotak outer di dalam kotak carton*



DOCUMENT NO.	PCM-FIS-1979	APPROVED	CHECKED	PREPARED
REVISION NO.	1	AL FATHIR	ESTHER	ANG
REVISION DATE	05.07.2021			
REVISION TIME	11.01.2024			

Figure 4.23: SOP 19

This Aluminium Circular Needle (PCM/BPCS No. 12112190, Customer Item No. 211219) is packaged for both function and efficiency in stores. Each needle is securely attached to a card for easy display. Five of these cards are then bundled together in a smaller box. Finally, a larger carton holds 20 of these small boxes, for a total of 100 cards.

Figure 4.24 shows the packaging process, SOP 20

PCM
CONSUMER
PRODUCT

PACKING ITEM SPECIFICATION

PCM ITEM / BPCS No. 12112190
CUSTOMER ITEM No. 211219

ITEM DESCRIPTION
1 Pc Per Card
5 Cards Per Outer
20 Outer Per Master Carton
100 Cards Per Master Carton

COMPONENT No.	COMPONENT DESCRIPTION (SAP)	COMMON DESCRIPTION	UOM
3002207	ALU-85N-1200	Alu circ rail grey PLYM 54000025-AP	Alu. Circ. No.
3002207	ALU-85N-1200	ALU CIRCULAR KNOTTING NDL RSN 120	Card
3002204	2112190	2112190 64mm box / 2112190 5mm	Outer
3002208	C203M-C-NEW	RSC-385 X 250 X 250 MM	Carton
3001102	LABEL-C	Packing Label - 50mm x 120mm	Label Carton
3001100	LABEL-K (OUTERM2M)	Packing Label - 45mm x 37mm	Label Carton
3001204	LABEL-L (UP)	PACKING LABEL 37MM X 30MM-OPANEL	Label Card
3001074	LANCING 13MM	NANO TAPE TRANSPARENT 30X13MM	Nano Tape
3001026	LABEL-B	Packing Label - 45mm x 102mm	Label Carton

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - Hany / Ska ada

2.50 mm of
80 cm
211 219
S

Material on card @ blister @ box / Label L
Being up, Card is circled before the top latch
and shows the bottom latch, Nano tape at back of
the card. Kemudian material pada card @ blister
@ box.

Card @ blister @ box position in outer box / S
Pos. Kemudian card @ blister @ box dalam
outer.

Label outer position on outer box / Packing Print
Kemudian label outer pada box outer.

Outer box position inside carton box /
Kemudian box outer di dalam box carton.

Carton label position on carton box /
Kemudian label carton pada box carton.

DOCUMENT NO	PCM-FS-1420	APPROVED	CHECKED	PREPARED
REVISION NO	1	AL NAGUIR	21-08-20	2-09
REVISION DATE	24.08.2019			
REVISION DATE	11.01.2020			

Figure 4.24: SOP 20

This Aluminium Circular Needle (PCM/BPCS No. 12112490, Customer Item No. 211249) is packaged with both store display and efficiency in mind. Each needle is attached to a card so customers can easily see it. Five of these cards are bundled together in a smaller box. Then, a larger carton holds 20 of these small boxes, for a total of 100 cards. Figure 4.25 shows the packaging process, SOP 21.



PACKING ITEM SPECIFICATION

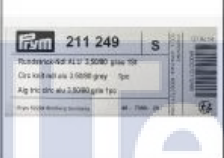
POK-PS-1467

PCN ITEM / BPCS No.		12112490	
CUSTOMER ITEM No.		211249	
ITEM DESCRIPTION		1 Pcs Per Card 5 Cards Per Outer 20 Outer Per Master Carton 100 Cards Per Master Carton	
COMPONENT No.	COMPONENT DESCRIPTION (NAP)	COMMON DESCRIPTION	UOM
3002300	ALU-80N120-AP	Alu circ needle PLYM 54000035-AP	Alu Circ. Ndl
3002307	ALU-80N120	ALU CIRCULAR KNITTING NDL RSN 120 BOX	Card
30022404	215555AG	2155-ABRO Ribbon box / 2155x8x55mm	Outer
30021208	C20HMC-NEW	RSC-385 X 250 X 250 MM	Carton
30011002	LABEL-C	Packing Label - 50mm x 120mm	Label Carton
30011005	LABEL-K (OUTERM2M)	Packing Label - 45mm x 37mm	Label Outer
30012244	LABEL-L (DIP)	PACKING LABEL - 100MM X 100MM - OPANEL	Label Card
30010074	LNANO3013MM	NANO TAPE TRANSPARENT 30X13MM	Nano Tape
30010256	LABEL-B	Packing Label - 45mm X 120mm	Label Carton

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - Hany / Sika ada



Material on cards @ blister @ box / Label L
Facing right, Card is circled below the top batch and above the bottom batch, Nano tape at back of the card. *Kardus material pada card @ blister @ kotak*



Label outer position on outer box / Packing Prod.
Kedudukan label outer pada kotak outer.



Carton label position on carton box /
Kedudukan label carton pada kotak carton.



Card @ blister @ box position in outer box / 5
Pada kardus label @ blister @ kotak kardus



Outer box position inside carton box /
Kedudukan kotak outer di dalam kotak carton.



DOCUMENT NO	POK-PS-1467	APPROVED	CHECKED	PREPARED
REVISION NO	2			
REGISTERED DATE	07.01.2019			
REVISION DATE	11.01.2019			

Figure 4.25: SOP 21

This Aluminium Circular Needle (PCM/BPCS No. 12112750, Customer Item No. 211275). Each needle is securely on a card for display. Five of these cards are bundled together in a smaller box. Then, a larger carton holds 34 of these small boxes, for a total of 170 cards. Figure 4.26 illustrates the packaging process, SOP 22.


PACKING ITEM SPECIFICATION
PCM-FB-1416

PCM ITEM / BPCS No.		12112750	
CUSTOMER ITEM No.		211275	
ITEM DESCRIPTION		1 Pcs. Per Card 5 Cards Per Outer 34 Outer Per Master Carton 170 Cards Per Master Carton	

COMPONENT No.	COMPONENT DESCRIPTION (MAY)	COMMON DESCRIPTION	UM
SAP No.	BPCS No.		
30542275	ALU740045-PCPB-AP	Alu circ.nedl grey PRYM 54040045-AP	Alu. Circ. Ndl. Pcs.
30322326	ALU-RSN40-550	ALU CIRCULAR KNITTING NDL RSN 40-50 BOX	Card Pcs.
30322030	A250	250 OUTER - 400 CM CONSTRUCT	Outer Pcs.
30321238	CH33MC-NEW	851-338 X 292 X 250 MM	Master Carton Pcs.
30311925	LABEL-C	Packing Label - 55mm x 125mm	Label Carton Pcs.
30311990	LABEL-K (OUTER/2M)	Packing Label - 45mm x 37mm	Label Outer Pcs.
30320256	LABEL-H	Packing Label - 45mm x 130mm	Label Carton Pcs.
30320274	LNANCO013MM	NANO TAPE TRANSPARENT 30X13MM	Nano Tape Pcs.

LABEL OUTER


LABEL CARTON


ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada


Material on cards @ Master @ box / Nano Tape
Kandungan material pada card @ Master @ box



Cards @ Master @ box position in outer box / 5 card
Kedudukan card @ Master @ box di dalam kotak outer



Label outer position on outer box / Packing Free
Kedudukan label outer pada kotak outer



Outer box position inside carton box /
Kedudukan kotak outer di dalam kotak carton



Carton label position on carton box /
Kedudukan label carton pada kotak carton



Outer box position inside carton box /
Kedudukan kotak outer di dalam kotak carton



DOCUMENT NO	PCM-FB-1416	APPROVED	CHECKED	PREPARED
REVISION NO	1	MAK NUR	21-08-20	2020
REGISTERED DATE	26.12.2016			
REVISION DATE	06.06.2024			

Figure 4.26: SOP 22

This Aluminium Circular Needle (PCM/BPCS No. 12113870, Customer Item No. 211387). Each needle is on a card for easy display. Five of these cards are bundled together in a smaller box. Then, a larger carton holds 20 of these small boxes, for a total of 100 cards. Figure 4.27 shows the packaging process, SOP 23.

PCM
CONSUMER
WEBSITE

PACKING ITEM SPECIFICATION

PCM ITEM / BPCS No. 12113870
CUSTOMER ITEM No. 211387
ITEM DESCRIPTION 1 Pc. Per Card
5 Card Per Outer
20 Outer Per Master Carton
100 Box Per Master Carton

PCB-1403

COMPONENT No.	COMPONENT DESCRIPTION (JAF)	COMMON DESCRIPTION	UOM
3052327	ALU-7000-PCB-AP	Alu circ all gsm PRYM 54400070-AP	Pc.
3052327	ALU-5001300	ALU CIRCULAR KNITTING NDL BSN 120 BOX	Card
3052344	215855AG	5761-ABRO folding box / 21138755mm	Outer
3052328	CHESMIC-NEW	RSC-385 X 290 X 250 MM	Carton
3051932	LABEL-C	Packing Label - 30mm x 120mm	Label Carton
3051950	LABEL-K (OUTERM2M)	Packing Label - 45mm x 37mm	Label Outer
3052074	LNANOM31MM	NANO TAPE TRANSPARENT 30X1MM	Nano Tape
3052075	LABEL-N	Packing Label - 40mm X 100mm	Label Carton

LABEL OUTER

LABEL CARTON

ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on card @ Master @ box / Label L to On Right. Masukkan material pada card @ Master @ box

Card @ Master @ box position in outer box / 5 card / Masukkan card @ Master @ box di dalam outer box

Label outer position on outer box / Facing Front. Masukkan label outer pada front outer

Outer box position inside carton box / Masukkan kotak outer di dalam kotak carton

Carton label position on carton box / Masukkan label carton pada kotak carton

DO : 385 X 290 X 250MM
X 300 X

DOCUMENT NO	PCM-1403	APPROVED	CHECKED	PREPARED
REVISION NO	1			
APPROVED DATE	18.12.2018			
REVISION DATE	08.06.2019			

Figure 4.27: SOP 23

This Plastic Single Point Needle (PCM/BPCS No. 12113870, Customer Item No. 211387). Each needle is on a card for easy display. Five of these cards are bundled together in a smaller box. Then, a larger carton holds 20 of these small boxes, for a total of 100 cards. Figure 4.28 shows the packaging process, SOP 24.

PCM
CONSUMER
PRODUCTS

PACKING ITEM SPECIFICATION PCM-PIS-419

PCM ITEM / BPCS No.	12113870
CUSTOMER ITEM No.	211387
ITEM DESCRIPTION	2 Pcs Per Box 5 Box Per Outer 35 Outer Per Master Carton 150 Box Per Master Carton

SAP No.	BPCS No.	COMPONENT DESCRIPTION (BAP)	QUANTITY DESCRIPTION	UNIT
30010003	PLA0031000P09-AN	PLAST NDL PRYM GRAY P 8000310003-AN	Plast. Sgl. Point Ndl.	Pc.
30022508	PLA-35N35-8-100	PLA KNIT NEEDLE 35 35 BOX 8-10MM	Outer	Pc.
30021391	472410MC-MEW	RSC-472 X 410 X 242MM	Carton	Pc.
30022573	383040AO	Outer Ala Knit Ndl 95 x 40 x 385mm	Outer	Pc.
30011902	LABEL-C	Packing Label - 50mm x 120mm	Label Carton	Pc.
30011900	LABEL-R (OUTERMGM)	Packing Label - 45mm x 75mm	Label Outer	Pc.
30032202	CINLAY-35N35-PLA	CINLAY-35 35 PLA KNIT NEEDLE 8-10MM	Islay	Pc.
30017384	LABEL-L (INP)	PACKING LABEL 35N3535MM-DP LABEL	Label Box	Pc.
30020256	LABEL-R	Packing Label - 45mm x 105mm	Label Carton	Pc.

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada



Material on cards @ blister @ box / Label L in the right. *Kandungan material pada card @ blister @*



Label outer position on outer box / *Posisi label luar pada kotak luar.*



Cards @ blister @ box position in outer box. / *Kandungan card @ blister @ kotak di dalam kotak luar.*



Outer box position inside carton box / *Kandungan kotak luar di dalam kotak carton.*



Carton label position on carton box / *Kandungan label carton pada kotak carton.*



DOCUMENT NO	PCM-PIS-419	APPROVED	CHECKED	PREPARED
REVISION NO	1	16.09.2018	17.09.2018	17.09.2018
REGISTERED DATE	16.09.2018			
REVISION DATE	11.01.2024			

Figure 4.28: SOP 24

This Universal Knit Counter (PCM/BPCS No. 16118740, Customer Item No. 611874). Each counter is securely attached to a card so customers can easily see it. Five of these cards are bundled together in a smaller box. Then, a larger carton holds 64 of these small boxes, for a total of 320 cards. Figure 4.29 illustrates the packaging process, SOP 25.


PACKING ITEM SPECIFICATION
PCM-PB-04

PCM ITEM / BPCS No.		16118740	
CUSTOMER ITEM No.		611874	
ITEM DESCRIPTION		1 Pcs. Per Card 5 Card Per Card 64 Outer Per Master Carton 320 Cards Per Master Carton	
COMPONENT No.	BPCS No.	COMPONENT DESCRIPTION (BAP)	COMMON DESCRIPTION
SAP No.			UM
3031046	AMRSPIMC	"B" - 24.34 X 8 X 12 1/2***	Carton
3031092	LABEL-C	Padding Label - 55mm x 120mm	Label Carton
3031090	LABEL-E (OUTERMING)	Padding Label - 45mm x 170mm	Label Outer
3032208	D320	320-PLAIN WHITE CONSTRUCT	Outer
30310089	BL3216MM(PET)	BL3216MM(PET)-45 X 52 X 20 MM	Blister
30335744	CS11874-PET	CS11874-PET PLA UNIVERSAL KNIT COUNTER	Card
30318009	ACKCUN-P	Universal Knit counter - Print	Knit Counter
30320256	LABEL-H	Padding Label - 45mm X 100mm	Label Carton

LABEL OUTER



LABEL CARTON



ADDITIONAL LABEL / LABEL TAMBAHAN - If any / Jika ada

Material on cards @ blister @ box /
Kandungan material pada card @ blister @ kotak



Label outer position on outer box / Top Center
Kekedudukan label outer pada kotak luar



Carton label position on carton box /
Kekedudukan label carton pada kotak carton



Cards @ blister @ box position in outer box / 5
Pada Kekedudukan card @ blister @ kotak didalam kotak luar



Outer box position inside carton box /
Kekedudukan kotak luar di dalam kotak carton



DOCUMENT NO	PCM-PB-04	APPROVED	CHECKED	PREPARED
REVISION NO	1	ALYAHAR	25/12/2018	20/01
REVISIONED DATE	26/12/2017			
REVISION DATE	04/04/2018			

Figure 4.29: SOP 25

4.3 Objective 3: To Validate the SOP for Knitting Needles Packing

4.3.1 Validate

All SOP are reviewed before they become effective. The Technical Supervisor goes over the SOP initially, followed by the Production Manager and the Quality Assurance Manager. When a SOP is not complete, it shall be returned for correction. Once all reviewers have approved a SOP, the Quality Assurance Manager will be accountable for inserting it into the system. Figure 4.30 shows the SOP being reviewed by the technical supervisor.



Figure 4.30: Validation by Technical Supervisor

4.3.2 Training

After SOP validation, four operators were chosen to undergo training on the newly permitted procedures. This focused training guarantees that operators become familiarized with the validated SOP prior to implementation, boosting process consistency and effectiveness. Figure 4.31 shows that training operators with the SOP.



Figure 4.31: Training Operators

4.3.3 Survey

A detailed survey was carried out to assess the impact of introducing SOP. The survey targeted important employees who were involved directly with the affected procedures. This includes three operators, the line leader, the technical supervisor, and quality control personnel. Figure 4.32 displays survey responses ranging from very dissatisfied to very satisfied (1–5). Table 4.2 and Figure 4.33 illustrate their input, which was collected before and after the SOP was implemented. Appendix A includes an extensive survey questionnaire.



Figure 4.32: Survey Rating

Table 4.2: Data Before and After SOP implementation from Survey

	Before SOP			After SOP		
	Training	Efficiency	Satisfied	Training	Efficiency	Satisfied
Quality Control Staff	2	2	2	4	5	5
Technical Supervisor	2	3	3	5	5	5
Line leader	2	2	2	3	4	4
Operator 1	2	2	2	5	5	5
Operator 2	2	3	3	4	4	4
Operator 3	2	2	2	4	5	5

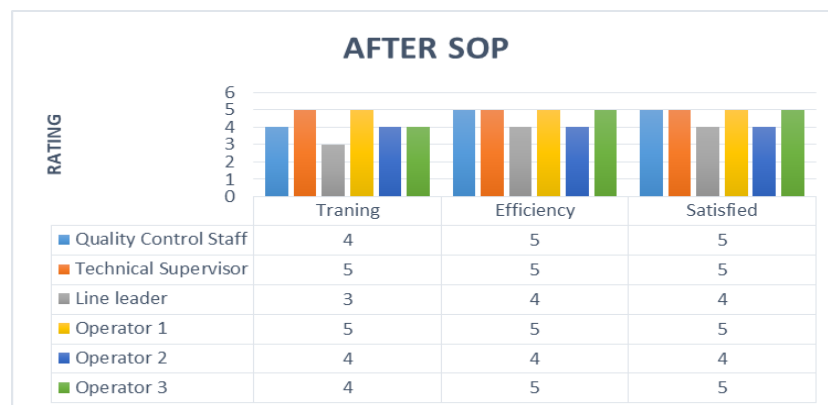
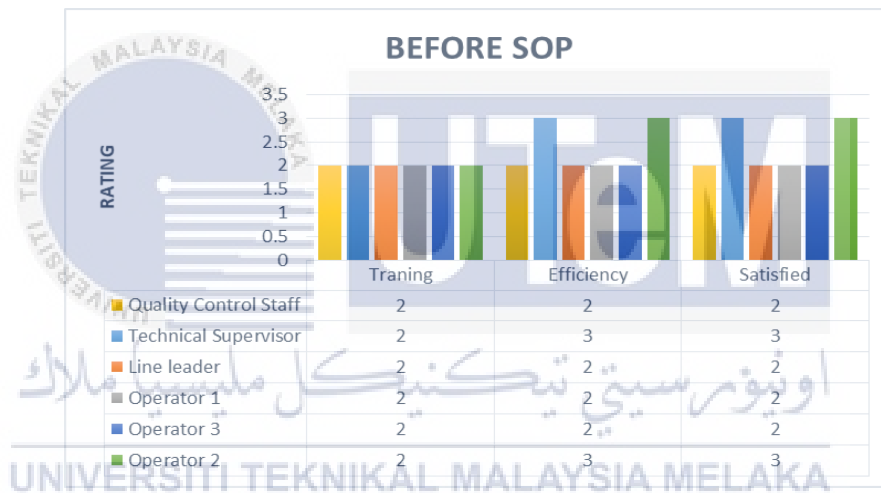


Figure 4.33: Graph Before and After SOP implementation

The survey data were examined by calculating the mean, median and standard deviation for both the before and after SOP implementation phases. This study provides for the comparison of effectiveness before and after the implementation of the SOP. Table 4.3 show the mean, median and standard deviation data for before and after implementing SOP data meanwhile this data have been represented in a graph as shown in figure 4.34.

Table 4.3: Mean, Median and Standard Deviation

	BEFORE	AFTER
MEAN	2.222222	4.5
MEDIAN	2	5
STD DEVIATION	0.427793	0.618347

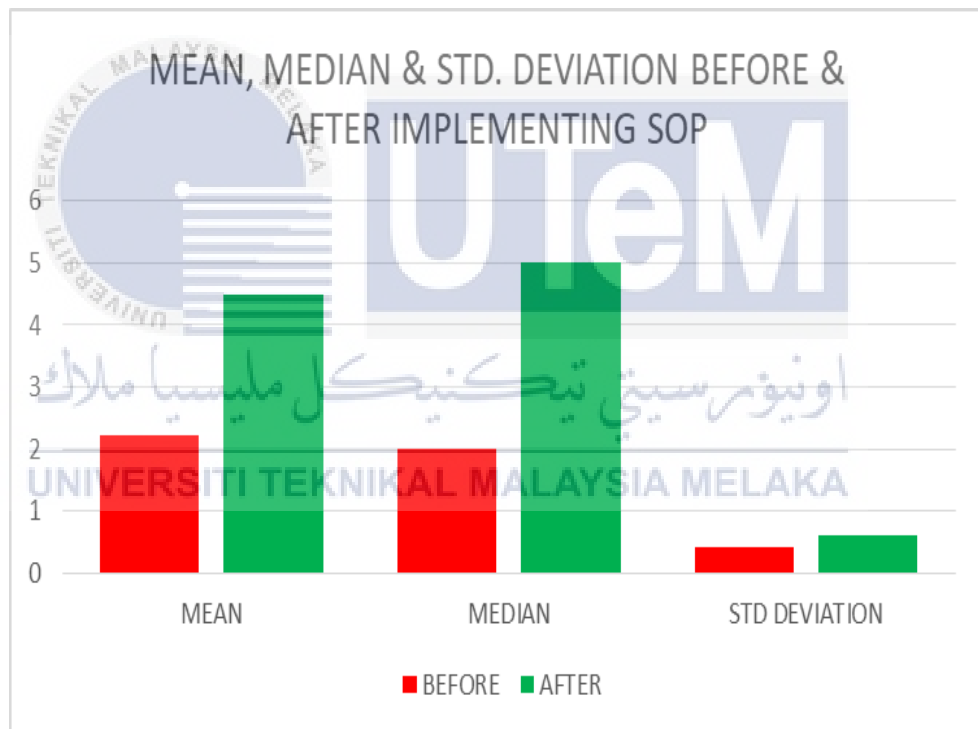


Figure 4.34: Mean, Median and Std. Deviation Before and After Implementing SOP

Upon finishing the project, the implementation of a digital version of the SOP specifically for the executive members had been proposed. In addition, following discussions with senior management on the comprehensive digitalization plan, it was determined that we would expand this initiative to include the implementation of an Electronic Standard Operating Procedure (E-SOP) for all members of the executive team.

This will facilitate their ability to access, reference and download the required SOP. Figure 4.35 shows the instructions for accessing the E-SOP.

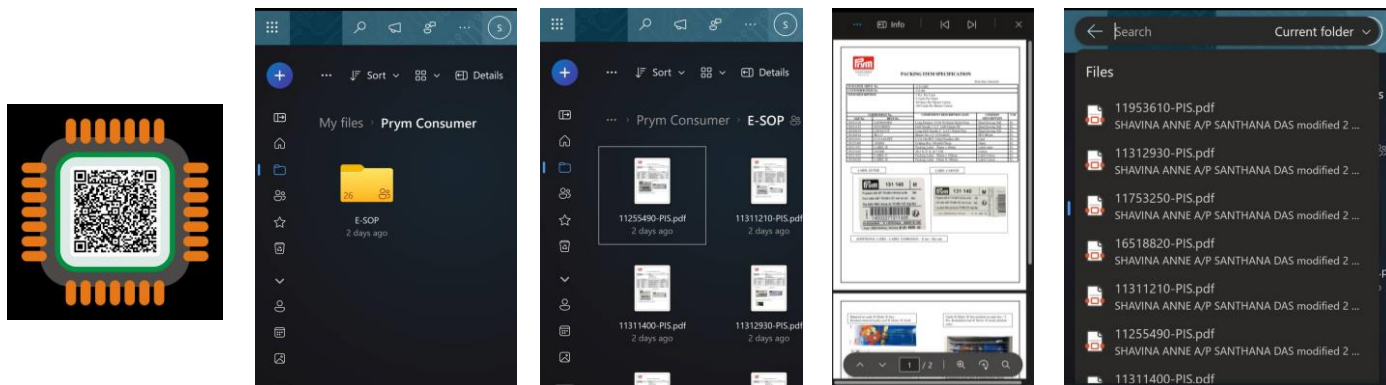


Figure 4.35: Steps to Access E-SOP for Executive Members



CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The project at Prym Consumer Malaysia Sdn. Bhd. intended to develop the SOP for packing knitting needles. This included performing an extensive analysis of the existing packaging procedures to find problem and possibilities for improvement. As a result, developed SOP were set up and created to standardize the packaging process, with an emphasis on consistency, effectiveness, and quality control. These new processes were defined with steps, flowcharts, and diagrams to ensure clarity. The last step comprised thorough stakeholder participation and quality assurance tests to ensure the newly established SOP fulfilled the necessary criteria and significantly enhanced the packaging process.

5.2 Recommendation

To keep the SOP up-to-date as well as efficient, it should be reviewed and updated on a regular basis to reflect modifications to regulations, technology, and business practices. Implementing extensive employee training programs will guarantee that they are familiar with the developed SOP while maintaining the highest efficiency and quality requirements. Continuous stakeholder participation in the SOP creation and review process is important since opinions ensures that the processes are feasible and fulfil the requirements of all parties concerned. Furthermore, looking at ways to combine new technology like digitalizing SOP for operators which can help to speed the packaging process and improve accuracy.

5.3 Sustainability

The project illustrates environmentally aware design by developing SOP that optimize the use of resources while minimizing waste, in accordance with the ideals of social, economic, and ecological sustainability. These developed SOP improve the sustainability of the packing process by minimizing mistakes and increasing efficiency, lowering the environmental effect of the company's operations.

5.4 Complexity

The project addresses challenging engineering issues by developing SOP to handle uncertainty and variability in the packing process. The precise and systematic approach to generating these SOP reveals an elevated level of ability to resolve issues and complexity within the organization. This project needed deep understanding of the packing process, stakeholder interests, and regulatory constraints, making it a notable accomplishment in complicated engineering tasks.

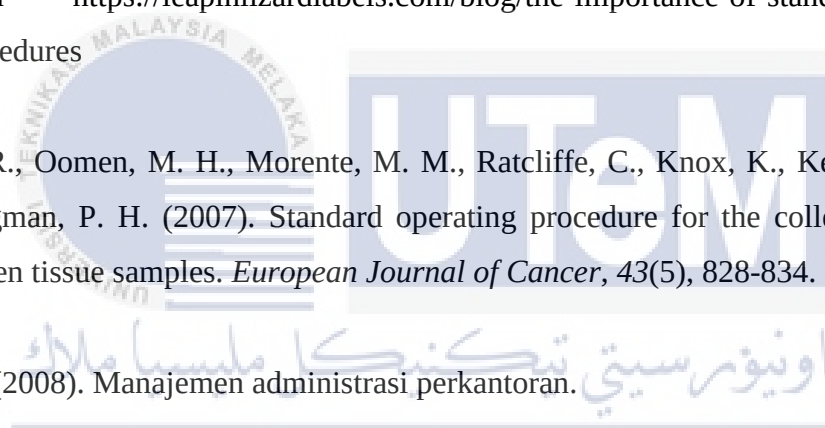
5.5 Long Life Learning and Basic Entrepreneurship

The project highlights knowledge sustainability by promoting continual development and frequent SOP updates. This method guarantees that the company's processes stay current and effective throughout time. In addition, the ability to market the enhanced SOP emphasizes the project's business nature. By optimizing the packaging process while upholding high quality standards, the firm may increase its market competence while discovering new business alternatives.

REFERENCES

- Amare, G. (2012). Reviewing the values of a standard operating procedure. *Ethiopian journal of health sciences*, 22(3).
- Almeida-Lynne, S. Guidance for Preparing Standard Operating Procedures ppt.
- Akyar, I. (2012). Standard operating procedures (what are they good for?). *Latest research into quality control*, 12, 367-91.
- Alotaibi, S., Alomair, H., & Elhussein, M. (2019, April). Comparing performance of commercial cloud storage systems: the case of dropbox and one drive. In *2019 International Conference on Computer and Information Sciences (ICCIS)* (pp. 1-5). IEEE.
- Anderson, C. (2023, June 15). Ensuring SOP compliance in your business. Bizmanualz. Retrieved from <https://www.bizmanualz.com/improve-company-governance/ensuring-sop-compliance-in-your-business.html>
- Beaumont, C. D., Berry, D., & Ricketts, J. (2022). Technology has empowered the consumer, but marketing communications need to catch-up: An approach to fast-forward the future. *Businesses*, 2(2), 246-272.
- Barbosa, C. M., Mauro, M. F. Z., Cristóvão, S. A. B., & Mangione, J. A. (2011). The importance of standard operating procedures (SOPs) for clinical research centers. *Revista da associação médica brasileira*, 57, 134-135.
- Bit Tech Labs. (2021, August 13). Standard operating procedures (SOP): what, types and how to write? Bit Blog. Retrieved from <https://blog.bit.ai/standard-operating-procedures-sop/>

- Brush, K. (2021, October 15). Standard operating procedure (SOP). Business Analytics. Retrieved from <https://www.techtarget.com/searchbusinessanalytics/definition/standard-operating-procedure-SOP>
- Boyles, M., Murphy, F., Mueller, W., Wohlleben, W., Jacobsen, N. R., Braakhuis, H., ... & Stone, V. (2022). Development of a standard operating procedure for the DCFH2-DA acellular assessment of reactive oxygen species produced by nanomaterials. *Toxicology Mechanisms and Methods*, 32(6), 439-452.
- Chen, W. P., & Liu, C. M. (2016, December). Performance comparison on the heterogeneous file system in cloud storage systems. In *2016 IEEE International Conference on Computer and Information Technology (CIT)* (pp. 694-701). IEEE.
- Cook, J. L. (1998). *Standard operating procedures and guidelines*. PennWell Books.
- Frank, D. (2010). How to write SOPs that help increase consistency and improve performance quality in Standard Operating Procedures: A Writing Guide. *Cleaning & Maintenance Management*.
- Freeman, K. P., Cook, J. R., & Hooijberg, E. H. (2021). Standard operating procedures. *Journal of the American Veterinary Medical Association*, 258(5), 477-481.
- Gao, Y., & Lau, C. K. (2021). Risk assessment of urban rail transit project using interpretative structural modelling: Evidence from China. *Mathematical Problems in Engineering*, 2021(1), 5581686.
- Hayton, E. (2022). Why are standard operating procedures important?. Retrieved from <https://scribeshow.com/library/why-are-sops-important>

- Hollmann, S., Frohme, M., Endrullat, C., Kremer, A., D'Elia, D., Regierer, B., ... & Cost Action CA15110. (2020). Ten simple rules on how to write a standard operating procedure. *PLoS Computational Biology*, 16(9), e1008095.
- Jain, S. K. (2008). Standard operating procedures (SOP)-Back Bone of Pharmaceutical Industries. *Pharma info. net Available at: <http://www.pharmainfo.net/reviews/standardoperating-procedures-sop-back-bone-pharmaceutical-industries>*.
- Kulkarni, G. (2014). Cloud storage architecture. *Journal of Cloud Computing*, 3(1), 45-56.
- Leapin' Lizard Labels. (2023). The importance of standard operating procedures. Retrieved from <https://leapinlizardlabels.com/blog/the-importance-of-standard-operating-procedures>
- Mager, S. R., Oomen, M. H., Morente, M. M., Ratcliffe, C., Knox, K., Kerr, D. J., ... & Riegman, P. H. (2007). Standard operating procedure for the collection of fresh frozen tissue samples. *European Journal of Cancer*, 43(5), 828-834.
- Nuraida, I. (2008). *Manajemen administrasi perkantoran*. 
- Petrigna, L., Pajaujene, S., Delextrat, A., Gómez-López, M., Paoli, A., Palma, A., & Bianco, A. (2022). The importance of standard operating procedures in physical fitness assessment: a brief review. *Sport Sciences for Health*, 18(1), 21-26.
- Putri, N. T., & Dona, L. S. (2019). Application of lean manufacturing concept for redesigning facilities layout in Indonesian home-food industry: A case study. *The TQM Journal*, 31(5), 815-830.
- Schmidt, R. H., & Pierce, P. D. (2016). The use of standard operating procedures (SOPs). In *Handbook of hygiene control in the food industry* (pp. 221-233). Woodhead Publishing.

- The Pennsylvania State University. (2001). *Standard Operating Procedures. A writing guide*. Pennsylvania State University.
- Sedivy, A. (2021). Standard operating procedure for NanoTemper Monolith measurements. *European Biophysics Journal*, 50(3), 381-387.
- Amin, Z. (2023). Analysis of Standard Operational Procedure Submission of Special Ceiling For Sales Division. *Quantitative Economics and Management Studies*, 4(3), 523-531.
- United States Environmental Protection Agency. (2001). Guidance for preparing standard operating procedures (SOPs) (EPA QA/G-6). Retrieved from <http://www.cluin.org/download/toolkit/thirdednew/guidanceprepsops.pdf>
- United States Environmental Protection Agency. (2007). Guidance for preparing standard operating procedures (SOPs) (EPA QA/G-6). Retrieved from <http://www.epa.gov/quality/qs-docs/g6-final.pdf>
- Hippel, E. V. (1988). *The Sources of Innovation*, Oxford University Press. *Oxford*.
- Zhang, X., Feng, W., & Qin, X. (2013). Performance evaluation of online backup cloud storage. *International Journal of Cloud Applications and Computing (IJCAC)*, 3(3), 20-33.

APPENDICES

(Appendix A – Survey Question)



Knitting Needles Packaging Process Improvement Survey

Dear Team Member,

I'm embarking on a journey to enhance knitting needles packaging process at Prym Consumer Company. Your valuable insights and feedback are crucial in guiding this aim. I kindly request your participation in this survey, designed to gather both quantitative and qualitative data before and after the implementation of the Standard Operating Procedure (SOP) for knitting needles packaging.

Your responses will help understand the current challenges, assess the effectiveness of the SOP, and identify areas for further improvement. Your input is instrumental in shaping a more efficient and streamlined packaging process.

Thank you for your time and valuable feedback.

Warm regards,
[Shavina Anne/UTeM]

Before Implementing e-SOP

How satisfied are you with the current training provided for packaging knitting needles? *

	1	2	3	4	5	
Very dissatisfied	☐	☐	☐	☐	☐	Very satisfied

Rate your satisfaction with the efficiency of the current packaging process without SOP. *

	1	2	3	4	5	
Very dissatisfied	☐	☐	☐	☐	☐	Very satisfied

Overall, how satisfied are you with the packaging process facilitated without SOP?

	1	2	3	4	5	
Very dissatisfied	☐	☐	☐	☐	☐	Very satisfied

After Implementing e-SOP

How satisfied are you with the training provided on the new SOP for packaging knitting needles? *

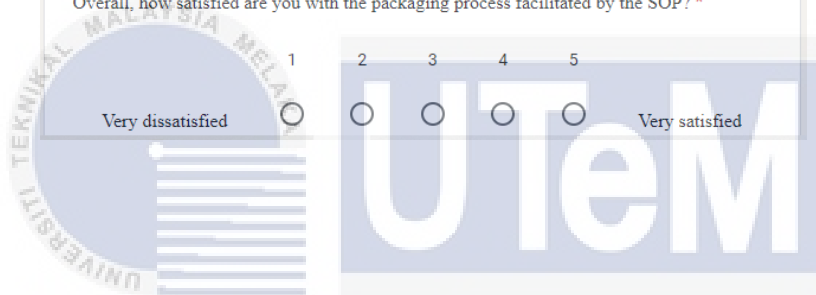
	1	2	3	4	5	
Very dissatisfied	☐	☐	☐	☐	☐	Very satisfied

Rate your satisfaction with the efficiency of the current packaging process since the implementation of the SOP? *

	1	2	3	4	5	
Very dissatisfied	☐	☐	☐	☐	☐	Very satisfied

Overall, how satisfied are you with the packaging process facilitated by the SOP? *

	1	2	3	4	5	
Very dissatisfied	☐	☐	☐	☐	☐	Very satisfied



اونيورسيتي تيكنيكل مليسيا ملاك

UNIVERSITI TEKNIKAL MALAYSIA MELAKA