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DURATION (DATE)	21 <sup>ST</sup> FEBRUARY 2022 – 4 <sup>TH</sup> AUGUST 2022 (6 MONTHS)	
LECTERUR EVALUATION	DR WAN NUR FAZLINA ABDOL JANI	

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### **ACKNOWLEDGEMENT**

First, I want to thank Allah S.W.T. for helping me throughout this practical training during the Covid-19 pandemic outbreak that started in December 2019. Secondly, regarding the industrial training programmed and placements, I would like to express my gratitude to Cik Noor Hidayu Abdul Rani and En. Haikal Mustafa, Industrial Training Coordinators of Chemical Engineering Faculty, UiTM Pasir Gudang, Johor, for providing the necessary resources. Mr. Thamil Selvan, manager of Quality Assurance of WSA Engineering Sdn. Bhd. provided top direction and supervision at the training center, which assisted me in improving my understanding of the quality sector.

In addition, I am grateful to my co-workers, including Suhaili Yusuf, Isma Hafiy, Adi Syafiq, and Aiman Lutfi, for their guidance, counsel, and inspiration. They've helped broaden my scope of knowledge and stimulated new ideas in my head.

Working at WSA Engineering Sdn Bhd provided me with invaluable experience. During my internships, I learnt a lot of new things that would help me acquire experience and adapt to the working world. As a side benefit of working in the automobile business, I gained confidence in my abilities as an independent learner by experiencing a variety of work environments, working styles, and cultural norm.

NAYLI SORFINA BINTI MOHAMAD FAUZI (2019292854)

Nayli Sorfina

### ABSTRACT / EXECUTIVE SUMMARY

This report details my six-month internship at WSA Engineering to fulfil the internship requirement for Industrial Training (CHE354). The training started on the 21<sup>st</sup> of February 2022 and ended on the 4<sup>th</sup> of August 2022, a span of about 24 weeks. WSA Engineering is a Malaysian automotive firm that provides car parts to its customers. There are a few well-known brands that this firm works with such as Proton, Perodua, Toyota, Honda, Peugeot, as well as many more. The internship was held in Rawang Perdana Industrial Estate in Rawang, Selangor. During my internship, I was exposed to different duties, work cultures, and values in the department of quality. This is the first time I have had a true hands-on working atmosphere since the quality management system is completely different from what I learnt in my Diploma of Chemical Engineering.

Even though it was tough at first, I soon learned a lot from my colleagues at WSA Engineering and adapted to my new work environment. During the internship, some of my ideas were rejected, while others were adjusted, and these experiences have helped me to develop myself and avoid making the same errors again. My colleague constantly provides me with honest feedback anytime I make a mistake, which I've found to be extremely useful for learning and adapting to a new workplace. Aside from that, the internship programmed introduced me to how the organization operates. Shorter deadlines during internship training helped me improve my job efficiency and critical thinking while developing fresh material or finishing the assignment provided. In addition, the internship allows me to build my self-esteem and learn how to take responsibility for the tasks I'm assigned. This might be considered preparation for my future job path.

Overall, I feel that the WSA Engineering Internship Program has provided me with a wide range of work experiences, cultures, and beliefs that will be useful as I begin on my future professional path. I think that this programmed helps the student get used to and ready for the real work environment by having them complete the internship training. I also learned that students should work on their language skills, especially in Bahasa Malaysia and English, to improve their ability to speak and write.

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### CHAPTER 1: INTRODUCTION OF INDUSTRIAL TRAINING

### 1.1 OVERVIEW

Industrial training is a requirement for all Diploma of Chemical Engineering students to graduate. The duration of the training is 24 weeks equivalent to six months. To boost the quality of the graduates' job, the training program is designed to provide them with the necessary industrial training competencies. The purpose of industrial training is to expose students to a working environment, particularly in the domains of chemical engineering. As a result, students are exposed to the working environment of their chosen field through working with experts from private or government organizations. It is hoped that this training would instill students with a sense of self-confidence and a desire to succeed. Theories learned in any core or non-core course must be put into practice in the actual world of chemical businesses by participation in chemical and related research projects. Furthermore, industrial training may help students choose a career path by broadening our perspective on engineer responsibilities and job opportunities while also narrowing our focus to a specific field of interest.

Students will get a broader knowledge of engineering via this encounter. As a result, a student's educational and personal progress must be recorded in a written report. A well-written report may aid in the presenting of practical experience in an organized, accurate, and engaging way.

### 1.2 OBJECTIVE INDUSTRIAL TRAINING

This industrial report serves as an official record of the actions that were done during the industrial training programmed. Each student should be able to complete this report in a timely way and present a report that includes all components learned throughout industrial training.

- As part of the requirement, students were required to work in the industry to gain experience and knowledge before entering the real working life
- Facilitate the development of new skills and increased awareness among students
   by aligning their academic knowledge with temporary engineering training
- Intensive communication with supervisor and other staff members helps to build self-confidence, problem-solving abilities, and enhanced communication skills
- Capable of controlling and resolving a situation when unforeseen things occur

## 1.3. INDUSTRIAL TRAINING PLACEMENT

ADDRESS	Lot 32 & 33 Jalan RP2, Rawang Perdana Industrial Estate, 48000 Rawang, Selangor
TEL	
FAX	
WEBSITE	
BUSINESS SEGMENT	Automotive parts, Commercial Carpet, Building Materials, Children Safety Parts

Table 1 : Industrial Training

### 1.3.1 INDUSTRIAL SCHEDULE

NORMAL WORKING HOUR	8hrs 30mins
DAY OF WORKING	5 days a week
CLOCK IN	8:00 a.m.
BREAK HOUR	Monday – Thursday  o 1:00 p.m. – 2:00 p.m.  Friday  o 12:45 p.m. – 2:30 p.m.
CLOCK OUT	5:30 p.m.

Table 2 : Industrial schedule

# 1.3.2 COMPANY SUPERVISOR INFORMATION



Name	Tuan Haji Zainal Bin Mohamad Noh		
Position	Head of Department EEC		
Department	Engineering Excellent Centre, EEC		
Contact number			
Email address			
Years of joining WSA	August 2020		
Qualification	<ol> <li>Bachelor Degree in Mechanical Engineering</li> <li>MBA Business Management, UKM</li> </ol>		
Previous Employment	<ol> <li>Assistant Plant Manager FELDA</li> <li>Project Management on Operational Improvement (PROTON)</li> <li>HOD Group Procurement PROTON</li> </ol>		
Table:	3 : Company supervisor information		

Table 3: Company supervisor information

### **CHAPTER 2: COMPANY PROFILE**

### 2.1 COMPANY BACKGROUND



Figure 1: Logo of the company

The year 1995 marked the beginning of operations for this business. Wan Mohamad, Sinnadurai, and Antonio have come together as business partners to form WSA Engineering. The first letter of each name was chosen to represent the firm. The majority of WSA Engineering's shares was owned by Bumiputera which is 87%. In contrast, the percentage of non-Bumi citizens is just 12%, while the percentage of international citizens is 1%. As of the month of June 2022, the total number of staff members here amounts to 523 individuals. Of the total staff, 81.3% are categorized as non-executive workers whereas 18.7% work in executive positions.



Figure 2: Behind the name of WSA Engineering

There are three sub-divisions within WSA Engineering which are WSAV, WSAE, and WXP. WSAV is an Australian subsidiary of WSA Ventures that specializes in the development and production of automotive interiors, upholstery, and modules. While WSP is stands for WSA Precision, a group that used to manufacture child car seats but has now ceased operations. Lastly, there's WSAE also known as WSA Engineering, a division that's primarily concerned with the development and production of automotive interior components.

There are now four subgroups under WSAE which are WXP Autohaus Sdn Bhd, CIM Distribution (CIMD), Carpet International Malaysia Manufacturing and lastly is Peninsular Carpet Manufacturing. Each division is responsible for a distinct sequence of requirements. WXP, for example, concentrates on wheel assembly, warehousing, trade, and manufacturing execution systems, while CIM Distribution specializes in interior design and construction. Carpet International Malaysia Manufacturing focuses on the carpet industry, both in terms of design and production. Manufacturing on the peninsula focuses on hand-tufted carpets, both in terms of design and production.

WSA Engineering main office is located at Lot 33 Rawang. It shares location with WSP and CIMM since the plant is located here, whereas the second plant belonging to WSA Engineering can be found in Lot 1188, Jalan Sungai Buaya, Sungai Choh 48000, Rawang, Selangor Darul Ehsan, Malaysia. This factory's main concentration is on making Axia and Myvi headliner. The remaining production will take place in the headquarters.

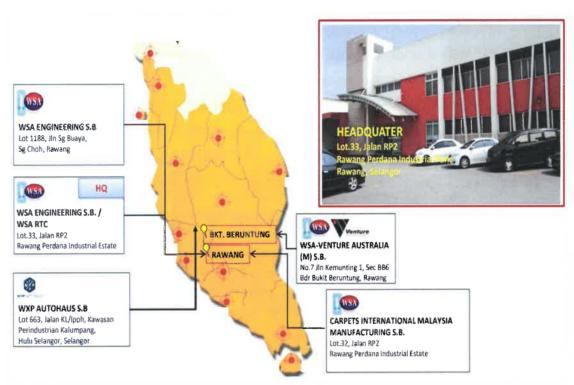


Figure 3: Location & Factories of WSA Engineering



Figure 4: WSA Engineering Factory 2

WSA Engineering Sdn Bhd. is one of the vendors in automotive company for Proton, Perodua, Volkswagen, Toyota, Honda, Isuzu Hyundai, and Volvo. This company supplies more on headlining and floor carpet product for automotive. The first automotive part produced by WSA Engineering was the Perodua Kancil's headliner for Malaysia's second national car manufacturer in 1999.

In 1999, WSA's first automobile component was Kancil's headliner for Malaysia's second national manufacturer (Perodua). With the acquisition of CIM and JCAI, the company has been able to design and manufacture automobile interior parts as well as Noise Vibration Harshness (NVH) goods. Parts such as door trim, headliner, floor carpet, dash trim side, and other NVH goods can be manufactured on the production lines.

### 2.2 COMPANY HISTORY

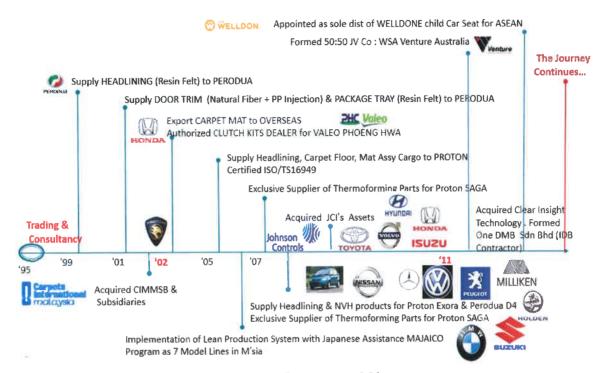


Figure 5: WSA Engineering Milestone

The trade company was founded on the expertise of its original members. Antonio promoted the goods made by his family's Singaporean business, King Wai Pte. Ltd. Wan and Sinnadurai successfully marketed their goods in Malaysia with the help of their local connections. The company's ability to generate consistent revenue from trading served as a stepping stone to the development of future strategies and the pursuit of further commercial prospects. The Group made significant progress in 1999 when it was selected by Perodua, the second national automaker, to produce and supply the steering column and headliners for its vehicles. WSA Capital Corporation (WCC) and WSA Engineering were established as separate entities to carry out the projects (WSAE).

To keep up with the rapid growth of the automotive sector, the Group maintains strong technological partnerships. They are Nam Yang Industrial Co Ltd, PHC-Valeo Co Ltd, One Auto Korea, R+S Technik GmbH and EDAG Holdings Sdn Bhd of Germany, I.N.C Corporation Pty Ltd and Davies Craig Pty Ltd of Australia, and raw material suppliers from Japan, Italy, China, India, Korea, Thailand, the United States, Germany, Sweden, and Belgium. These strategic collaborations and in-house R&D programmed have allowed the Group to design, produce, and distribute a broad variety of automobile interior trims and Noise Vibration and Harshness (NVH) products, steering column assembly (until 2007), and Direct Connection Damper Flywheel (DDF) and Damper Flywheel (DF) for continuous variable transmission (CVT).

In 2007, WCC and three other firms formed Auto parts Networks Alliances Sdn Bhd, a consolidated suppliers group focusing in vehicle interior trims and NVH Products. In 2009, WCC bought Johnson Controls Automotive Interiors (JCAI), a division of Johnson Controls of USA. It designs, manufactures, and supplies car door trims, headliners, and interior systems. This acquisition strengthens the Group's engagement in automobile interior trims and NVH, a sector with clients like Toyota Malaysia, Isuzu, Hyundai, and Volvo. The Group signed a Technical and Commercial Agreement with Sanwa Kogyo Co Ltd of Japan to improve its PUGF use in interior trimmings. Sanwa Kogyo is a Tier-One supplier of headlining and other interior trimmings to major Japanese OEMs since the 1960s, particularly Honda, Nissan, and Toyota.

### 2.3 VISSION AND MISSION

### **2.3.1 VISION**

To be a successful and well recognized technologically driven organization personifying "serving and caring" to society and environment.

### **2.3.2 MISSION**

Optimize Assets Allocation and Distribution to Achieve a minimum of 25% Annual Growth in revenue and balance among the three core business sectors which are Automotive, Architectural Products and Services, and Food Manufacturing and Distribution Sector through Organic, Merger and Acquisition and Joint Venture or Business Collaboration, Defying cultural and Mindset Barrier and most competitive QCD + E to our customers.

### 2.3.3 QUALITY POLICY

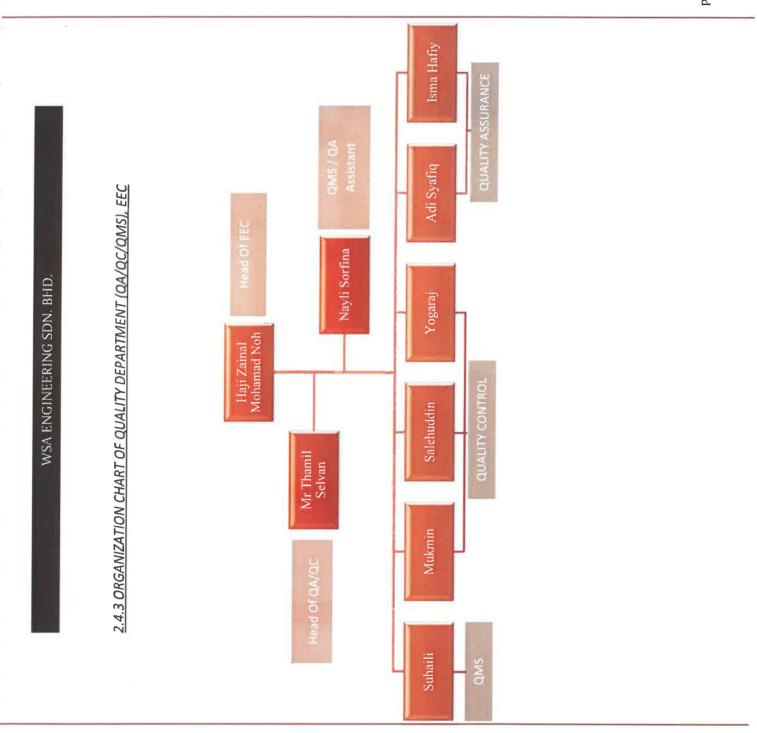
We strive to excellence through learning, innovation and continual improvements that provide defect free product/services and on time delivery to our customers at optimum cost. Serving and caring with dedication and customers satisfaction are the most important drive of our business.

### 2.3.4 CORE VALUE

- Discipline, Integrity, Trustworthy and Respect
- Teamwork, Responsive, Quality, Cost, Delivery + Engineering Competitiveness
- Pro-active, Perfection, Passion
- Care to Environment through 3R Reduce, Reuse and Recycle
- Adoption of six M principle Manpower, Method, Machine, Material, Milieu and Measurement

# WSA ENGINEERING SDN. BHD. Datuk Dr Wan Mohamed 2.4.1 ORGANIZATION CHART OF WSA ENGINEERING Mr Chin Ya 2.4 ORGANIZATION CHART

# Haji Zainal Mohamad Noh 2.4.2 ORGANIZATION CHART OF ENGINEERING EXCELLENCE CENTRE, EEC WSA ENGINEERING SDN. BHD. Head of Department Senior Engineer HOD OF EEC



### 2.5 MAIN PRODUCT / SERVICE PROVIDED TO THE CLIENT

WSA Engineering encompasses both the automotive and non-automotive sectors of industry. It is an automotive corporation that invests in automobile interiors, car precision, auto services, automated parking system (APS), and food manufacture and distribution.

It is an automotive firm that provides vehicle components to certain of its clients. Some of their products and services include headliner, carpet floor, rear shelf trim center/package tray, trunk lid/tail gate, insulators, pad roof, board assy trunk floor, trim trunk side and door trims.



Figure 6: WSA Engineering Auto Interior Part

WSA Engineering also manufactures automobile child seats, which come in a range of sizes to accommodate children of varying ages. Group 0/1, group 0/1/2, and group 1/2/3 are the three subgroups. The first group of child car seats can only fit children aged 0 to 4 years and have a maximum capacity of 18 kg, the second group of child car seats can fit children aged 0 to 6 years and have a maximum capacity of 25 kg, and the last group of child car seats can fit children aged 1 to 12 years and have a maximum capacity of 36 kg.

GROUP	AGE	CAPACITY, kg	PICTURES
0/1	0-4	0-18	
0/1/2	0-6	0-25	
1/2/3	1-12	9-36	

Table 4: List of child car seat

WSA Engineering is another well-known firm that is active in the residential as well as commercial carpet interior design industries. It was responsible for the manufacture of hand-tufted carpet, machine-tufted carpet, Axminister carpet, carpet tile, corner guard, and EXWOOD flooring.



Figure 7: Hand Tufted Carpet



Figure 8: Corner Guard

Hand-tufted carpets are created from 100 percent wool. There are several designs, colours, sizes, and textures available. The best and most elaborately patterned carpets are produced by combining current technology with traditional craftsmanship, giving their esteemed clients both domestically and internationally a unique opportunity to express their rich cultural heritage. The hand-tufted carpet has always been in great demand. Chendering Palace, Terengganu Palace, Al-Hidayah Mosque Kuala Lumpur, and An-Nur Mosque Maldives are among its notable projects. Additionally, this business has produced a hand-tufted carpet for the AIA Group in Penang, the BASF Chemical in Kuala Lumpur, CIMB Bank in Kuala Lumpur, and the Sandvik Group in Kuala Lumpur.



Figure 9: Chendering Palace



Figure 10: Terengganu Palace

The advanced computer control gripper loom and spool manufacturing method is used to make the Axminister woven carpets, which contains 80% wool and 20% nylon. There are a wide variety of styles and colours available, making it a popular option for Malaysia's most high-end structures. The firm has created a broad variety of carpets throughout the years to satisfy a diverse customer base that includes residential users, service organizations, government agencies, corporate sectors, and auto manufacturers.

A corner guard is a common sight at places like hospitals, supermarkets, and airports, to name just a few. Moving trolleys may cause a lot of damage to walls and corners, therefore these devices assist to keep them safe. A hospital would be incomplete without this surface (wall) protection system.

Lastly, EXWOOD is best suited for outdoor applications where natural wood has a significant decay risk. Common uses include garden bench building and the construction of decking and fence. It is also utilized in technical applications, such as cold rooms anchor rails and non-loading supporting profiles in interior space.



Figure 11: EXWOOD Flooring

# **CHAPTER 3: OVERVIEW OF THE TRAINING**

### 3.1 INTRODUCTION

My current industrial training will last for a total of twenty-four weeks, which is the equivalent of six months. There are three primary divisions within the quality department, and they are known as Quality Assurance, Quality Control, and Quality Management System. I was given the dual role of Quality Management System Administrator and Quality Assurance Assistant. The quality assurance team is accountable for ensuring the final goods are acceptable in their designated contexts, Every rejected part must be recorded so that we may devise a way to decrease the quantity of rejected parts. Each procedure and piece of equipment comes with its own standard operating procedure (SOP) that outlines the proper way to carry it out. By carrying out the final inspection, it should be possible to identify any and all of the parts that were rejected. The purpose of the final inspection is to limit the likelihood of a defective product reaching consumers. As a result, each week at the MCM Weekly Meeting, this rejected data must be delivered to our CEO. Our CEO is very detail-oriented, thus any inaccuracies in the data supplied will be immediately noticed. I was further designated as a quality management system. Since I work in this department, it is my responsibility to ensure that all of the documentation pertaining to the production of each different kind of automobile model are well-organized and up to date. Due to the potential for overlap, it is necessary to do document updates in Excel. Other than that, a quality management system must gather and synthesize key performance indicators from each department on a monthly basis. The KPI data will be shown once a year during an audit.

### 3.2 SUMMARY OF THE TRAINING AND EXPERIENCE GAINED

Below are the only duties and task that the trainee doing throughout an industrial training

### Task 1: Prepare Management Committee Meeting, MCM Weekly Report

During the course of training, the trainee will be responsible for preparing the MCM Weekly Report for Dato Wan, who serves as CEO. Since reject parts cost a lot of money and cause losses, it is essential to reduce the number of the reject parts. The quality engineer has to devise a plan to cut down on the overall number of rejections that occur each week. A report was compiled and submitted to Dato Wan in order to inform him of the current state of this company's development. The reason for the reject has to be determined, and it might be related to the machine, the labour, the procedure, or the material. The report contains comprehensive details regarding the reject data. Every client feedback, such as PERODUA and PROTON, must be examined and presented since it affects the company's reputation. The report-writing process provided trainees with additional opportunities to learn how to use Excel and PowerPoint.

### Task 2: Compile Key Performance Indicator, KPI data

The trainee was charged with the responsibility of gathering KPI data from each department on a monthly basis. The data will subsequently be compiled and keyed in for the purposes of the audit. Each division's accomplishments must be broken down into specifics and addressed. The trainee is responsible for following up with each department to ensure that they will submit the KPI by the specified deadline. The trainee was also given an introduction to Microsoft Excel.

### Task 3: Quality Management System Certification Body, UTAC Audit 2022

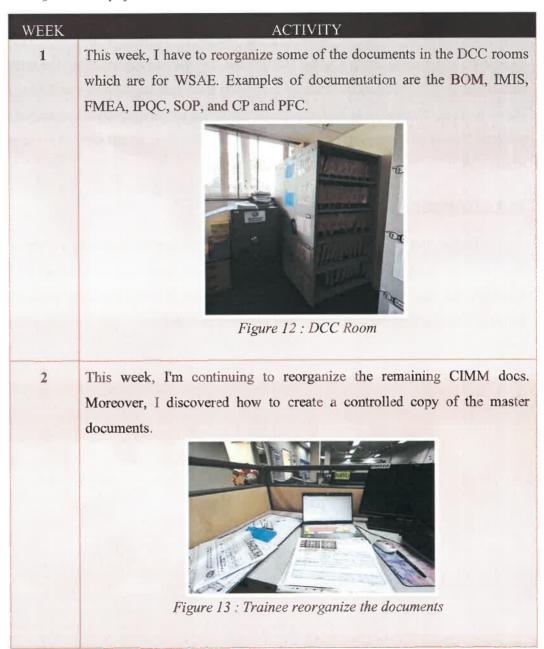
The trainee will be responsible for an audit in June of 2022. Auditors will be provided by the UTAC company, and Mr. Prabhat will serve in the role of head auditor. This trainee is responsible for facilitating the auditor by creating a Microsoft Teams connection and disseminating it to the auditors and any relevant departments. The trainee should also give the auditors the selected documents from each department that need to be shown to them. The trainee is also responsible for filling out any paperwork requested by auditors. This audit is necessary to renew our ISO certification, which expired at the end of last year.

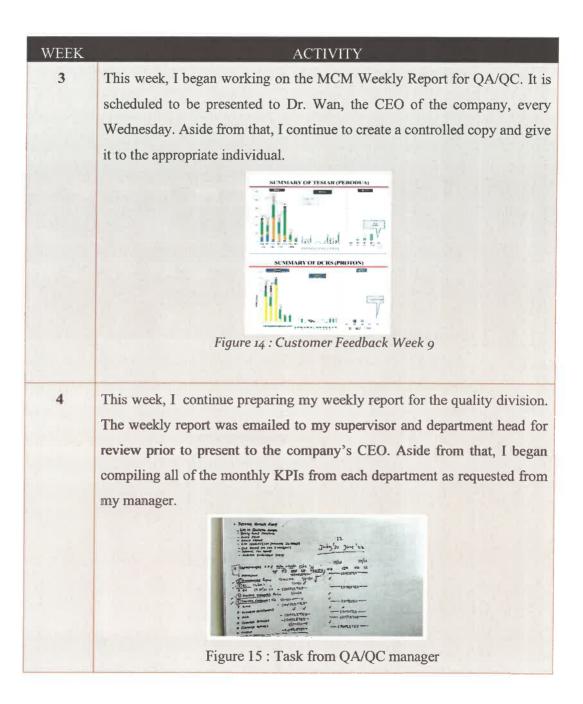
### Task 4: Document controlled

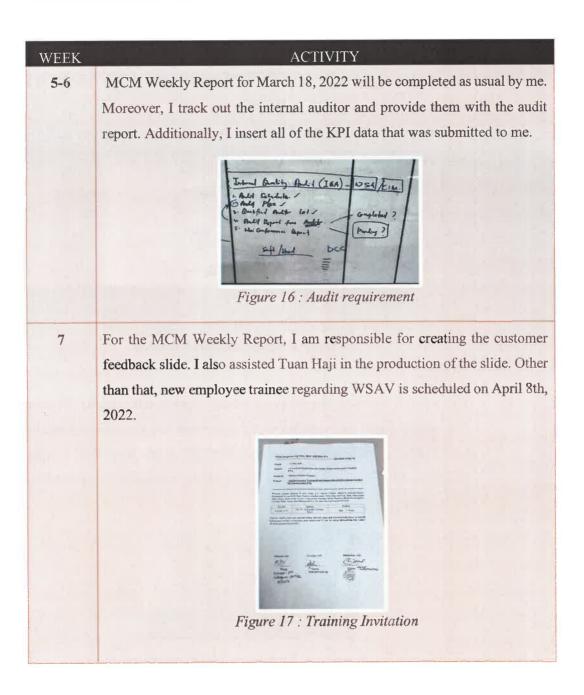
Trainee was tasked for updating all of the new documents beginning in February 2022 and continuing all the way through July 2022. These documents were created by the KAIZEN and engineering process departments. In order to avoid duplicate work, it is essential that all papers be kept in sync and regularly updated.

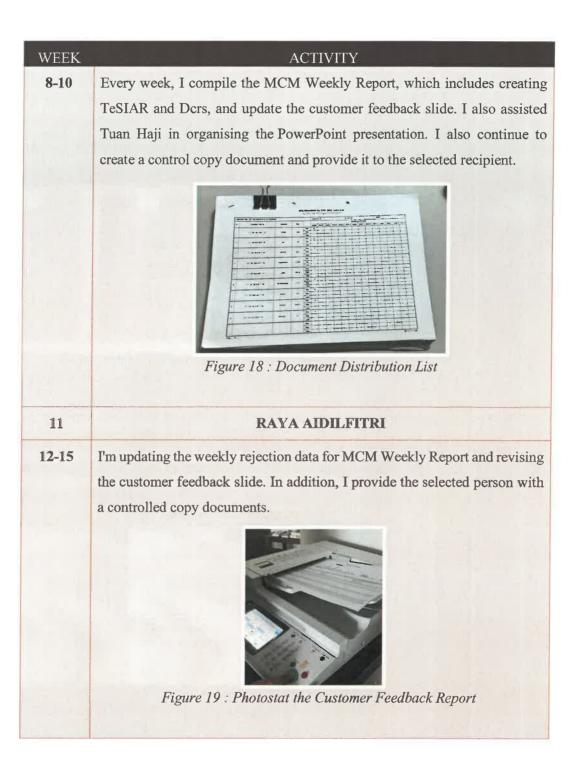
### 3.3 WEEKLY ACTIVITY

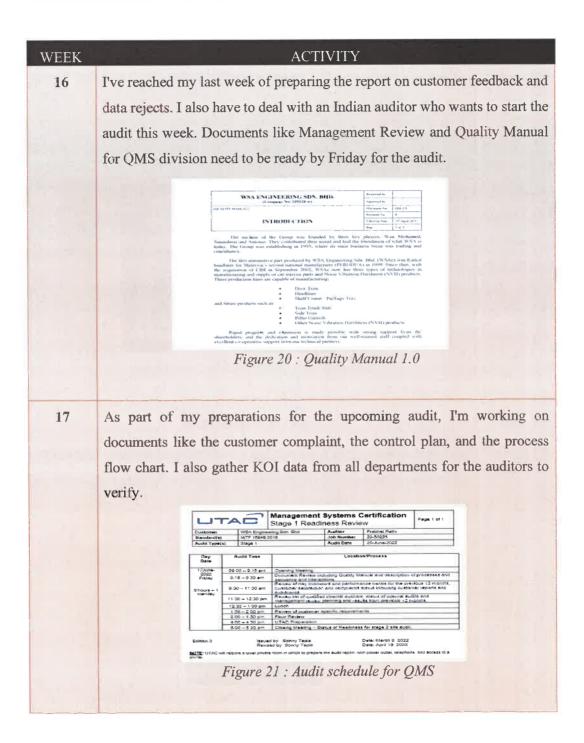
Table 5: Summary of each week

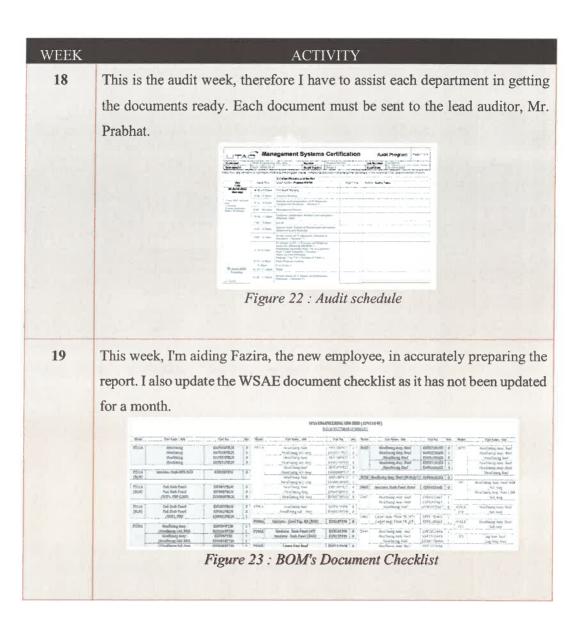


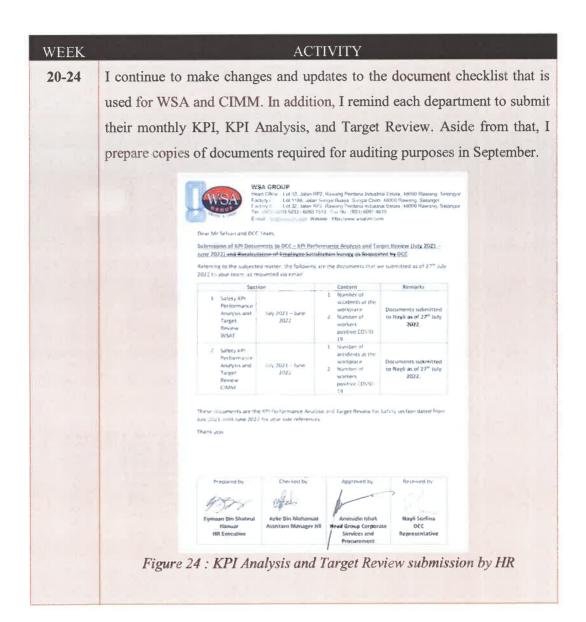












## **CHAPTER 4: DETAILS OF EXPERIENCES**

#### 4.1 INTRODUCTION

As a member of the quality team, it is my responsibility to gather and provide data to my head of department and the company's CEO. A key responsibility of ours is ensuring all parts are free of defects and operating difficulties. Prior to the product being offered to customers, these quality departments may assist in identifying issues.

During the course of my internship, I am required to provide an official report on a weekly basis, which will then be presented by our HOD to our CEO. This report includes the production figures for each individual item as provided by the manufacturing team, the defect data collected by our quality control engineer as well as the customer feedback reported by our quality assurance engineer. With all of this information, I need to produce a report for my superior.

The first thing that has to be done in order to make the report is to collect any feedback from customers like PERODUA and PROTON. This information has to be gathered from our quality assurance engineers, Mr. Hafiy and Mr. Adi, on a weekly basis on Mondays. An email will be sent to me with a soft copy of the document. PERODUA's customer feedback is referred to as TeSIAR, whereas PROTON's customer feedback is referred to as DCRS. Each customer's feedback must be given to me for the report's making. DCRS is for Corrective Counter Measure Report Sheet, which is in contrast to TeSIAR, which stands for Trouble Shooting and Information Action Report. If there are any defects in the goods that our business supplies, the customer will be responsible for sending in this report.

	PCMS				03-01	TeslAR No: P	G / 2022 /	G-196
PERODUA	( TROUBLESHOOTIN	G AND INFORM REPORT )	ATION ACTION		03-01	N/A		YES
Sees Si Child	NING FABRIC PEEL OF		AXIA	A1 0	7.93.2022		MOZA	ZAIN
Part Name : HEADLINING Part No : 63310-8204 Vandor : WSA ENGENE Sack no : WSA ENGENE Quantity :	D Let No. SERING Let No. SAROS Colour Code 1 Production Deta	: 04 03.2022 (D) Investigation A	Action ( Medical & Free	Elitterent doi	Rindictus R No. :	Reported to Yotal Downs Last Downs	cine :	12.05 A.M A 19.20 P.M
A : 18% Link E  R: Documed / Detected by    Decime / Detected by   Decime / Detected by   Decime / Detected by   Decime / Devettime Link   Decime / Decime / Decime Link   Decime / Decime Link   Decime / Decime / Decime Link   Decime / Decime / Decime Link   Decime / Decime	Differed :    Differed   Proposition ( QB )	Tools Spec Admin NG Sample 1	Plant :	Cox Model	RESIDET:	rinto, SPS	,	G TOTAL CHECK
OK CONSTITUTE PART		PART AT COURT	***************************************		F) Troubleshow	Service Servic	25 00	
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Figure 25 : TeSIAR Report

We need to extract the information such as the issue, the type of the vehicles, the date it occurred, and the TeSIAR number based on the TeSIAR Report that was sent to us by PERODUA. As a result of these findings, a TeSIAR Summary will have to be created. Every Monday, each TeSIAR report from Perodua must be recorded into the Summary of TeSIAR. To illustrate, Figure 8 displays an example of a TeSIAR Summary. Technically, only PERODUA Myvi and Axia will be included in the production at Rawang 2 Factory, while the remainder of the manufacturing will take place at Rawang 33 Factory.

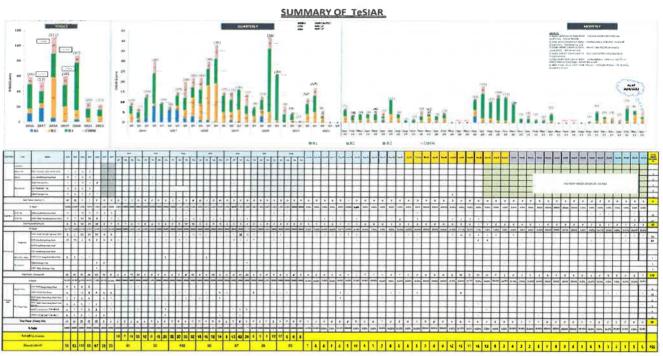


Figure 26: TeSIAR Summary

After completing the TeSIAR summary, the data will need to be assembled into a Power Point presentation for the MCM Weekly Report. In the same way, the PROTON DCRS Report requires the same actions. Information such as vehicle specific model, component name, the issues, occurrence date, and DCRS number must be retrieved. It is necessary to compile the data into the MCM Weekly Report once it has been extracted. To illustrate, Figure 9 and 10 displays an example of a DCRS Report and the Summary of DCRS respectively.

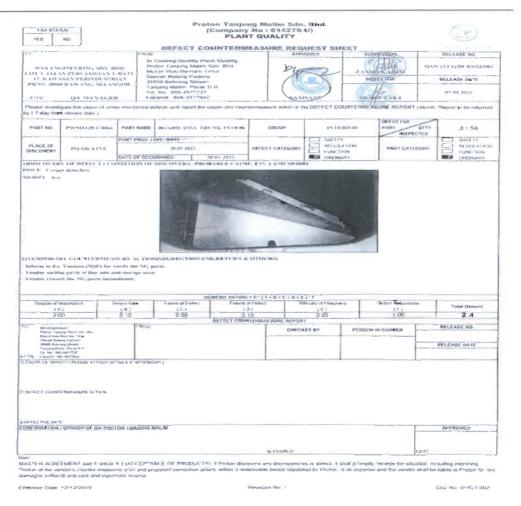
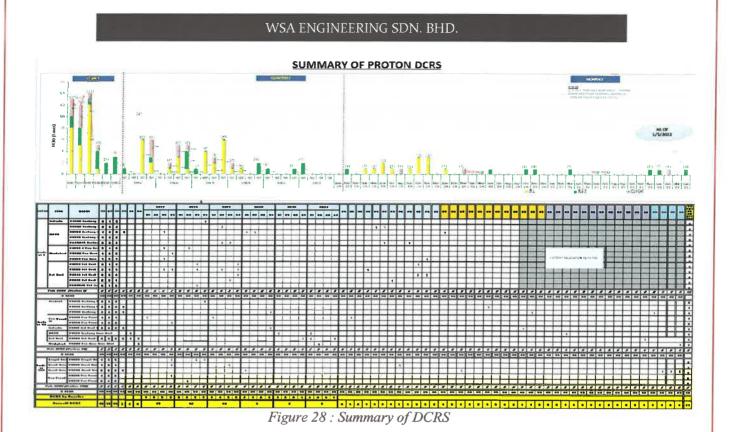


Figure 27: DCRS Report



After completing the PERODUA and PROTON client feedback, we will go on to completing the MCM Weekly Report. In this report, we must include all of the rejected data from both the Rawang 2 and Rawang 33 factories. Encik Salleh is responsible for data rejection at Rawang 2, while Miss Suzy is responsible for data rejection at Rawang 33. They will send me the information either by email or hard copy. Based on this data rejection, I must key in into a PowerPoint presentation. Later, Mr. Mukmin will begin inputting the explanation for the rejected data and the preventive actions.

Once the report has been completely prepared with some explanation, images, and videos, it will be emailed to my manager, Mr Selvan and my HOD, Tuan Haji Zainal to review before being presented to our CEO on Wednesday morning.

## 4.2 DETAILS OF THE TRAINING AND EXPERIENCE GAINED

## **TASK 1: MCM WEEKLY REPORT**

## 4.2.1 PROCEDURES FOR EXTRACTING DATA FROM THE TESIAR REPORT TO TESIAR SUMMARY

NO	STEPS
1	Identify the type of automobile involved in this issue
2	Key-in the code for each type of automobile in the TeSIAR Summary
3	Identify and key in the involved component
4	Identifying and key-in the issues involved
5	Determine and enter the date of occurrence
6	Recognize and enter the TeSIAR number
7	Fill in the information from TeSIAR Report in the monthly column
8	Fill in all the TeSIAR Report details in the TeSIAR Summary column
	(Factory, line, model, yearly, quarterly, weekly)

Table 6: Steps extracting data from TeSIAR Report to TeSIAR Summary

TYPES OF VEHICLES	CODE
ALZA	D87D
ATIVA	D55L
AXIA	D88N / D93L
BEZZA	D42L / D63D
MYVI	D20N / D51A

Table 7 : Code for PERODUA's Vehicles

#### 4.2.2 DATA EXTRACTION AND INPUT BASED ON A NUMBERED LIST

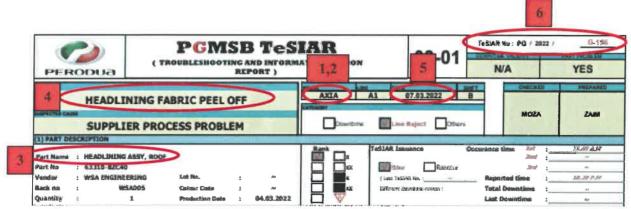


Figure 29: TeSIAR Report

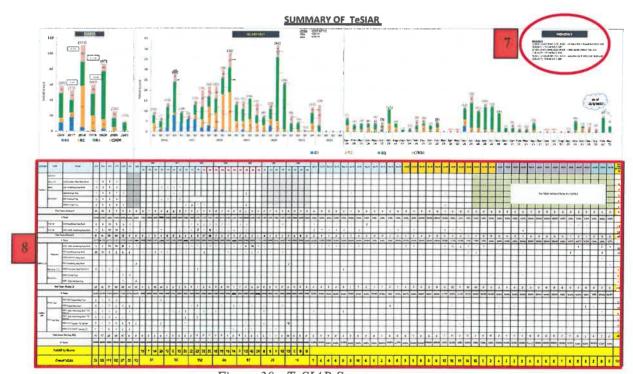


Figure 30 : TeSIAR Summary

## 4.2.3 PROCEDURES FOR EXTRACTING DATA FROM THE DCRS REPORT SHEET TO DCRS SUMMARY

NO	STEPS
1	Identify the type of automobile involved in this issue
2	Key-in the code for each type of automobile in the DCRS Summary
3	Identify and key in the involved component
4	Identifying and key-in the issues involved
5	Determine and enter the date of occurrence
6	Recognize and enter the DCRS number
7	Fill in the information from DCRS Report Sheet in the monthly column
8	Fill in all the DCRS Report Sheet details in the TeSIAR Summary column
	(Factory, line, model, yearly, quarterly, weekly)

Table 8: Steps extracting data from DCRS Report Sheet to DCRS Summary

TYPES OF VEHICLES	CODE
P213A	SAGA
P213C	SAGA MC2
P231A	PERSONA
P231C	PERSONA MC2
P230A	IRIZ
P230D	IRIZ MC2

Table 9 : Code for PROTON's Vehicles

#### 4.2.4 DATA EXTRACTION AND INPUT BASED ON A NUMBERED LIST (DCRS)

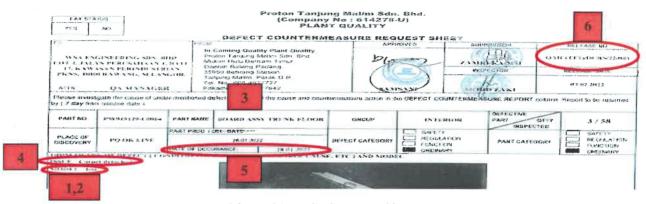


Figure 31: DCRS Report Sheet

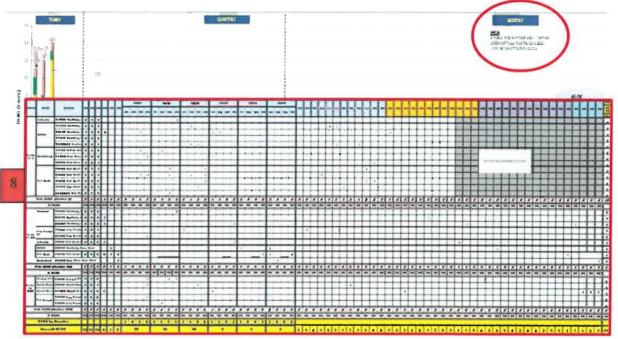


Figure 32: DCRS Summary

## 4.2.5 DATA EXTRACTION FROM REPORTED CASES INTO THE DEFECT MODEL SUMMARY AND WEEKLY REJECTION SUMMARY

NO	STEPS
1	Identify the Source of the Defect and Factory
2	Identify the defect details and enter them into the corresponding column (weekly)
3	Add reported cases to a weekly rejection summary

Table 10 : Steps extracting data from TeSIAR & DCRS Summary to Defect by Model & Factory and Weekly Rejection Summary



Figure 33: Defect by Model and Factory TeSIAR

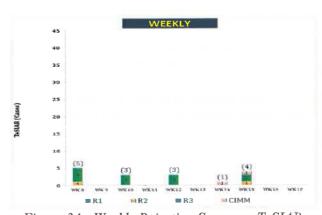


Figure 34 : Weekly Rejection Summary TeSIAR

## **DEFECT BY MODEL & FACTORY (PROTON DCRS)**

						202	202	TOTA	TOTA		JAN	.55		FEB*22				MAR'22				APHTER				TOTA
CTOR	I. SHIPE	MODEL	PART RAME	TYPE OF DEPECT	TICK			(2020 )	(2021 )	#3 =	* 6 *	w	K > 4		X V			1	/ I V		K > 13	K > 2	3 K R	V	K 9 17	(202 )
	oPreFi	P498B	Headlining Assg Roof	Appearance NG - sagging	0	1	0	0	0					T	ı			Ī	Ī			W	ij		ı	0
Ü				Cutting NG at map lamp area	0	0	1	0	0				П	T	Т			T	Т	Т			酾		٥t	0
		P238A	Headlining Assg Roof	Torn at map lemp hole area	0	0	1	0	0			- 1	=		Т			T			190	'nί				0
i)				Vrinkie	0	0	Г	1	0				П		Т	Т	П	Т		П						0
				Hole damage - damage due to handling	1	0	0	0	0				1				Т	ı				m			I	0
	MPPO	P213A	Hoadlining Assy Roof	Colour out of standard (too darker)	0	0	0	1	0	III			ı		ı	П	Т	Т			i	ñ				0
				Gap	0	0	Г	1	0				T		П	Т	Τ	T	1			騆				0
		Name Headlining		Harness feeder antenn wrong spec	0	٥	1	0	0				1		Ш	Ш	П	П	П	-	ш	Mi	m		ı	0
			Assy Roof	Clip hale buiging	0	Ü.	1	0	0									I	T		100	噩				0
- 1			Trim Assu	Carpet detached from board	1	0	0	0	0		=1		Т		l n	П	Т	Т	Т		nin				T	0
				CRA cover aniost.	1	0	0	0	0	-2	=1		Т		1 13			Т			100	矙	雲	= 1		0
		P213A	Rear Shelf	Seat belt cover hard to install	1	ß	0	0	Ð				1		П	П		Г	Е	Im		m				0
anto	Voods			Top tether opening area sharp edge	0	1	0	0	0				1			ı		ı			丽	龖			ı	0
"	tock	P238A	Trim Assy Rear Shelf	Touch up - condition no good	1	0	0	0	0		╗	1	T			Т	Г	Γ	Т		M		۱		ı	0
- 1		P231A	Trim Assy Rear Shelf	Child restrain anohor cap easily detach	1	0	0	0	0				T	T	П		Г		Г						ı	0
- 1		PZJIA	Trim Assy Rear Shelf	Rattling noise during driving inspection	0	a	1	0	9				T		T	T	Т	T			i			1	ı	0

Figure 35 : Defect by Model and Factory DCRS

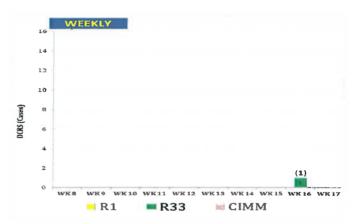


Figure 36: Weekly Rejection Summary DCRS

## 4.2.6 COMPILATION OF DATA FOR THE MCM WEEKLY REPORT

NO	STEPS
1	Paste the TeSIAR and DCRS problem into PowerPoint format
2	Insert the total downtime on the slide (if any)
3	Obtain all rejection data and KIV data from Miss Suzy, Mr Yoga and Mr Saleh
4	Tabulate all of the rejection data and KIV data into Excel
5	Screen capture each rejection and KIV data with the graph and put it into the PowerPoint format
6	Pass over to Mr. Mukmin, Mr Saleh and Mr. Yoga for the specifics on the data rejects and KIV
7	Include images or videos showing the issue (if any)
8	Provide Mr. Selvan and Tuan Haji Zainal the whole presentation for evaluation before the MCM Meeting

Table 11: Data compilation procedures for MCM Weekly Report



Figure 37: MCM Weekly Meeting

## **TASK 2: MONTHLY KPI DATA**

NO	STEPS
1	Send a reminder for KPI Monthly submission to each department on the first day of the month
2	Compile all KPI data in an Excel spreadsheet
3	Organize the hard copy into KPI files
4	Frequently update KPI and KPITAR

Table 12: Steps on the submission of KPI

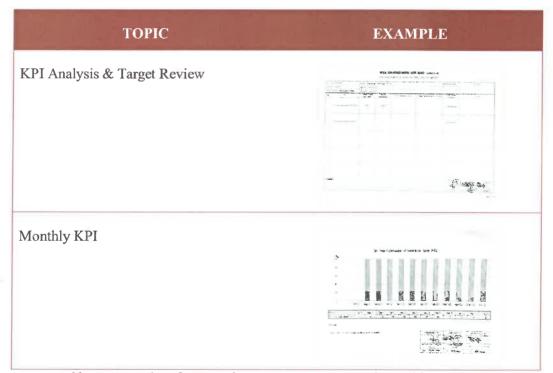


Table 13: Examples of KPI Analysis & Target Review and Monthly KPI

[THIRD REMINDER] Please submit your monthly KPI submissions for JUN-22 and KPI Performance Analysis & Target Review for FY 2022-2023 to DCC by tomorrow (15th JULY 2022). Please provide a copy of monthly KPI and Original for KPI Performance Analysis & Target Review to DCC for compilation. KPI Performance Analysis & Target Review 22/23 KPI Performance Analysis & Targe Review 20/21 KPIJUNE DEPT Factory (FY21/22) R 2 Aiman Aiman R 33 √ √ Zaki PROD  $\sqrt{\phantom{a}}$ C.1 ¥ Latitha Shaars  $\sqrt{\phantom{a}}$ х х V R 33 Lalitha Shaari MYP CA Lalitha Shaati  $\sqrt{\phantom{a}}$ R. 2 Saleh Selvan

Figure 38: A reminder that was sent to every department

Selvan

R 33

				SUMN	ARY OF	KEY PE	REORMA	NCE IND	EX FOR	Y2621/23							
No.	KPI	UOM	Meas. Mathod	Y21/22 Target	Jul-21	75-guA	5ep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Арн. <u>22</u>	May-22	Jun-22	Mih-To-Date Average
1.0	Production (RW2 - Aiman)																
1.4	Monthly planning efficiency	%	VV	98~102		58	56	112	61	66	119	147	107	128	123		97
1.5	Productivity	%	W	≥ 93	MCO	82	76	77	67	68	69	68	68	75	69		72
1.6	Production efficiency	%	W	≥ 93		76	65	71	64	53	68	66	66	73	67		67
	Production (RW33 - Zaki)																
1.4:	Monthly planning efficiency	%	AA	98-102			74	75	66	70	81	75	67	71	66		72
1.5	Productivity	%	W	≥ 93	M	co	71	70	69	71	70	68	64	61	64		68
1.6	Production efficiency	%	VV	≥ 93			70	71	68	70	70	66	65	63	58		67
2.0	Maintenance (RW2) - Sha'ari																
2.4	Machine breakdown	%	W	≤3		23.44	33 84	27.00	33.63	49 28	19.61	5.94	8.90	7.68	15.25	3 82	20.76
2.5	Monthly OEE ratio	Ratio	М	≥ 0.8	MCO	0.57	0.42	0.51	0.45	0.36	0.73	0.61	0 56	0.63	0.43	0 63	0.54
2.6	Machine preventive maintenance	:%	М	100		100	100	100	100	100	100	100	100	100	100	100	100
	Mintenance (RW33) - Sha'ari											A1					
24	Machine breakdown	%	W	≤3				7.13	6.70	10.05	10.70	3.76	6.87	4.33	6.79	8.06	7.15
2.5	Monthly OEE ratio	Flatio	М	≥ 0.8		MCO		0.89	0.81	0.82	0.78	0.88	0.81	0.78	0.78	0.77	0.81
2.6	Machine preventive ingintenance	%	М	100				100	100	100	100	100	180	100	100	100	100

Figure 39: Monthly KPI data was recorded into Excel

WSA ENGINEERING SDN. BHD.
SUMMARY OF KEY PERFORMANCE INDEX FOR Y2021/22

No.	KPI	иом	Meas. Method	Y2021/22 Target	Y2021/22 Actual	Y22/23 Target
1.0	PRODUCTION (RWG 2 - Aiman)					
1.1	Monthly planning efficiency	%	M	98~102	97	98~102
1.2	Productivity	%	M	≥ 93	72	≥ 95
1.3	Production efficiency	%	M	≥ 93	67	≥ 95
	Production (RW33 - Zaki)					
1.1	Monthly planning efficiency	%	w	98~102	97	98~102
1.2	Productivity	%	w	≥ 93	72	≥ 93
1.3	Production efficiency	%	w	≥ 93	82	≥ 93
2.0	Maintenance (RW2 - Sha'ari)					
2.1	Machine breakdown	96	w	≤ 3	22.46	≲ 3
2.2	Monthly OEE ratio	Ratio	М	≥ 0.8	0.53	≥ 0.8
2.3	Machine preventive maintenance	%	M	100	100	100
	Maintenance (RW33 - Sha'ari)		1			-
2.1	Machine breakdown	96	w	≤ 3	7.04	≤3
2.2	Monthly OEE ratio	Ratio	w	≥ 0.8	0.82	≥ 0.8
2.3	Machine preventive maintenance	%	w	100	100	100
3.0	QC (RW2 - Salleh)					1
3.1	Rework rate	%	w	≤ 3.0	8.03	≤ 3.0
3.2	Process Capability (CpK>1.33; PpK>1.67)	%	W	100	100	100

Figure 40 : KPI Analysis & Target Review data was recorded into Excel



Figure 41: KPI Analysis & Target Review data was stored into a file

## **TASK 3: UTAC AUDIT 2022**

## 4.2.1 STEPS IN PREPARING DOCUMENTS FOR AN AUDIT

NO	STEPS
1	Update all of the files that could be checked
	(Quality Manual, Quality Objectives, Management Review, etc)
2	Scan all of the files using printer
3	Create a desktop folder for each file.
4	Rename all scan files
5	All of the files were also copied on a pen drive as a backup.

Table 14: Steps in preparing documents for an audit



Figure 42: Documents that need to be scanned

## **4.2.2 STEPS TO INTERACT WITH AUDITORS**

NO	STEPS
1	Contact the auditor via email
2	Set up a Microsoft Teams meeting to discuss further about the audit
3	Get a timetable produced by the auditing firm

Table 15 : Steps to interact with auditors

LTA	2	Managemen	t Systems	Certification	Aud	it Program	Page 1 of 4
Customer	WSA	Engineering Sdn. Bhd	Auditor	Prabhat RATHI	Job Number	22-50279	
Standard(s)	IATE	16949:2016	Audit Type(s)	Stage 2	Audit Date	20-June-2022	

If you have any concerns or comments relating to this program, please contact your divisional/corporate quality coordinator or the person at UTAC who issued this program.

		Location/Process and Auditor			
Day Date	Audit Time	Lead Auditor: Prabhat RATHI	Audit Time	Auditor: Sonny Tapla	
20-June-2022 Monday	8.00 - 9.00am	Pre Audit Planning			
,	9.00 - 9.30am	Opening Meeting			
-1 hour PAP: not audit time -1 manday	9.30 - 9.45am	Remote audit preparation (IATF Measures Coronavirus Pandemic – Revision 7)			
-2 hours production Added 30 minutes	9.45 10.45am	Management Review			
	10.45 – 1.00pm	Customer satisfaction, feedback and complaint / Warranty Claim			
	1.00 2.00pm	Lunch			
	2.00 - 4.00pm	Internal Audit, Control of Documented Information (Documents and Records)			
	4:00 – 4.15pm	Screen break (IATF Measures Coronavirus Pandemic – Revision 7)			
	4.15~ 6.15pm	Production & QC: In Process and Outgoing inspection (Rawang 33) Shift 1 Headlining Assembly Roof (All 04 Customer ) Floor Carpet Assembly ( Perodua ) Trunk Lid Trim (Perodua ) Package Tray Trim ( Perodua & Proton )			
	6.15 - 6.30pm	Daity Wrap-up meeting			
	6.30pm	End of Day 1			
21-June-2022	10.00 - 11.30am	Sales			
Tuesday -1 manday	11.30 - 11.45am	Screen break (IATF Measures Coronavirus Pandemic – Revision 7)			

FO.CALPC2.109 Auditor Program

Figure 43 : Audit schedule

4 January 2017

## 4.2.3 REMINDER ABOUT AUDIT FOR EVERYONE

NO	STEPS
1	Set a one-week Microsoft Teams link and email it to everyone
2	Remind everyone about the audit through email
3	Conduct a meeting and request that they prepare some documents for the auditor

Table 16: Reminder about audit for everyone



Figure 44: Meeting with the lead auditor



Figure 45: Audit link

## **4.2.4 OPENING MEETING**

NO	STEPS
1	Gathered everyone in Meeting Room 1
2	Organize an online meeting with the lead auditor using Microsoft Teams
3	A briefing is given by the lead auditor
4	Requested everyone to sign the attendance sheet

Table 17: Opening meeting

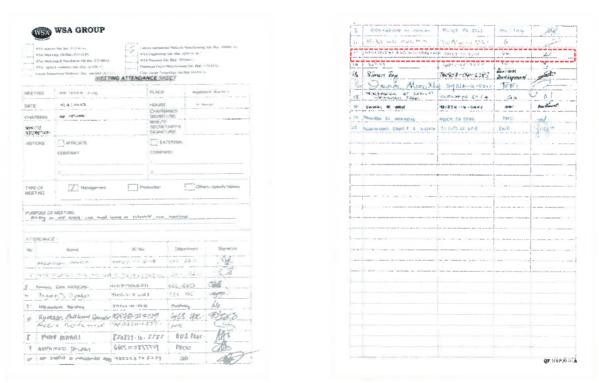


Figure 46: Opening meeting attendance sheet

#### 4.2.5 AUDIT STAGE 1

NO	STEPS
1	Join the Microsoft Teams link to begin audit stage 1 which only involved the quality department
2	Discuss further with Mr. Prabhat and provide all of the requested documents
3	Fill up the document requested by Mr. Prabhat  (Stage 1 Readiness Review, Audit interviewees, Document Review Quality, EN notes of Closing Meeting)
4	Submit the documents requested on the same day

Table 18: Audit Stage 1



Figure 47: Example of the documents requested

## 4.2.6 AUDIT STAGE 2

NO	STEPS
1	Every department need to join the Microsoft Teams link according to the schedule given (Exclude QMS)
2	Submit the required documents to the auditors
3	Sign the attendance sheet

Table 19 : Audit Stage 2



Figure 48: Attendance list and the Audit interviewees

Since I am in charge of Quality Management Systems, I am responsible for coordinating an auditing programmed with UTAC. This audit took place between 19 and 24 June. In this audit, Mr. Prabhat was in charge of leading the team. As a trainee in the Quality Management System (QMS), it is my responsibility to compile all of the required auditing documents, including quality objectives, quality manual, management review, kpi, and others. I need to rename each file after scanning each one individually. As I've already renamed everything individually, I need to compile it into a new audit folder. I also need to scan back all of the audit reports from other departments. Aside from that, I was instructed to create a Microsoft Teams link and distribute it to every department, since our audit is being conducted online. We also managed to contact with the auditors before we started auditing officially. I need to set up a meeting room with a speaker and a lcd projector every morning before the audit starts. I must join them and assist anybody who needs assistance with scanning, audio, or display issues.

## **TASK 4: DOCUMENT CONTROLLED**

## **4.2.1 DISTRIBUTE CONTROLLED COPY**

NO	STEPS
1	As modifications are made, each process owner will provide me with new documents such as BOM, IMIS, and SOP
2	I need to create a copy and distribute it to the person in charge
3	As confirmation that I have previously sent the materials to them, they must sign and date the document distribution form
4	Every document distribution form that as fully completed, it must be kept in a file

Table 20 : Distribute controlled copy

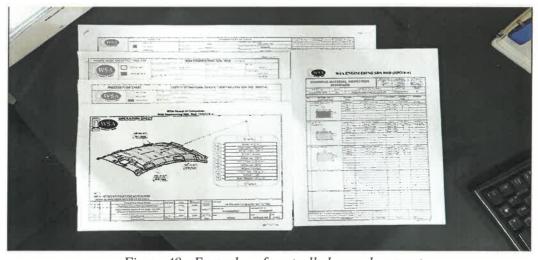


Figure 49: Examples of controlled copy document

## **4.2.1 UPDATE DOCUMENT LIST**

NO	STEPS
1	Every physical document submitted to DCC must be updated into a document checklist
2	Update the most recent document and its revision number  (For both WSA and CIMM)

Table 21 : Update document list

	1445	920		teater	096	1	2000		2002		mac	-	THE			HC			139		00	00		200	LESOP	mes	205	Benth
N Felfow	Contourer		Part No.	Lunder	43/96	u	\$97.00	Marie	20/5	2000	F-GC	VIII.	SHEA.	Ally	IL Be	er 800	ibse	R.	Bor	al)		-		THA	risson.	Profit	PG	
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Figure 50: WSA document checklist

My manager assigned me the duty of organizing all the documents properly for both WSA and CIMM. It consists of CP, BOM, SOP, PFC, FMEA, IMIS, IPQC, and IMIS. The first step is to categorize each physical copy by its model and release date. Afterwards, I revise the document's check list in accordance with the arrangement created.

# 4.3 PROBLEM ENCOUNTERED AND APPROACH ADOPTED FOR SOLVING PROBLEM

Technology has risen to the status of being one of the most significant aspects of modern life. Technology is the practical application of scientific knowledge, particularly in industry. Due to its ability to simplify tasks, reduce project duration, and provide easy communication, technology may have a favorable impact on the workplace. Work may be less efficient without technology.

Technologies such as computers, software, and networking are often used. Computers are used in a wide range of businesses. It has software that enables users to do a variety of duties, including analyzing financial data, sending and receiving emails, and creating presentations. The worker would be unable to do their duties without access to computers. There was a serious lack of functionality in the company computer given to the employee. Occasionally, few employees must share a computer in order to do their work. There is also an employee who did not get the company's computer. Therefore, the task cannot be completed properly.

Moreover, multiple forms of software, including applications and operating information, are required for computers to perform certain tasks. Microsoft Word and Microsoft Excel are common tools used in the corporate world. Other than that, it is very easy and quick to make a high-quality sales presentation using Microsoft PowerPoint. Without such software, it would be impossible to create the presentation slide. Unfortunately, this company's software was outdated. The report was tough to create since the computer and software were not updated. Some files cannot be opened and read due to the outdated software.

Furthermore, networking is a technique of engaging with groups of people to share data and documents, store information, and communicate. It also allows PCs to share a printer or storage device. Networking is important for company because it helps them to

connect with people in related fields so they can find new clients and partners. Unfortunately, there is no company-wide server system that would facilitate the sharing of data and information among employees. Every piece of information was preserved in a physical file. This corporate move makes it more difficult for workers to access necessary files and information.

To prevent this issue from affecting my professional reputation, I discover a solution that allows me to do my duties with ease. I bring my own laptop, equipped with the most recent software and a pen drive to keep any necessary files and information. Having access to such features allows me to easily complete the report without any hassle, since my laptop is able to read the file without any issues.

In addition, I carry my portable WIFI since the company's internet was previously down due to the flood. Owning a connection to the internet allows me to receive email and update the task assigned to my supervisor with ease. Moreover, because our printer does not support colours ink, I also carry my own highlighter pen. Each summary of customer feedback was printed on A3 paper, and I individually colored each graph bar according to the colours code provided.



Figure 51: Company's PC

#### 4.4 PROFESSIONAL AND ETHICAL ISSUES

Ethical principles are the backbone of all professional standards of conduct, whereas professional ethics are the rules that regulate individual or group behavior in a corporate world. From my perspective, WSA Engineering has shown certain professional and ethical concerns. When it comes to professional and ethical concerns, it's important to make sure that everyone in the workplace is treated with dignity and respect, reasonable working hour and lastly health and safety of employees were taken seriously.

It was very important that all employees at all levels were treated with respect. Respect is one of the most important parts of a healthy work environment. It encourages cooperation and improves working efficiency. Recognition is a great way to show workers how much company appreciate their talents, skills, and contributions to the company's overall success. There are several depictions of mutual regard between WSA staff members. I can see that every worker here was friendly. Despite their superior status, they treat others with respect and compassion. For instance, I have seen my supervisor's habit of greeting and socializing with his staff each morning, as well as he constantly listens to other people's opinions while working on a project.



Figure 52: Morning greetings from Tuan Haji Zainal to employees

As shown in the image, Tuan Haji Zainal welcomes his workers and regularly inspires them to be more ardent in their work. This courtesy has been practiced for a long time. A warm greeting and motivation will fire up the employee's spirit to work harder.

Aside from that, WSA Engineering's working hours are reasonable. The working period begins at 8:00 am and ends at 5:00 pm. The total number of working hours per day was merely 8 and a half. A shorter working hour can boost employee creativity. Professionals may be inspired to "think outside the box" and come up with creative solutions while working under pressure. Longer working hours might negatively affect the mental health of employees. They are prone to experience tiredness, fatigue, burnout, and stress. This has the potential to create a toxic work environment. As illustrated in figure 34, the WSA uses a clock card to record the employee's working hours. Working over 5:30 p.m. is considered overtime, and it is compensated.

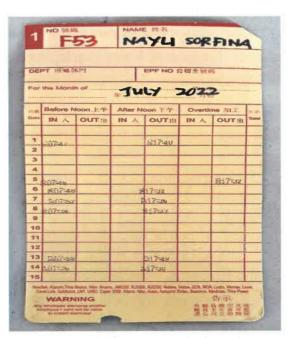


Figure 53; Trainee clock card

Last but not least, WSA Engineering was concerned about the employee's health and safety. There is a safety information board where all safety and health regulations are displayed. Regulations related to the safety and health are crucial for the employees. A safe and healthy workplace is vital to a great corporate culture. The employer is responsible for making sure the employees are safe from any hazards. Occupational safety and health regulations are crucial because they may assist to avoid any harm, which in turn reduces the risk of death. The employee was given a safety training session to raise their level of awareness.



Figure 54: Safety information board

## 4.5 HEALTH, ENVIRONMENTAL AND SUSTAINABLE ISSUES

According to an ISO news release, a newly amended ISO standard will improve the applicability of the ISO 14000 series on environmental management. The International Organization for Standardization (ISO) has released ISO 14001:2015, a new standard for Environmental Management Systems (EMSs)[1]. This standard will help your business develop a strategy to regulate its activities to lessen their environmental effect, as well as to monitor and evaluate its performance and make adjustments as needed[1]. Among the requirements covered by ISO 14000 are management techniques that take place both inside and outside of facilities as well as throughout the life cycle of the actual product [2]. This involves understanding the effects of both the production process and the product's final disposal[2].

A positive work environment may boost morale, which in turn can boost sales. The physical surroundings of the office or factory as well as the workers' occupational health and safety are all part of a good work environment. Irresponsible production and waste disposal by companies might be polluting the natural environment and having negative effects on human health. A variety of environmental factors may have negative effects on people's health. Chemical and air pollution, climate change, disease-causing bacteria, insufficient health care, outdated infrastructure, and contaminated water are all examples of such problems.

One of the current production processes of the headlining is a layering process. In the layering process, materials including scrim, fiberglass, Polyurethane, hot melt, and a chemical adhesive called Durospray 669 are pressed together. An excessive amount of glue will accumulate on the pressing device during the pressing operation. Main ingredient of the chemical glue are chloroprene-rubber, thickening resin, and deionized water. This adhesive is heat-resistant up to 90°C[3]. This chemical waste will be stored in a scheduled waste disposal area for a few weeks before the DOE takes it out and disposed it in an approved incinerator. The OSHA has classified chloroprene as a hazardous material because it is a carcinogen, a mutagen, and flammable[4].



Figure 55: Roller Coater machine

Human health may be impacted by chloroprene exposure by inhalation or skin contact. It may be separated into two categories of health consequences which are acute health effects and chronic health effects[5]. Chloroprene's acute health impact is a short-term health effect that may occur shortly after exposure. Symptoms of acute human exposure to high chloroprene concentrations include giddiness, headache, irritability, dizziness, and weariness[6]. Acute exposure may also harm organs including the liver, kidneys, and lungs because it affects the circulatory and immunological systems[4]. Meanwhile, the chronic health impact, on the other hand, is a long-term health consequence that may emerge sometime after exposure to chloroprene and can endure for months or years[4]. Employees who had been exposed for an extended period of time complained of weariness, headaches, irritation, and hair loss. In addition, exposure to high concentrations of chloroprene may harm the developing embryo, resulting in spontaneous abortion and sperm production problems, as well as damaging the liver, kidney, and lungs[4].

Wearing the appropriate eye protection, safety gloves, dusk mask, protective boots, and safety gloves are examples of items that fall under the category of personal protective equipment, or PPE. This is one of the ways that an employee may be sustained from getting this kind of risk. Other than that, the exposed area must be washed promptly with water. A sign with information about potential dangers has also been placed to the wall at the workplace by the organization. In addition, the corporation has provided all of its employees with training and informational briefings on matters pertaining to their health and safety.



Figure 56: Personal Protective equipment, PPE in workplace

In addition to that, polyurethane, often known as PU, was frequently used in the production of vehicles across the board in the automobile industry. Polyurethanes are thermosetting polymers, which means they don't melt when heated [7]. Polyurethane is most often used in the automotive sector to make headliners, suspension insulators, bumpers, and other interior elements of automobiles. Globally, there has been a significant growth in the usage of polyurethane semi-flexible foam as a core material for headliner construction[8].



Figure 57: Raw Polyurethane, PU

The production of polyurethane foam needs a significant amount of energy and is produced using fossil fuels. As a result, it must be treated with flame retardants in order to meet the requirements of fire safety rules. Toxic chemicals are released into the air as this foam burns, posing a serious health hazard. Two of the most important compounds in the production of polyurethane foam are TDI and methylene diphenyl diisocyanate (MDPI)[9]. When combined with water, polyols and catalysts like dibutylin (DBT) set off a chemical process that produces foam. Chemical reactions involving propylene oxide produce polyols as a byproduct (methyloxirane)[9].



Figure 58: Headlining (Finished Good Products)

Polyurethane foam provides a danger of exposure to the neurotoxic toluene, and its dust may include organotins, which cause growth abnormalities in mussels and oysters and mass marine animal mortality[9]. Dibutylin, an organotin used to make polyurethane foam, crosses the placenta in animals and accumulates in the brain, where it kills brain cells. Organotins affect behavior, neurotransmitters, and neuroendocrine circuits[9]

## **CHAPTER 5: CONCLUSIONS**

#### 5.1 CONCLUSIONS

The trainee has completed a twenty-four-week industrial training programmed. This course has provided the trainee with knowledge and experience that will be valuable in the future. Adjusting to life as a young employee was both daunting and thrilling after years of living the college lifestyle. The most exciting aspect was that the student was able to apply some of the acquired knowledge to real-world scenarios.

Trainees are introduced to real-world scenarios throughout industrial training, which is a valuable experience for any learner. Through this internship programmed, students learn to be physically, psychologically, and emotionally prepared for times of crisis. The trainee participated in the quality division, where she gained knowledge about rejected components and aided the quality control engineer with data rejections and reports. Additionally, this student gained knowledge and skills in machine operation, management, and production planning.

The trainee's task experiences have helped the trainee to build several soft skills, like increased self-confidence and a self-esteem. The trainee demonstrated maturity in decision making and the ability to focus on what needed to be done first when given a task. The trainee also developed more proficiency in work management and issue solving. Additionally, the trainee's communication skills have increased as a result of the industrial training.

In general, working with WSA Engineering was a pleasant experience, and its employees were very kind. WSA Engineering has a highly enjoyable and stimulating working environment. The trainee was introduced to a new work culture and was able to acquire new information and skills while also forming new relationships with co-workers. Working with WSA Engineering was not only hard but also rewarding. The trainee was fortunate to have a competent and kind supervisor who made the experience a lot more

adaptive and seamless. The trainee has profited in several ways from the industrial training at WSA Engineering. It was an excellent introduction to a real-life working environment. The supportive culture, inspiring leadership, and encouraging co-workers all contributed to the trainee's drive to learn as much as possible throughout their time there.

## **5.2SUGGESTIONS AND RECOMMENDATIONS**

## 5.2.1 FOR ENGINEERING EXCELLENCE CENTRE, EEC

As a trainee student, my suggestion is that WSA Engineering recruit more graduate students who can bring fresh ideas for design and development. The mix of newly-graduated and experienced workers will make the concept more engaging and may serve as a stepping stone to future success. Fresh grads should be trusted by the company and given chances to support the industry.

Furthermore, WSA Engineering should spend more on office equipment such as computers and printers. Since workers rely on computers, it's important to keep them upto-date with the latest hardware and software. Microsoft Excel and PowerPoint are difficult to use due to their outdated software. It would be more convenient if the printer came with colour toner as well.

Lastly, trainees should be given a chance to manage a project. From there, the learner may study and develop information and skills from industry pros. The trainee gains practical experience and knowledge from the project that may be used in their future careers.

## 5.2.2 FOR FACULTY OF CHEMICAL ENGINEERING, FKK

I humbly recommend that FKK reduce our internship duration to five months. A 20-week internship is sufficient to explore various issue in depth. Therefore, it is essential that the evaluators comprehend that what has been described here is a repeating task from my six-month internship. Furthermore, we would appreciate it if FKK would be more attentive and provide us a longer period of time in which to submit our logbook and written report. It's challenging for students to juggle both commitments because of the need of attending to work-related responsibilities.

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## **INDIVIDUAL:**

[1] Tuan Haji Zainal bin Mohd Noh. (Industrial training supervisor)

## **APPENDICES**



A Korean company, Intermould, visited our facility to fix a machine. They received gifts as a token of gratitude from the EEC Department.



Deliver the customer's complaint to Dato' Personal Assistant.



Place the customer complaint summary in the DOJO Room.



Farewell to Mrs. Suhaili.



Farewell to Mr Adi, Mr Aiman and Mr Syakir.



Training with Mr Cho from WSAV.