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UNIVERSITI
TEKNOLOGI
MARA

ROYAL SELANGOR

INDUSTRIAL TRAINING FINAL REPORT
SESSION: FEBRUARY – AUGUST 2022

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Student's E-mail : 

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Department During Attachment : Industrial Engineering

Duration (Date) : 22 February 2022 – 4 August 2022

Lecturer Evaluation : Sir Mohamad Zarqani Yeop

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I also wish to thank my coordinators, Miss Hidayu and Sir Haikal, as well as my academic advisor, Mrs. Nor Ain for staying in touch with the interns during the internship program. As a final note of gratitude, I would like to extend my sincere thanks to my lovely family and friends for their endless support. It has been their support and positive encouragement that have enabled me to complete my diploma studies independently. My final wish goes out to Royal Selangor International Sdn Bhd. My hope is for the company to always strive to be the best in Malaysia so people can see the company around the globe.

ABSTRACT

This industrial training report describes Nur Mayamin binti Baharin's training which consists of 24 weeks before completing the Diploma courses. The course was conducted at Royal Selangor International between February 22nd and August 4th, 2022, under the supervision of Nik Camelia binti Nik Omar Al-Haded, the Supply Chain Executive of Royal Selangor.

This program aims to fulfil the requirements for completing the diploma and graduating from the university. As a prerequisite to graduation, the training entails relevant work experience that will enhance professional development. In the first chapter of this report, it defines the concept of industrial training and describes industrial training objectives as well as some general industrial company information. The second chapter is an overview of the company and department, while chapter three describes the summary of the projects and weekly activities throughout 24 weeks of industrial training. In chapter four, it explains in detail about the projects, the problems encountered during the training and the approaches adopted to solve the problem. In addition, the report discussed professional and ethical issues related to the company, as well as health, environment, and sustainable aspects.

After all, it can be concluded that after completing industrial training, students can demonstrate acceptable social skills and responsibilities, as well as follow professional ethics in their work. Students also have the ability to demonstrate a commitment to lifelong learning and independent learning. In addition, they have the ability to develop good verbal and written communication skills throughout the industrial training course.

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Chapter 1

Introduction

1.1 Overview

Industrial Training (IT) is a compulsory requirement for students in certain programs at all levels of higher education in Institutions of Higher Learning (IHL). Industrial training programmes were created to strengthen the necessary competencies in order to increase the number of graduates qualified for employment. Industrial Training (IT) is the process of exposing students to engineering work in the real world and involving them in Chemical Engineering projects before they graduate. One of the conditions for the award of a diploma in chemical engineering is that the student complete at least twenty-four (24) weeks and twelve (12) credit hours of industrial training within semester six (6) OR after passing all of the courses studied from semester 1 to semester 5.

The goal of Industrialmanship is to familiarise UiTM students to industrial culture and the workplace while also improving student employability by increasing their industrial abilities. They will also attend several briefings that serve as training for the trainee. This internship will be for 24 weeks, beginning on February 21 and ending on August 4, 2022. The student must report to the employer at the time and on the date specified at the Industrial Training briefing. One (1) Lecturer Evaluation will be given to the student during the internship time in order to evaluate their performance. Two (2) weeks after the internship ends, the logbook and finalised report must be sent to the college both online and in print.

Courses in industrial training (IT) provide students with learning chances in the workplace so they can gain real-world experience and increase market trustworthiness. The industrial training assists in producing chemical engineering technician graduates with excellent technical skill and soft skill competency when it comes to preparing the students as engineering technicians. Since all core and elective theories can be utilised in industrial training, it is expected that students would be able to approach problems and projects given to them by supervisors in interesting and innovative ways. Additionally, the industrial training

boosts students' self-confidence and enhances their collaboration and communication abilities. Students are also required to apply engineering with a high degree of integrity, ethics, and accountability.

1.2 Objective Industrial Training

The main objective of Industrial Training (IT) is to give students learning opportunities in the world of work to receive practical experience in order to improve the reliability of the market. In preparing the students as an engineering technician, the industrial training helps to produce chemical engineering technician graduates with excellent technical skill and soft skill competency.

The other objectives are:

- Mastering technical skills
- Gaining essential background knowledge
- Perfecting interpersonal skills (soft skills)
- Building a Network of Contacts

1.3 Industrial Training Placement

ADDRESS	4, Jalan Usahawan 6, Setapak Jaya, 53300 Kuala Lumpur, Malaysia
TEL	
FAX	
WEBSITE	
BUSINESS SEGMENT	

1.3.1 Industrial Schedule

Normal Working Hours	8 hours
Monday – Friday	8.00 am – 5.00 pm
Saturday & Sunday	Holiday
Break hour	12.00 pm – 1.00 pm

1.3.2 Company Supervisor Information

NAME:	Ms. Nik Camellia binti Nik Omar Al-Haded
POSITION:	
CONTACT NO:	
EMAIL ADDRESS:	

Chapter 2

Company Profile

2.1 Company Background

Royal Selangor International Sdn Bhd has been established since 1885. Royal Selangor has been the world's foremost name in quality pewter. Based in Kuala Lumpur, Malaysia, Royal Selangor has standalone stores in top retail capitals around the world, including London, Hong Kong and Singapore. Royal Selangor products are also carried by top department stores such as Wako in Japan, Harrods in London, and Hudson Bay in Toronto. The company have continuously expanded the limits of pewter design while staying true to their heritage of craftsmanship. There are thousands of high-quality pewter accessories, dinnerware, and gifts to choose from this company.

New Product Development Department

Days	Working Time	Operating Period
Monday to Friday	8.00 a.m. – 12.00 p.m.	4 hours
	12.00 p.m. – 1.00 p.m. (lunch hour)	1 hour
	1.00 p.m. – 5.00 p.m.	4 hours
		(Total: 9 hours)
Saturday and Sunday	8.00 a.m. – 12.00 p.m.	4 hours
	12.0 p.m. – 1.00 p.m. (lunch hour)	1 hour
	1.00 p.m. – 4.30 p.m.	3 hours 30 minutes
		(Total: 8 hours 30 minutes)

Table 2.1: Operating Schedule of Royal Selangor Sdn Bhd

2.2 Company History

It all began in 1885 when a young pewtersmith by the name of Yong Koon travelled from Shantou, China to Kuala Lumpur, Malaysia. He and hundreds of other mainland Chinese residents were drawn to Malaya by the discovery of tin, which allowed him to start a small business at No. 23 Cross Street producing straightforward home items out of tin.

Eventually, Yong Koon's inventiveness and perseverance led him to experiment with pewter, an alloy of tin, antimony, copper, and bismuth. He joined a group of other artisans to become one of the first pewtersmiths in Kuala Lumpur, beginning by creating ceremonial objects for Chinese temples' ancestral altars. Every one of Yong Koon's masterpieces was inscribed with "Yu He Zu Xi," which stood for pure tin to indicate the superior grade of the material he used. This was done similarly to how silver products are hallmarked.

The 1930s were an important turning point in Yong Koon's life, as the period saw a drop in demand for traditional ceremonial dishes. This led Yong Koon to focus on producing European-style products for British and other foreigners, such as cigarette cases, ashtrays, vases, teapots and utility items. This helped him and his family earn enough money to open their own shop at 219 Pudu Road, and the business name was changed to Malayan Pewter Works. When Yong Koon's second son Peng Kai inherited his father's business, the business was moved to Batu Road and the name was changed to Selangor Pewter.

When the company began exporting in the 1970s to Singapore, Hong Kong, Germany, Denmark, Japan, Australia, and the UK, it entered another exciting phase. Additionally, they expanded their company to design, produce, and market sterling silver and fine jewellery under the Selberan and Comyns brand names.

In 1979, history was made when the company received a royal warrant from the Sultan of Selangor. In 1992, the company changed its name to the Royal Selangor that we know and love today. In the present, the Royal Selangor company is still growing at a rapid rate. The third and fourth generations of the Yong family are still in charge, with the help of over 250 craftsmen and a 40-person design team. Additionally, the family business has worked with titans of popular culture like The Walt Disney Company SEA and Marvel Comics to create custom pieces for international luxury conglomerates like the LVMH group. In addition to their award-winning Visitor's Centre, which is one of Kuala Lumpur's top tourist attractions and offers visitors the chance to explore fascinating craft workshops, Royal Selangor continues to conduct business out of their main factory in Setapak.

2.3 Vision and Mission

Vision

Pewter is about possibilities. It is an idea made real, crafted with precision. It evolves and can make tradition timeless. Pewter is our legacy and we are keeping the legacy alive.

Mission

To achieve excellence in design, manufacturing and marketing of high-quality home décor, gifts and jewellery.

2.4 Organization Chart

New Product Development (NPD) Organization Chart

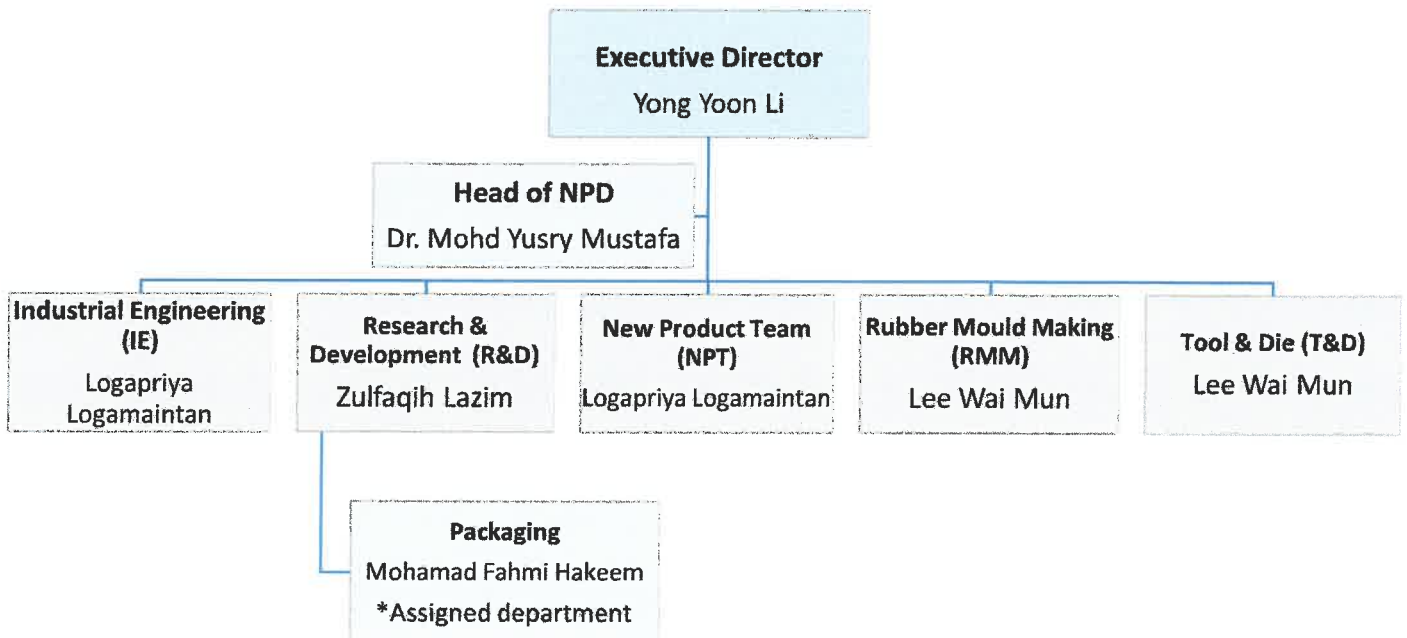


Figure 2.4: NPD Organization Chart

Chapter 3

Overview of the training

3.1 Introduction

During 24 weeks of training, a variety of jobs are provided by Royal Selangor including in the industrial engineering department and packaging department. I have accumulated various experiences and new skills throughout the projects that I get. Through my interaction with superiors, suppliers, technicians and operators, I have developed soft skills that will enhance my ability to handle and solve problems. The following chapter summarises all the tasks and projects that were undertaken during the 24 weeks. Throughout the internship, I have been assigned to two departments which are Industrial Engineering and Packaging departments. Both departments have different types of job scope. IE more focusing on developing new products and improving systems. Packaging is focusing on inventing the packaging of the items. From both of my experience in those two departments has gained me time management, communication, decision making, social, problem solving and critical thinking skills.

3.2 Summary of The Training and Experienced Gained

These are the only duties and tasks that doing throughout an industrial training.

Task 1: Experimental on wax composition to made candles.

During a training period, the task is assigned to prepare the best quality of scented candle in pewter. I need to prepare the candle for a new product that will be launched in July 2022. Countless research on how to make a well-made candle and reading about requirements the candle needs to pass to Europe. Hence, many experiments have been carried out on every composition of wax to make it. After all the candles have finished the process, a burning test of the product will be carried out to find out the properties of the burning area and other aspects. Lastly, awaiting approval from the head department to choose the candle with the best composition and looks.

Task 2: Assigned to handle packaging for bespoke items.

Once I had been in IE for one month, I was assigned to the packaging department to handle the packaging of the bespoke items. Bespoke is a custom-made order. There are some examples of bespoke projects that I've handled such as 8sian, Hikari, Saudi Arabia, RSUK-ONSA, FIFA 2022 and many more. The process takes some time before the packaging of the item is approved by the person in charge (PIC). First, the description of the items is all in email and gets the details of packaging that clients wanted. Once the packaging box has been completed, samples of the item will be ready for client approval. Finally, a few steps must be taken before mass production can begin on the packaging box.

Task 3: Conversion box to reduce the cost of packaging

Since the cost for the old box is expensive, they decided to reduce the cost by creating a cheaper box. Hence, they will ask us to draw the new box and do a mock up sample for the box. After that, the box will have to get approval from the PIC. It will be sent to the designer for artworks. After all the process has been done, the drawing of the new box will be sent to planning for a quotation from the supplier. After a week, the sample of the new box from the supplier will be arrived to get approval from the team. Finally, the old packaging instructions that use the old box need to be amended and changed to using the new box. Lastly the revised packaging instructions will be published to all.

3.2.1 Weekly Activity

Week 1:	Briefing on the rules of the company and explanation on industrial engineering. Some tasks are given such as differentiate long and short ball plunger, Introduction to Rhinoceros app for technical drawing and look up requirement of candles to pass Europe market.
Week 2:	Did some technical drawing of the ACE products. Then, experimental on composition of wax to made fine candles. I did research on the shrinkage of the candles based on the candles burned to identify the quality of the candles. Lastly, run a preliminary experiment on cloudy glass using any type of liquid whether using chemicals or any detergent to clear the glass.
Week 3:	Focusing on making candles using few methods to get the targeted colours and composition and keep updating the results of the candles to the person in charge (PIC).

Week 4:	Continues with the task cleaning of the cloudy glass using acetic acid, did another candle for QA samples and few tests using other wicks. Next, follow up progression of Mujyo products which is knife and wooden box.
Week 5:	Making another sample of candle for smaller size, did standard operating procedure (SOP) for candle making and made slide for regulations of candle in Europe. Then, checking on the touch up progress of the Mujyo products for the colours and quality.
Week 6:	Cleaning few glasses to find out the most effective method that will be use to remove the cloudiness, focusing on made some candles for samples, wipes a pewter bearbrick using thinner and had briefing of packaging work tasks.
Week 7:	Training session with packaging technician on handling packaging order of bespoke item.
Week 8:	Handling bespoke item and get familiar with packaging of standard item. Then, drafting candle SOP to shows the step of making the candle.
Week 9:	Solving issues of 8sian and Hikari packaging.
Week 10:	Solving pkg instructions issues for Hikari and 8sian items and amend technical drawing of 8sian greyfoam.
Week 11:	*Hari Raya Holiday
Week 12:	Hand cut greyfoam sets for 8sian item and had meeting with supplier regarding the greyfoam to solve some misunderstanding.
Week 13:	Handling bespoke packaging such as Hikari, Saudi Arabia and Yayasan Raja Muda Selangor items and had briefing on FIFA packaging.
Week 14:	Amend TD greyfoam for medium trophy FIFA, hand cut greyfoam for bespoke tankard, teaching production team on packing Saudi Arabia items and teach R&D team on making candles.
Week 15:	Recheck on candles burning to get timing for them to finished, packing one 8sian figurine at warehouse to be sent to USA and amend pkg instructions Hikari and Saudi Arabia item.
Week 16:	Confirming TD from supplier, making greyfoam for FIFA items, and draw new box TD.
Week 17:	Solving issues of bearbrick packaging and did mock up for new box.
Week 18:	Did TD velvet box, cutting styrofoam for bearbrick packaging, solving wooden box issues for Kings College items. Packing standard item for salesman sample.

Week 19:	Focusing on amend packaging instructions for RSUK-ONSA items, cutting styrofoam sets of bearbrick packaging and did packaging instructions of box conversion.
Week 20:	Continues with packaging instructions of box conversion, draw a new liner for FIFA packaging and handle some of others bespoke item of cutting greyfoam sets.
Week 21:	Focusing on RSUK-ONSA packaging issues, prepare FIFA liner to insert into its box, cutting styrofoam for bearbrick packaging and prepare for 6 sets of Koi inner cavity of styrofoam.
Week 22:	Fixing styrofoam set for Koi item, cutting Styrofoam for bearbrick packaging, amend pkg instructions and velvet box TD for RSUK-ONSA, calculate total items weight of FIFA items for air freight and did costing for standard item (Benovelence) to try the new innovation of packing to reducing cost.
Week 23:	Briefing new staff of packaging technician to the works that he will be responsible, cutting styrofoam for bearbrick packaging, amend the pkg instructions for MRT plaque, searching for sample of wooden box, cloth to the new product of bespoke orders.

Chapter 4

Details of Experience

4.1 Introduction

Previously, I worked in the IE department where IE focuses on creating a new product. Then I was assigned to the Packaging Department for the rest of my internship under the Department of Research and Development of Royal Selangor, and responsible for all packaging-related projects. With the goal of continuously improving every aspect of Royal Selangor's business and minimizing the impact of their activities on the environment, the main focus of my project is to improve the quality while keeping the environment safe by using eco-friendly materials.

During my first assignment at IE, I had to develop a new product which was a scented candle that was released in July 2022. Countless research on how to make a well-made candle and reading about requirements the candle needs to pass to Europe. Hence, many experiments have been carried out on every composition of wax to make it. After all the candles have finished the process, a burning test of the product will be carried out to find out the properties of the burning area and other aspects. The last step is to choose the candle with the best composition and appearance after receiving approval from the head department.

Then, after the department changed, I was assigned to take care of bespoke projects. Bespoke is a custom-made order which can be personalised according to clients' taste. Orders for bespoke items can come from all over the world. Packaging needs to be safe and secure for the item, and we need to be creative when designing it. There are some examples of bespoke projects that I've handled such as 8sian, Hikari, Saudi Arabia, RSUK-ONSA, FIFA 2022 and many more. The process takes some time before the packaging of the item is approved by the person in charge (PIC). First, the description of the items is all in email and gets the details of packaging that clients wanted. Once the packaging box has been completed, samples of the item will be ready for client approval. Finally, a few steps must be taken before mass production can begin on the packaging box.

Lastly, the project of conversion box to reduce the cost of packaging. Since the cost of the old box was expensive, they decided to reduce the cost by creating a cheaper box. Hence, they will ask us to draw the new box and do a mock up sample for the box. After that, the box will have to get approval from the PIC. We will send it to the designer for artwork. After all the process has been done, the drawing of the new box will be sent to planning for a quotation from the supplier. Within a week, the sample of the new box will arrive from the supplier for team approval. Finally, the old packaging instructions that use the old box need to be amended and changed to use the new box. Lastly, the revised packaging instructions will be published. However there some information given was not in exact amount as it was PNC.

4.2 Details of experience gained

4.2.1 Experimental on wax composition to made candles.

Problem Statement

IE has proposed to make a new product which is a scented candle and targeting Europe market. Since they targeting the EU country, there are some rules that they need to follows to make sure that the candle is passed. One of the rules that they need to follows is the content and looks of the candle. The look of the candle must not similar to food products. The wax that cannot be used to make the candle is paraffin wax and the wick must not contain any lead. Paraffin wax will release toxic benzene and toluene which both are known as carcinogen substances which can lead to a person to have cancer if exposed too long. Then, the wick that burned the candle must not contain lead. Lead can cause lead poisoning hazard to young children where if high levels of exposure, its attack the brain and central nervous system. Therefore, EU country strictly banned these substances.

Royal Selangor release the scented candle product on July 2022; thus, few tests must be taken. Thus, manufacturers and importers of candles in the EU should conform to the requirements of the directive, with particular attention to EN 15493 fire safety and EN 15426 soothing behaviour and pass REACH test. The team also need to prepare

biodegradable packaging, and have insert instructions to use the candle along the products later. If any of the requirements are not up to their standard, they could return back the products which will bring damage cost to the company. Since the candle has been proposed before I was starting the internship, I was assigned to continue the experiment from the previous intern to make a new composition and did research on the requirements.

Objective

The main objective of this project is to produce good quality scented candles in pewter. This project aims for customer satisfaction when they buy this product and penetrate the European market successfully. Finally, this experiment on wax composition is intended to produce the best scented candles possible.

Methodology

I'm doing research through most websites and articles to get the best composition used. For the candle, we will use beeswax and soy wax which is safer than paraffin wax. Besides, the waxes are from natural sources and eco-friendly. Rather than using wicks containing lead for the candle, the PIC of the previous decided to use natural wooden wicks which are lead-free and completely natural. The beeswax is used to get the yellowish colour of the candle. Comparatively to other scented candles available, our candle has a high percentage of fragrance. The following table shows the ratio that has been tested before getting the finalised result.

Material used	Ratio
Soy wax: Beeswax: Fragrance	50:40:10
	60:30:10
	70:20:10
	75:15:10
	80:10:10

Table 4.1: Composition of wax used

after a meeting with the head department, he approves the ratio of 70 soy wax:20 beeswax:10 fragrance. The candle for those composition burned well, the burn area, not leaving any soot to the candle. Also, the colours are pleasing and get the designer's approval. Hence, they decided to proceed with the ratio and will be used to every size of the candles. There are 3 sizes of candles which are S, M and XL.

After successfully gaining the approval from the head department to proceed with the ratio, I proceed to do many samples that need to be prepared. The samples for shooting, samples to get approval from the QA team, samples for drop test, samples for photoshoot in Singapore etc.



Figure 4.2 Final result of candle sample

4.2.2 Assigned to handle packaging for bespoke items

Problem Statement

After a month I've been in IE, I have been assigned to another department which is the packaging department. I will be responsible for managing any bespoke orders for the company. Bespoke is a custom-made order which can be personalised according to clients' taste. The packaging of bespoke items will be using rigid box, wooden box, velvet box and lining with grey foam sets or styrofoam wrapped with satin depending on what they ask.

The PIC usually sends the details of the item by email. In most cases, I have to hand cut the inner cavity for the box before sending a sample to the client. If a suitable packaging box does not exist, I have to design a new one and submit it for approval to the PIC and the designer. There are a lot of items that I have handled before such as 8sian, Hikari, Saudi Arabia, RSUK-ONSA, FIFA 2022 and many more. After finishing designing the packaging of products, we need to create packaging instructions. Packaging instructions are crucial for costing and will be provided to the manufacturing team handling the product. There will be times when the items will not fit into the master carton, so we will have to remain vigilant until they are all packed. After all, upon first packaging, we will need to assist the production team to pack the first item. The packaging instructions will have to be amended every time anything is changed on the packaging by the production team for costing purposes.

Objective

When we create bespoke items, our main objective is to provide clients with aesthetically pleasing packaging that meets their expectations. Most important is since most bespoke items must be sent out of the country, their packaging needs to be secure and safe. Also, it must look presentable to match the expensive price. Finally, we targeted the clients to be satisfied when they received the products in stylish packaging.

Methodology

Upon receiving orders for bespoke in an email, the designer will send a few drawing samples of the items. Here, I will extract the item dimensions to create the inner cavity (lining) of the items. We determine the packaging box size based on the item's dimensions. Whether it is a rigid box, wooden box or velvet box, we try to use the existing box we have. Based on the shapes of the items that will fit inside the box, we will draw the inner cavity using AutoCAD apps. Once the inner cavity has been designed, the production clerk will generate the codes. Once the code has been created, one must create packaging instructions. Packaging instructions contain information about what accessories are needed to pack the items. They also contain info about how to package the product, what type of packaging box and master carton are used, and

need to provide a sample of the new box in case we create a brand-new box, liner, or cavity. In addition, packaging instructions must be created. Sometimes when an issue arises about a product, there will be a small meeting with PIC to discuss the solution for the next move. We will then be able to resume progress smoothly. In the end, we will assist the manufacturing team in packing the item until it is placed in the warehouse before being delivered to the customer. As soon as all of the items are packed and delivered to the clients, we have completed our task.

4.2.3 Conversion box to reduce the cost of packaging

Problem statement

Royal Selangor is aiming to reduce the usage of non-biodegradable materials in their production and the most effective way to do so is by changing the materials used in packing the items. They want to strive for continuous improvement in every aspect of their business and work toward minimising the impact of their activities on the environment. Previously, all of their items were packed in rigid and flap boxes, whether they were standard or bespoke. The company, however, changed its packaging to be eco-friendly by switching to kraft boxes. Kraft boxes are made of recycled kraft paper and are therefore eco-friendly. Kraft boxes are 100% recycled material.

Consequently, the previous packaging designer created a kraft box with dimensions similar to the rigid and flap boxes to replace these non-biodegradable materials. By doing these, the environment can be improved while at the same time the cost of packaging can be reduced. This is because the kraft box is not as expensive as the rigid box. The previous packaging designer created many designs of kraft boxes that are used to this day. However, there are still a lot of new designs of the kraft box that need to be created. Except for the bespoke item, the standard item has been moved to the kraft box. It happens because the bespoke item is a special order and needs to have a different box from the standard item.

Due to these changes, the packaging cost of the standard item could be greatly reduced and the company could save money. Hence, I was assigned to change the packaging box where I had to design a few boxes to replace the rigid box. Since I have changed the packaging for the previous standard products, I have to amend the packaging instructions.

Objective

This project aims to create a new design for the kraft box to replace the old box. It aims to reduce the cost of packaging for existing standard items. Once the quality is checked, the box will be in stock replacing the old box. Additionally, packaging conversion is a means of reducing the cost of packaging products and saving money.

Methodology

PICs usually meet up or communicate via email about the box they want to exchange. As soon as the orders are received, the box will be measured and the data will be inserted into the technical drawing (TD). Once the drawing is complete, the mock-up sample needs to be created. We will print the TD and glue it onto corrugated cardboard. A piece of corrugated cardboard is cut according to the shape of the box TD. Check the base and top of the box to see if it can be closed nicely after folding. To ensure the TD is accurate, the box must be folded neatly. In the end, the TD will be sent to the planning team for quotations from the supplier and then to the designer to do artworks on the box. As soon as we receive the box sample from the supplier, we must inspect it for quality and approve it as soon as it meets our specifications. Lastly, once the stocks arrive, we must double-check the box and make sure it is printed correctly without leaving any details behind. Once the box is approved, we will send an approval email to the PIC.

Result

As a result, the cost has been cut. The revised cost will be calculated and recorded in the costing table. We will discuss the cost with the head department if he asks.

Whenever the staff wants to know the packaging cost of their product, we send them an email. Moreover, the company strives for eco-friendly packaging materials and reduces the use of non-biodegradable materials. It is a good initiative for customers to be able to recycle all their packaging.

4.3 Problem encountered and approach adopted for solving problem

After being in the packaging department, I have encountered several problems in terms of packaging. As an intern with no experience in this field, it is very challenging for me to handle the packaging. I was assigned to handle bespoke orders and had only a week to cover everything about packaging taught by the packaging designer.

With my limited knowledge of packaging, I became a temporary replacement for a packaging designer position. This department was handled by an intern and had no expertise in this field for us to consult. This job requires me to design new packaging for each item, and find the suitable packaging box that meets the client's requests. I encountered some difficulties in the packaging department, particularly in terms of the expertise and resources available. I had no guidance, and no sources to refer to, especially if the production team asked about old items. I had no idea what I was supposed to do.

Solution-wise, I handle the issues myself. I will refer to the previous designers' files and email histories for the item that can't be found. If I need to draw something new such as a greyfoam cavity, new box and liner, I will refer to the old TD design by the previous designer. This will be an example for me. Sometimes it may take a long time to finish the process of making the packaging for any item. However, it is the only way to get the task done since there is no expert. However, when there are so many pending bespoke orders, I will consult with the Head of Department, Dr Yusry, to resolve the urgent matter first, and ask for his advice.

Other than that, a product called Bearbrick has a problem with the styrofoam set that protects the item inside the master carton. Due to its large size, it is called bearbrick 1000%. Bearbrick is approximately 700mm tall. The Bearbrick will be kept inside a big wooden box. This item is from the time of the previous packaging designer. Upon the first packing, the manufacturing team in charge called me to assist them packing the product. However, once we put the wooden box inside the master carton, the box can't be closed. Although the box had been forced to close by four people pushing it. It does not work at all. The item was reported to my SV, who is the PIC. She was shocked by the news because when the supplier's sample arrived before, she had tested the packaging with the previous packaging designer and everything worked out fine.

It is very crucial because the manufacturing team is waiting for my solution to solve the problem. The item must remain in the warehouse before 1630 hrs. Thus, I came up with the idea to cut the big styrofoam into two pieces, and use nichrome wire to thin the back of the styrofoam to two centimetres. As a result, all the stocks in the material store will have to be cut this way.

4.4 Professional and ethical issues

- **Workload is heavy as interns must take on staff responsibilities.**

Due to a lack of workers in the packaging department, I was transferred from IE to packaging. It took only a week for the previous packaging technician to brief me and teach me about packaging. The packaging technician assigned me to handle the bespoke. We, the intern who managed the packaging department, took over his job once he resigned. Taking on jobs every day has become our responsibility and our workload with no supervision and being treated like employees. On top of that, we have to deal with many superiors, attend meetings with suppliers, and handle large issues on our own. Since the job hasn't settled yet, we even worked overtime without getting paid. However, they have not yet offered a solution to this problem.

- **You have to make your own decisions.**

Since there was no expert member to advise me on certain issues, I had to make my own decisions. I also have to approve many things myself. Even though I'm an intern, there are some workers who are harsh on me and are awaiting my decision. Some issues are beyond my ability to resolve, somehow she didn't understand that. If the staff calls me and mentions a mistake in the packaging instructions, she will blame me for everything, despite the fact that I did not know about it. While she is asking me to study the packaging, she can also tell me straight out that the packaging is incorrect and ask me to correct it. In one case, a product called bearbrick cannot fit into the master carton. It took me a while to figure out how to thin the back layer of the styrofoam to make it fit.

- **There is a problem with the intern's management.**

In this company, interns are usually not replaced according to their job scope when they join. Interns are usually assigned to a department with a vacancy of workers. For example, if the intern student reports to the T & D department, he will be transferred to packaging since there is a vacancy. The complaint will be of no use to the HR department because they take it lightly. Even when they know they don't have such job scope suitable to offer, they will insist on taking the internship. This is because they have a limited budget for hiring workers to fill in the vacancy.

- **There are no proper tasks for the intern.**

The intern has not been assigned a proper task since day one. The internship lasted 24 weeks without any planning on their part. We are sometimes given tasks that are actually their jobs, but they don't have time to complete them. When we had free time, we had to scan documents, and I even had to clean a department that was disorganised. As we discussed this matter previously, no further action has been taken.

and use the material to make new ones. Products that do not meet quality standards and cannot be repaired, such as pewter shavings, are melted and used to create new products. Old moulds have been used to create sculptural artwork at the Royal Selangor Visitor Centre.

Sustainable

At Royal Selangor, they are committed to sustainability and have a long-term perspective. In addition to preserving their more than 100-year legacy, they also recognise the value of maintaining artisanal skills, reducing our environmental impact, and assisting local communities.

- Acting on climate change

Since 1976, all of their pewterware has been produced at their current production facility, along with silverware and gold items by Royal Selangor associate companies Comyns and Selberan. Every piece that will eventually find its way into homes and celebrations around the world was first crafted using molten pewter, gold, and silver that was cast from diesel-fired cauldrons. The conversion of the cauldrons to those powered by electricity, a cleaner energy source, took place five years ago.

Efforts at enhancing the environmental sustainability of the business continued. The company began to look into ways and means of reducing electrical consumption and increasing our use of renewable energy sources. Government commitments to increase renewable energy to 20% by 2025 and the introduction of improved Net Energy Metering helped support the company's efforts. Through this scheme, they can export excess solar PV energy back to the national grid. Consequently, solar power became an increasingly attractive source of green energy.

The factory and offices, including the Royal Selangor Visitor Centre, now have rows of solar panels in neat grids. They generate 870 kilowatts of energy for manufacturing and visitor centre operations every day. Since we have the power of solar energy, the company wasn't getting black out during the whole Kuala Lumpur has no electricity due to problems at TNB. A lot of big places such as airport got interrupted by this incident. While us having backup of solar power to generate our

electricity during those time. It is really helpful because we didn't lose any importance things while we doing the works.

- Sourcing Responsibly

Responsibly Sourced Wood

We also use wood in our work. There are a lot of orders of bespoke or LVMH using wooden box for the packaging box. Hence, the company began by choosing goods made of wood that adhered to the standards for sustainability set forth by the Programme for the Endorsement of Forest Certification (PEFC). The PEFC is a global non-profit, non-governmental organisation whose goal is to advance sustainable forestry practises through third-party certification from an impartial body.

The PEFC works to make sure that the highest ethical, social, and ecological standards are upheld in the production of both wood and non-wood forest products. Then, customers will be able to tell which items come from forests that are maintained responsibly. PEFC Chain of Custody Certification ensures that the wood, wood fibres, and non-wood forest products contained in the product can be traced back to the forest from which they originated.

The Malaysian Timber Certification Scheme (MTCS) has awarded us Chain of Custody Certification. MTCS is the Malaysian Timber Certification Council's national timber certification scheme for sustainability.

Chapter 5

Conclusions

5.1 Conclusions

In conclusion, the 24 weeks spent at Royal Selangor have been a worthwhile experience for me. It was an eye-opener and great exposure for students to see the real world of industries. Completing the tasks was not an easy process. Adapting to a new job has been a process that has included a lot of trials and failures. In Royal Selangor, no matter who works there, the pewtersmith or any worker, everyone takes the presentation of the product very seriously in order to gain the customers' satisfaction. My goal is to ensure that the outcome of each project can satisfy everyone. Since I am a very detailed person, I am satisfied with every project I do.

Royal Selangor has been established since 1885 and has become the world's foremost name in quality pewter. As a company, they've kept up with the latest technological advances while maintaining a high level of quality and craftsmanship. They offer a wide selection of pewter accessories, dinnerware, and gifts. Following their vision and mission, all of the workers strive to achieve excellence in design, manufacturing, and marketing of high-quality home décor, gifts, and jewellery.

Through all the projects and activities that I have done here, it really enhances my soft skills. Since I need to interact with a lot of people, my communication and social skills have improved. I am getting braver to point out a problem and have discussions with people. In reality, however, deadlines are like a ticking bomb: we have to deal with multiple tasks at once not just one at a time. I was able to improve my time management skills by dealing with many other tasks. Having the opportunity to work in this company has helped me hone my skills.

Additionally, I gained a greater understanding of using Infor apps to track our inventory, where the products are used for, item costing, and many other things. I also use

another drawing app called Rhinoceros. It is a drawing app like Autocad but it is a little different. Hence, the new experience I've gained is useful when I enter the job world later.

Other than that, issues always arise while working on the project. However, we must know how to manage it. I could either solve the problem on my own or talk to the head department for advice and ask around. Aside from packaging, the workers are really eager to help you out. We also can ask the PIC and some of them even come to my department to explain it well.

Last but not least, all thanks to Royal Selangor and the people around me, I have gained wide range of experiences and skills throughout 24 weeks of industrial training. I hope the best for Royal Selangor and wish for them to strive to be a company that will be known globally.

5.2 Suggestions and Recommendations

For the suggestion and recommendation, it is recommended that Royal Selangor hire more workers in the packaging department. In the current state of the department, the decision to keep only one worker is an incorrect one. A person cannot handle the workload of a packaging department by themselves, requiring more than two people to handle it. This is due to the fact that the packaging department is too large for one person to handle. They must consider the mental health of their employees if they want them to stay.

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- **Individual**

1. Miss Nik Camelia binti Nik Omar Al-Haded (Industrial Training Supervisor)
2. Dr Mohd Yusry Mustafa (Head Department of NPD)

APPENDIX



In the making candle



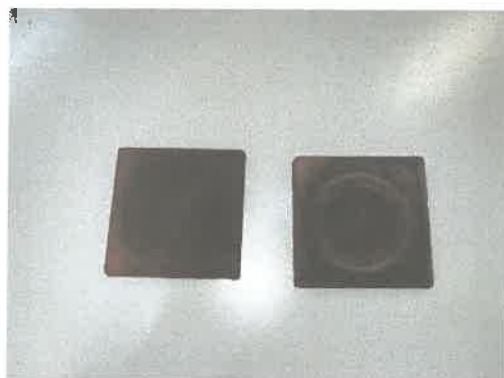
Ready candle



Example of liner



Burning candle of S and M size



Example of velvet lining



Example of greyfoam sets



Example of styrofoam lining



Example of kraft box mock up



Issues of master carton cannot be closed