QUALITY CONTROL IN AUTOMOTIVE INDUSTRY

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SUPERVISOR DECCLARATION

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of Bachelor of Project Management with Honors.

Signature:

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Date:

STUDENT'S DECLARATION

I hereby declare that the work in this project is my own except for quotations and summary which had been acknowledge. The project has not been for any degree and is not concurrently submitted for award to the other degree.

Signature:

Name: WAN NUR'AIN RUZANA BINTI WAN IBRAHIM

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Date:

DEDICATION

Dedicated to my family members especially my beloved parents (Mr. Wan Ibrahim Bin Wan Jusoh & Mrs. Kutom Binti Zain) and my sister (Wan Nur Amnah Binti Wan Ibrahim), my Thesis's supervisor (Mr.Azizan Bn Haji Azit) and also not forgetting my friends

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Create for my beloved mother and father, thank you for giving strong support, motivation and never forget to pray for simplification in the implementation of the study. Also, do not forget to help in term of financially and emotionally. Your contribution will never forget.

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Last but not least, I also want give my special thanks to my friends especially who helped me a lot while collecting the questionnaire, analyze data and interpret data. Thank you very much!

ABSTRACT

This thesis is focusing on the level of awareness of Quality Control (QC) among the workers in the automotive industry. The implemented of Quality Control (QC) will different in each industry. The Quality Control (QC) plays a fundamental role in determining the performance in automotive industries. In automotive industry Quality Control (QC) is a process through industry by companies to ensure that product quality is maintained or improved and manufacturing errors are reduced or eliminated. Quality Control is one of the process inspection and auditing to maintain the quality and legal standards to achieve the level of standard. This study was mainly carried out by preparing the letter to industry and do survey by distributed questionnaire, data collection, analysis of the data, result and discussion of the analysis, and conclusion. Finally, it is hope that the results from the study could contribute to the researcher for future improvement.

ABSTRAK

Tesis ini memberi tumpuan kepada tahap kesedaran Kawalan Kualiti di kalangan pekerja dalam industri automotif. Yang dilaksanakan Kawalan Kualiti akan berbeza dalam setiap industri. Kawalan Kualiti memainkan peranan penting dalam menentukan prestasi dalam industri automotif. Dalam industri automotif Kawalan Kualiti adalah satu proses melalui industri oleh syarikat untuk memastikan bahawa kualiti produk adalah dikekalkan atau bertambah baik dan kesilapan pembuatan dikurangkan atau dihapuskan. Kawalan kualiti adalah salah satu proses pemeriksaan dan pengauditan untuk mengekalkan standard kualiti dan undang-undang untuk mencapai tahap standard. Kajian ini telah dijalankan terutamanya dengan menyediakan surat itu kepada industri dan melakukan kaji selidik oleh soal selidik diedarkan, pengumpulan data, analisis data, dan menghasilkan perbincangan analisis, dan kesimpulan. Akhir sekali, adalah menjadi harapan bahawa hasil kajian yang boleh menyumbang kepada penyelidik untuk peningkatan masa depan.

List of Table

LIST OF FIGURE

LIST OF ABBREVIATION

TQM	Total Quality Management
QC	Quality Control

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This study is about "Quality control in the automotive industry". Back to my study here at University Malaysia Pahang, I am taking Project Management course which is also study about Quality Management System. So that, I really need to know how the quality management help automotive industry to achieve the quality based on the standard or level.

Quality is a word that brings important significance between the seller and buyer. In the comprehensive market placed nowadays, most of the organizational recognized that is endurance in the business world be contingent highly on carrying high quality product and service to their client. In arrears to worldwide competition, some organization have definitely stress that quality need to be put in place, combined into totally aspect of products and service in their management system.

Under this research I am focus on quality control from the angle of the workers in the automotive industry at Kuantan,Pahang, which mean their understanding about quality. I choose DRB-HICOM Defence Technologies Sdn Bhd (DEFTECH) as my population for this research, The purpose under this chapter is to highlight the background and result of the study, problem statement, research objectives, defined the research question related to the study and provides the research hypothesis. Also, we defined scope of study and concluded by operational definition and expected result.

1.2 BACKGROUND OF STUDY

Approving a quality nation over the employment of quality management advantages in all phases of the business by directed in the direction of structure a continuous upgrading nation based on resources, human and financial, and meeting the client needs are patient for business success. Besides that, total quality control (QC) has converted progressively popular as

managerial strategies to advance product or service quality and make sure the continuously improvement (Shaari and Aspinwall, 2000)

Progressively, the Malaysia's government is concentrating on techniques of rushing growth that create up their business sectors within the individuals corporations, as a way of developing the economy as a whole. Additionally, the organization need to strive globally, expanding their products and good abroad, rise productivity and diminish cost. Thus, a range of policies has been implemented, including highlighting the significance of total quality management.

Furthermore, Malaysia has established the automotive sector to help decreasing outcome of unstable changes in palm oil and rubber prices on its economy, escape having a huge trade deficit, and as a platform for economic enlargement. Furthermore, Malaysia trusts that a strong motor industry take along technology, employment and reputation. Motor industry or automotive industry can increase Malaysia economic development.

Ultimately, in the event of producing good quality cars, for example Proton is a one of the manufacturers in Malaysia that has dedicated to create good quality cars and to attain international recognized standard, which has received a great boost with technical inspection and certification of its network of automotive vendors, which are mainly consist of the small medium enterprises of the automotive industry, are required to undergo an inspection and to be accessed under the standards.

Hence, there is need organizations, containing of the small and medium enterprises to confirm the quality average in order to create a good quality cars. Total quality management is one of the dimensions or tools to make sure that the cars produced are dependable, gratified by the users at huge and to make sure effectiveness in the market as well as to comply with international level or standards.

1.3 PROBLEM STATEMENT

Quality control (QC) in Total quality management (TQM) would be an important issue of argument of discussion for organization to strive in today's business environment. It is significant not only in terms of forming a long term success to the company or organizational. In order to fulfilling customer's potentials and company's presentation, it is also commanding component that providing competitive advantage.

The global automotive industry is characterized by intense competition, a sharp focus on cost, and regulatory oversight. The ongoing trend is towards global sourcing and distributed manufacturing or assembly operations. These factors are driving the need for an extensible and flexible quality management system that automates field-level tasks and provides real-time visibility into all aspects of quality management across global manufacturing facilities and supplier locations.

Most people probably don't think too much about their cars on a daily basis unless he or she happens to be a real car enthusiast, of course. But for the vast majority of buyers, a car is simply an appliance.

The thing is, despite recent high-profile recalls, on the whole, cars are more reliable than ever before. That's because car makers have begun to master a key step in automobile manufacturing: quality control. In any industry, quality control is a process that's used to insure that a product is free from bugs, operational issues and any number of other problems you can think of. In auto manufacturing, that means cars go through rigorous testing to make sure they're well-engineered, safe and comfortable.

The quality control process starts long before the first production models of a vehicle roll off the assembly line. When a car company releases a new product, they build prototypes, which are then tested to find weaknesses, mechanical problems and other details that could be improved. Once the prototypes have been vetted and polished, the design goes into production, where quality control continues on the production line, too. After being built, each car is tested for problems like fluid and air leaks, mechanical problems and proper assembly.

1.4 OBJECTIVE OF TH STUDY

There is an objective of this study:

1.4.1 To study the level awareness of Quality Control (QC) among the workers in the automotive industry

1.4.2 To know the level of awareness Quality Control (QC) tools used in the automotive industry

1.5 RESEARCH QUESTION

1.5.1 Are the employees aware with the Quality Control (QC) in their workplace?

1.5.2 Are the employees understand with the quality Control tools in their workplace?

1.6 SIGNIFICANCE STUDY

This study will give a significant as it discussed on the maintaining and improved the manufacturing error through reduced or eliminated by using Quality Control. It is aimed from the awareness from the angle of the workers. Workers are one of the elements in the production to maintain the quality of the product produced. It is aimed from the angle of worker by measure their level of awareness about Quality Control and measure their level of understand about the tools that used in Quality Control. This study also gives the benefits to the customers to fulfill their satisfaction. Besides that, all the employees in the company can understand about the level and standard of the quality product produced.

1.7 THEORETICAL FRAMEWORK

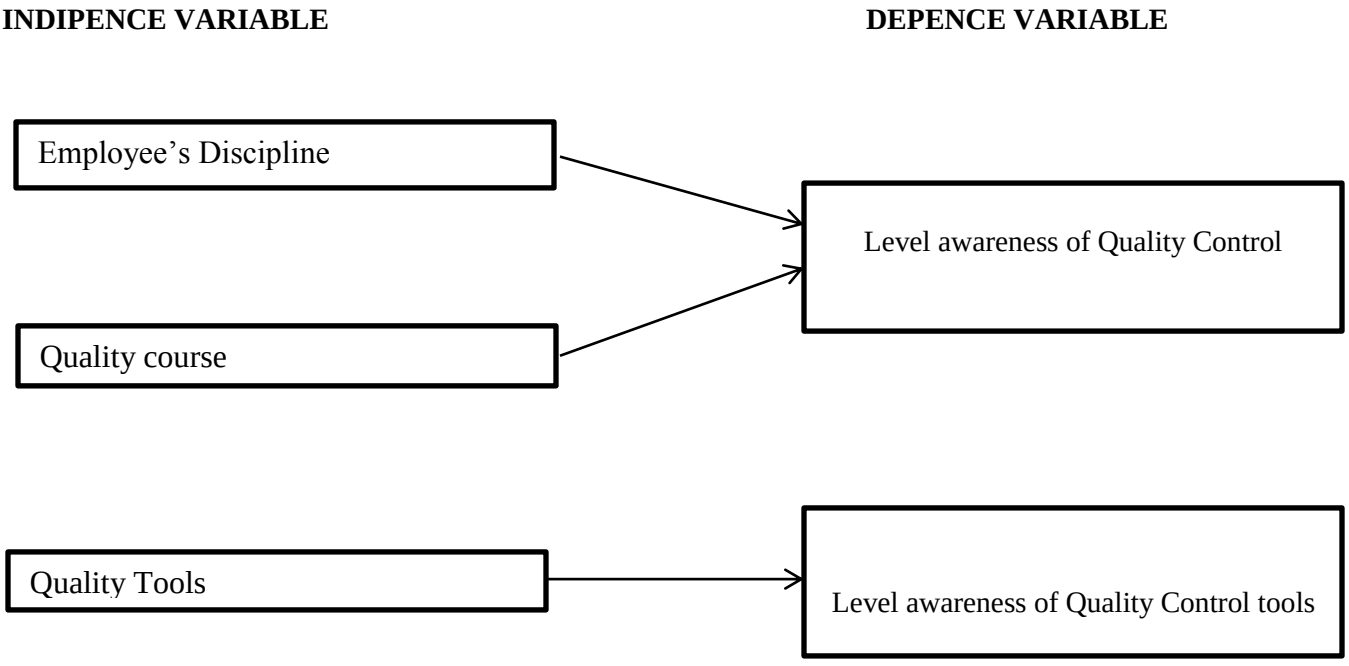


Figure 1.7.1

1.8 SCOPE OF STUDY

The study will stress on the awareness among the employees by execution of Quality Control (QC) in the automotive industry in Pekan, Pahang. The objective of this study is to study the level of awareness of Quality Control (QC) among the workers in the automotive industry and to know the level of awareness Quality Control (QC) tools used in the automotive industry.In the automotive industry, there are vendors and suppliers which are responsible to supply part for the car manufacturer and manufacture the car. Pekan would be the chosen area since many of these vendors are located in this area. Questionnaires will used as a tools, circulated to the employees of the company listed, focusing on Quality Control's aspect in terms of reward and recognition, training , worker participation, product or service design, process control and improvement, client focus, vision and plan statement, evaluation of the job processes, stress management, leadership, learning organization and integrity.

1.9 OPERATIONAL DEFINITION

1.9.1 Perception

An ability of different senses to pick out something, wither it can be through seeing, hearing, smelling or touching. The physical stimulus of the body system consciously records an activity or incident in the human memory.

1.9.2 Awareness

Awareness refers to a consciousness someone to internal or external events or experiences, which are thought by some to separate human and non-human animals. Evidence of self-awareness in animals is most often determined by whether an individual can use a mirror to groom an otherwise unseen dirty spot on its own forehead. There are some tests to measure the level of awareness. The test was tested to a few chimpanzees, gorillas, and orangutans have shown this awareness and passed this test.

1.9.3 Quality Control

A process through which a business seeks to ensure that product quality is maintained or improved and manufacturing errors are reduced or eliminated. Quality control requires the business to create an environment in which both management and employees strive for perfection. This is done by training personnel, creating benchmarks for product quality, and testing products to check for statistically significant variations. According to Six Sigma, the three main elements of quality control are controls, competence and personnel. These elements are integrated and, when controlled properly, help a company perform successfully and efficiently by providing quality products and services.

The first element of quality control is personnel. Quality control begins with placing the right people in the right jobs. This element focuses on giving all personnel clear goals and holding them accountable for their work. Clear job descriptions and performing employee evaluations on a regular basis are important. Companies also emphasize that a key component in quality control is emphasizing that all personnel must realize they are working towards the game goal.

All employees must be competent in the jobs they are performing. They must have the appropriate knowledge, skills and qualifications to effectively complete a job. Many companies offer employee training and resources to assist in achieving this vital element of quality control.

Controlling the quality of goods and services includes good record keeping habits and regular audits. Quality control involves producing the highest quality goods that customers want, in the most efficient manner possible. Record keeping is a vital tool for this element. Companies need to know where revenues are coming from and where costs are incurred. Regularly scheduled audits help companies provide this knowledge. An audit is an assurance that the information contained in the company's financial statements is correct, with room for little deviation. Audits are also used to evaluate the company's internal control procedures, which are used to promote accurate financial recording and to avoid fraud from occurring.

1.9.4 Quality Control in Automotive industry.

In automotive industry quality control (QC) is the assessment of inspection staff to maintain the quality and legal standards to achieve the level of standard by inspection and auditing.

1.9.5 Total quality management (TQM)

Total quality management (TQM) encloses of organization-wide labors to connect and create enduring an environment in which an association always develops its ability, to deliver high-quality products and services to clients. TQM also appreciated general consideration during the late 1980s and early 1990s before being overshadowed such as ISO 9000, Lean manufacturing, and Six Sigma, although there is no widely agreed-upon method, TQM efforts typically draw heavily on the previously developed tools and techniques of quality control (QC).

Efforts in a TQM, all participants of organizations participate to improve the culture in work processes, products, and services. Techniques for employing this approach come from the teachings of such quality leaders like Philip B. Crosby, W. Edwards Deming, Armand V. Feigenbaum, Kaoru Ishikawa, and Joseph M. Juran

1.10 EXPECTED RESULT

Each research study requirement has a positive result which can give benefits to others. The expected result usually based on research objectives. After completing this chapter 1, it is expected research to achieve the objectives. It also gives advance to organization the important of total quality management within the organization itself. From the result, other researcher can make this study as orientations to produce more knowledge and good research. This study optimistically can give understanding to worker about the importance of quality based on their perspective.

1.11 CONCLUSION

In the conclusion, the information has been briefly mentioned. Which are problem background, problem statement, objectives, hypothesis study and scope of study are discuss in this chapter. Further discussion will be explained more in the next chapter for more understand on this study. In chapter two, the previous studies that related to research will be discuss and the past theories that other researcher had done.

CHAPTER 2

LITERATURE RIVIEW

2.1 INTRODUCTION

In business organizations, Quality Control (QC) refers to management procedures used to improve quality and productivity. QC is an inclusive management method that works parallel across an organization, involving all branches and workers and spreading backward and forward to include both suppliers and clients or customers

This chapter reviews the several literatures for the level awareness of the Quality Control (QC).The chapter starts with the discussion on the Quality Control (QC) that focusing on the automotive industry. Following the background evidence is the discussion on the several literatures on Quality Control and its application. Therefore, it will include the discussion relating to measurement the level awareness of the Quality Control (QC) among the workers in the automotive industry.

2.2 QUALITY

In manufacturing, an amount of fineness of a public of presence free from faults, deficiencies and important differences. In order to fulfill specific client or user requests, it is carried by firm and continuous assurance to certain standards or level that attain uniformity of a product. ISO 8402-1986 level describes quality as "the totality of features and characteristics of a product or service that bears its ability to satisfy stated or indirect needs." If an automobile company finds a defect in one of their cars or products, they make a product recollection because client’s reliability and production will reduction because of trust will be missing in the car's quality.

According to Peter F. Drucker quotes that (American Educator and Writer, b.1909) “Quality in a creation or service is not what the supplier puts in. It is what the client gets out and is willing to fee for. A creation is not quality because it is tough to make and costs a lot of money, as manufacturers typically believe. This is uselessness. Clients pay only for what is of usage to them and gives them value. Nothing else establishes quality.”

"Quality is never a coincidence, it is always the result of high purpose, genuine determination, intelligent direction and skillful implementation, it characterizes the sensible choice of many alternatives." stated by William A. Foster.

"Elevation your quality values as high as you can live with, escape worsening your time on routine problem, and always strain to work as carefully as possible at the boundary of your capabilities. Do this, because it is the only way of determining how that border should be moved frontward." By Edsger W. Dijkstra.

Besides that, a creation that exceeds the prospects can consider as quality. Thus, it is somewhat of an imperceptible established on awareness. Quality can quantified as equation:

$$Q=\frac{P}{E}$$

Where Q = quality

P = performance

E = expectations

If Q is larger than 1.0, meaning that clients have good feelings about the service and product. Obviously, the purpose of P and E will be most likely being based on perceptions with the organization defining performance and the customer defining expectations.

Quality starts with market study, to create the right supplies for the service or product and the true requirements of the clients. On the other hand, for organization or industry to be actually real, quality must extent totally functions, people in the society or worker, all the branch and department including all the activities and be a common language for progress. Teamwork's from everyone at every crossing point in necessary to attain a total quality organization. In Japan, they also use same technique to achieve this with companies that have huge quality control.

2.3 QUALITY CONTROL

. Quality control (QC) is a procedure or set of procedures intended to ensure that a manufactured product or performed service adheres to a defined set of quality criteria or meets the requirements of the client or customer. QC is similar to, but not identical with, quality assurance (QA). QA is defined as a procedure or set of procedures intended to ensure that a product or service under development (before work is complete, as opposed to afterwards) meets specified requirements. QA is sometimes expressed together with QC as a single expression, quality assurance and control (QA/QC).

2.4 TOTAL QUALITY MANAGEMENT

Over the past 20 years ago, the status of quality management in business organization has developed expressively. Through a process of continuous development, Total Quality Management (TQM) is the optimization and combination of all the functions and processes of a business in order to deliver for excited customers. In order for companies to be economical in this environment they have seen the authoritative needs for quality, the years of 1990’s are its decade of globalization. However, there have been many "gurus" over and done with the decade’s most important to the 90's that have clearly featured the need for Total Quality Management Systems in companies. But, due to a lot of factors these ideas have either gone ignored, or been buzz word for a little time. It is potential that Total Quality Management (TQM) is once again a buzz word and a marketing device, but however it is a device that is being lengthily used in the 90's to help companies’ improvement and preserve a reasonable advantage over their competitors.

2.5 LEVEL

Level can define as a horizontal plane or line with respect to the distance above or below a given point. It is using to measure something.

2.6 AWARENESS

Awareness is the state or ability to perceive, to feel, or to be conscious of events, objects, thoughts, emotions, or sensory patterns. In this level of consciousness, sense data can be confirmed by an observer without necessarily implying understanding. More broadly, it is the state or quality of being aware of something. In biological psychology, awareness is defined as a human's or an animal's perception and cognitive reaction to a condition or event.

2.7 LEVEL OF AWARENESS

Level of awareness can describe as a medium to determine the extent of a person's perception about something and actions taken to implement it.

2.8 QUALITY AWARENESS

The Quality Awareness prepares people in all functions and at all levels of your organization to become effective participants in continuous improvement. It helps managers, supervisors and employees understand their roles in meeting customer requirements and expectations. It helps them to understand quality, as well as their roles in achieving the desired level of quality products and services in the organization.

2.9 WORKES PARTICIPATION

Worker participation refers to a corporate human resource strategy built on the principles of co-operation and co-responsibility in decision making between employers and employees (Maller, 1992). Maller (1992:96) argues that this strategy often seeks to develop an approach to labor relations that stressed co-operation and generated high motivation levels amongst employees. The establishment of participatory structures in the workplace should be understood as a manifestation of the class contradictions inherent in the capitalist mode of production. Employers are engaged in a perpetual quest to control and dominate the labor process so as to maximize the extraction of excess that is, unpaid labour time (Mandel, 1973; Burawoy, 1979).

Mandel (1973) argues that the structural crisis of late capitalism and the concomitant consolidation of labor’s organizational presence are the primary driving forces that led to capitalist (re)invention of a more subtle means of domination this being worker participation. For

Mandel, worker participation is a capitalist tactic that seeks to associate workers with capital. Contrary to a traditional Marxist understanding of capitalist labor control as despotic or deskilling (Braverman, 1974), Burawoy suggests that capitalists (or employers) are increasingly using a more hegemonic methodology of co-optation and subtle coercion, thus manufacturing consent.

For Burawoy (1979) the main question should be about why workers work as hard as they do, instead of the traditional Marxist preoccupation with why workers work at all. According to Burawoy (1979), employers use a variety of tactics (or strategies) to manufacture consent at the center of these strategies is worker participation or participative management. A number of studies on worker participation that have hitherto been conducted—for example, in BMW (Masondo, 2003) and Anglo Platinum (Maller, 1992) confirm Burawoy‘s theory that worker participation represents employers‘ attempts to manufacture consent on the part of workers. In his study on trade liberalization and work restructuring at the BMW plant in South Africa, Masondo (2003) developed the concept of ideological flexibility to describe management‘s attempts to change the behavior and attitudes of workers by introducing various worker participation structures.

Following massive dismissals of mineworkers in 1987, the Anglo American Corporation introduced an employee share ownership scheme which was designed to enhance employees' identification with the company (Maller, 1992:7). It is worth noting that not all employers adopted the strategies of consent because management by consent is pertinent in labour processes characterized by high rates of capital investment and have acquired relatively high levels of skill or specialized dexterities (Maller, 1992:7).

In her seminal work titled Participation and Democratic Theory, Pateman (1970) makes a useful distinction between real and pseudo participation, partial and full participation, and task centered and power centered participation. Task centered participation can also be described as descending participation‖ in so far as management invariably initiates the development for its own purposes and, as part of the change, may transfer authority and responsibility from itself to the employees for a limited range of work related decisions (Daitz and Rutstein, 1989:5). Task-centered pseudo participation involves employers' interactive ways of communicating decisions

that have already been made, through briefing groups, quality circles and autonomous working groups (Maller, 1992). Put simply, these structures are task centered primarily because they deal with shop floor issues. Task centered participation includes initiatives such as regular consultative meetings between workers and supervisors, briefing groups, quality circles, and so on (Pateman, 1970). Such communication schemes do not give workers any real power to influence decisions in a significant way (Pateman, 1970).

Partial participation refers to participation structures that enable workers to partly influence decisions; because they are in the unequal position of permanent subordinates, the final prerogative of decision making rests with permanent superiors, with management (Pateman, 1970:52). Unlike pseudo and partial participation, task centered full participation entails workers‘ prerogative to decide how a department or an enterprise as a whole should be run, with reference to issues relating to production scheduling, time standards, investment, marketing, (Pateman, 1970:78). Task centered participation has been criticized for being used by employers solely for the purpose of improving productivity without giving workers any real power to determine how the production should be done (Salamon, 1987).

2.10 AUTOMOTIVE INDUSTRIES

Totally firms and activities associated with the manufacture of the motor vehicles, plus most components, like engines and bodies, but excluding tires, fuel and batteries. The industry's major products are passenger of the automobiles and light trucks, including pickups, vans, and sport usefulness vehicles. Commercial vehicles (i.e., delivery trucks and huge transport trucks, often known as semis), though imperative to the industry, are secondary. The design of modern automotive vehicles is deliberated in the articles automobile, bus, truck, and motorcycle; automotive engines are defined in gasoline engine and diesel engine. The development of the automobile is enclosed in transportation, history of: The rise of the automobile.

The main and the greatest significant specific of (QC) is the consideration decided by the company to the clients. Within the automotive industry as well, quality must fulfill and overcome clients’ prospects. The purpose is the empathy, then the meeting of all clients’ requirements.

(QC) confesses that a perfectly manufactured product has a reduced value as long as it is not what the client requirements. This is why we say that the quality level is definite by the client. In any case, it is not always easy to control what a client desires, because the tastes and preferences change. Also, clients' prospects vary from a client to another. For example, in the automotive industry, the partialities change fast, from small cars to four-wheel drive vehicles and then back small cars. The companies must fold information continually, by research groups, market studies, and conferences with clients, in order to stay close to clients' perceptions.

CHAPTER 3

RESEARCH METHADOLOGY

3.1 INTRODUCTION

In the research methodology, we will be explained about the research method. It is requires considerable attention to the research methods and the proposed data analysis in the design of any research project. Besides that, it we will explain the tools used in the research. The methods and tools used are to accumulate the data. Hence, it also described about the population and sampling technique, unit of analysis, questionnaire and instruments design and last but not least, analysis technique.

3.2 RESEARCH METHADOLOGY

In the study, we will used the quantitative method which is descriptive design of survey by using questionnaire for obtaining primary data to find out the Quality Control (QC) in the automotive industry from the angle of the worker. Secondary data also used in this study to obtain more information from analysis and research done by people, secondary data can be obtain from journals, books, articles, conferences and internet as well. Survey based method are used to collect detailed information. The questionnaire are used because of many aspects such as ease for respondents to complete the questionnaire without taking a long time, more respondents are selected as the sample for this research and save time and cost when compared with other data collection method.

The measurement scale that we use in this research is interval scale. Data that will collect from the respondents is the measurement that allows us to achieve certain arithmetical procedures. Interval scale also allows us to measure the distance between any two points on the scale. Hence, it will help us to calculate the means, standards deviation of the responses and variables.

3.3 POPULATION AND SAMPLING TECHNIQUE

The imperative thing before start the survey is collect the respondent who will participate in this study (Farenkel and Wallen, 1996). The respondents are the workers in every department at DRB-HICOM Defence Technologies Sdn Bhd (DEFTECH) at automotive industry. The groups that are targeted in this research are the staff or worker in the companies in Pekan at automotive industry. The population of the research is 80 according to amount of the workers. Based on Morgan table, it is determining that, if the total population size, N is 80, the samples size, S of respondent for this study are 66. This research, simple random sampling is used because every element in the population has a known and equal chance of being nominated as the respondent or subject of the study. By this selection, it will provide more information for a given sample size and in the same time provides some insight on the total quality control (QC) from angel of the works in the automotive industry. Table 1 shows the Morgan Level to defining the sample size from a selected population.

Table 3.3.1 for defining sample size from given population

Population Size	Sample Size	Population Size	Sample Size	Population Size	Sample Size
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Resources: http://www.docstoc.com/docs/63601728/TABLE-FOR-DETERMINING-NEEDED-SIZE-S-OF-A-RANDOMLY-CHOSEN-SAMPLE

3.4 UNIT OF ANALYSIS

The important things in the exploring the data is unit analysis. We need to know unit of analysis which is the "who" or the "what" that you are examining for your study. Then, we need to know unit of analysis, either it could be, a group, an individual or even an entire program. It is important to know that unit of analysis is not the same as unit of observation. It is possible to evaluate data in several ways (Trochim, 2006). During the subsequent data analysis stage, it is refer to the level of combination of the data collected. Here, the problem statement generally focuses on the quality that evaluate from the angle of worker in the automotive industry, hence, the unit of analysis obviously is the individual. For this purpose, data are will be collect from the worker from companies at automotive industry.

3.5 DATA COLLECTION TECHNIQUE

Data Collection is a significant characteristic of any type of research study. Inaccurate data collection can influence the ultimately lead to invalid results and results of a study. Based on this study, research uses questionnaires because it can collect data from potentially great number of respondent easily. Well design questionnaire can effectively gather information and will be possible technique to reach number of respondent that allow statistically analysis of result. A survey of the questionnaire do not take time so long, it is about 10 to 15 minutes. The data will collect by researcher using quantitative method. It is depend on the random sampling and structured data collection instruments that will fit varied experiences into predetermine response types. They produce results that are easy to summarize, compare, and generalize. Besides that, by using questionnaire it is easier to researcher to collect questionnaire after the respondent accomplish it.

3.6 QUESTIONNAIRE AND INSTRUMENT DESIGN

The questionnaire will be conduct in bilingual language which is Malay and English. By using bilingual language for the question, it can help the respondent to understand the question easily and make a quick decision to choose the best answer. Hence, this question will be close ended question to ensure respondent make the quick decision to help researcher in coding the information for analysis and collect data. This questionnaire will be divided in to two parts. Those two parts of the questionnaire are Part A and Part B. Part A will focus on question that related to the personal information of respondent which is call demographic. Besides that, Part B

focus on the opinion of respondent that related to the awareness of Quality Control (QC) and the level of understanding from the angle of the workers. This research used Likert scale in scaling the rate of the respondent answer. A method used to describe quantitative value to qualitative data, to make it aware to statistical analysis. A numerical value is allocated to each potential choice and a mean figure for all the responses is computed at the end of the evaluation or survey. Used mainly in training course evaluations and market surveys, Likert scales usually designed to examine how strongly subjects aware with five point interval scale that specially uses five level such as not at all aware, slightly aware, somewhat aware, moderately aware and extremely aware. Average score represents overall level of accomplishment or attitude toward the subject matter at the final.

3.7 STATISTICAL ANALYSIS TECHNIQUE

These questionnaires are placid together to make sure that all the respondents answer correctly in agreement with the recognize techniques. The question are in rating scale and numbered as 1,2,3, and so on while for questions in questionnaires is label as Q1, Q2, Q3 and so on for easier documentation. This data are keys in and evaluate by using the software Program Statistical Package for Social Science (SPSS). SPSS program can create descriptive statistics and inferential statistics data.

3.7.1 D ESCRIPTIVE STATISTICS

A set of passing descriptive quantities that reviews a given data set, which can either be a sign of the entire population or a sample. The measures use to define the data set are measures of central tendency and measures of variability or dispersion. The data are find from frequencies and from the frequency data are alter into figure such as histogram to show the frequency, percentage, valid percentage and also the cumulative percentage of the data obtain. Besides, the data were also examine and transferred into mean, median and mode. Other than that, this frequency also delivers data in the form of range, variance and standard deviation.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

The purpose of this study is to investigate the quality control in the automotive industry based on the awareness of the workers and the importance of the quality control during manufacturer. This chapter presents the finding of answer from the questionnaire. In this chapter , the research will focus on the analysis of study where the result obtained from the survey were edited, coded and analyses by using Statistical Package for the Social Science (SPSS) software. Data were segregated to obtain the description of the respondent's characteristic. Prior to hypothesis testing, reliability test was done followed by a brief discussion on the item analysis of independent variable and dependent variable.

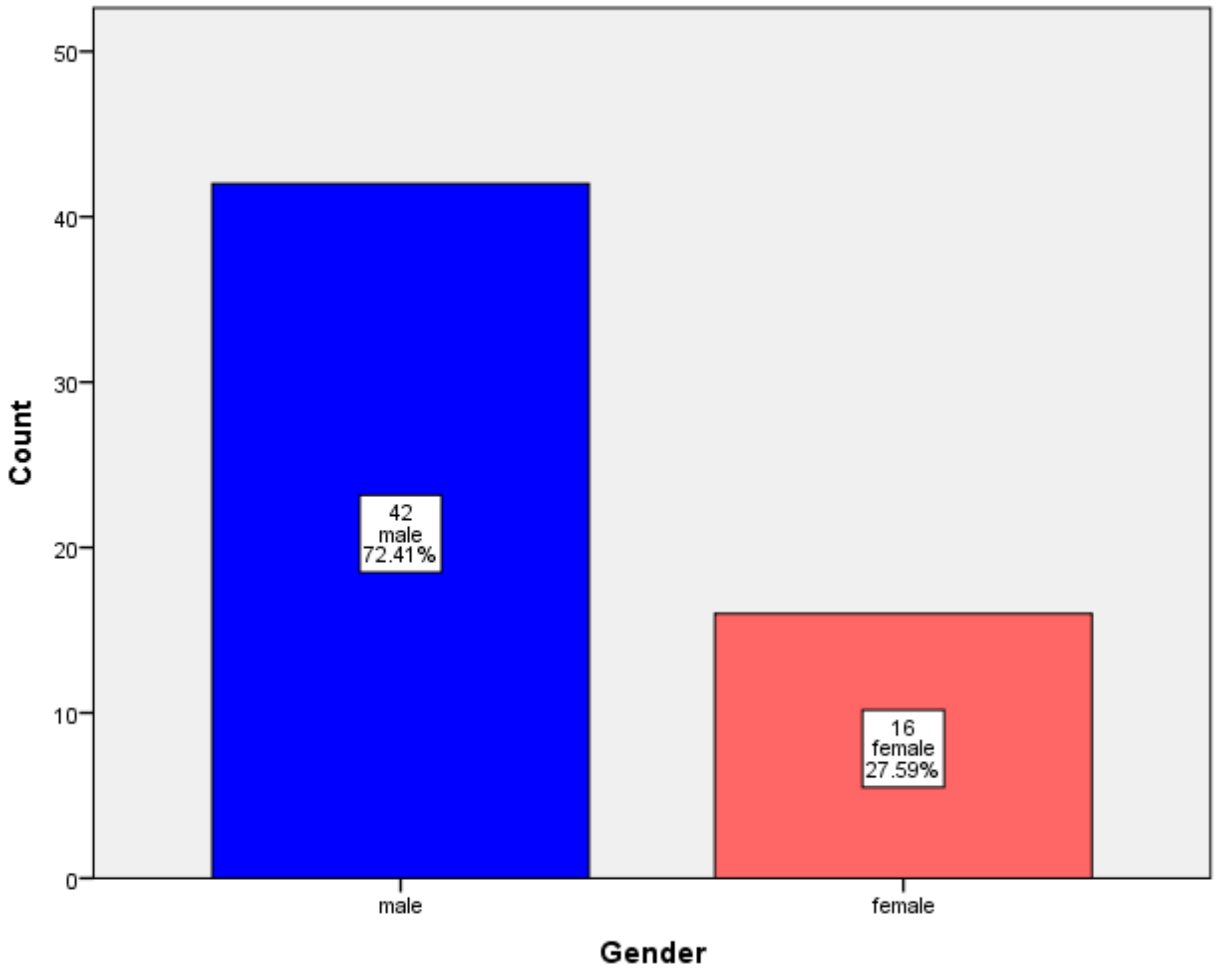
4.2 Data Collection

The data from the questionnaire was analyzed using the frequency analysis, reliability analysis and others. The summary of data analysis for questionnaires from the survey will be tabulated in the next section. A total of set of the questionnaire were distributed to the targeted respondents randomly too the staff at the DRB-HICOM Defence Technologies Sdn Bhd (DEFTECH) .Out of 40 set questionnaire form were distributed by hand, 38 were completed and return back. Besides that, another 26 set questionnaires forms were distributed by email. But, only 20 were answer and reply. All the data form of the questionnaires survey are collected and used as the basis of the analysis of study.

4.3 QUESTIONNAIRE RESPONSE

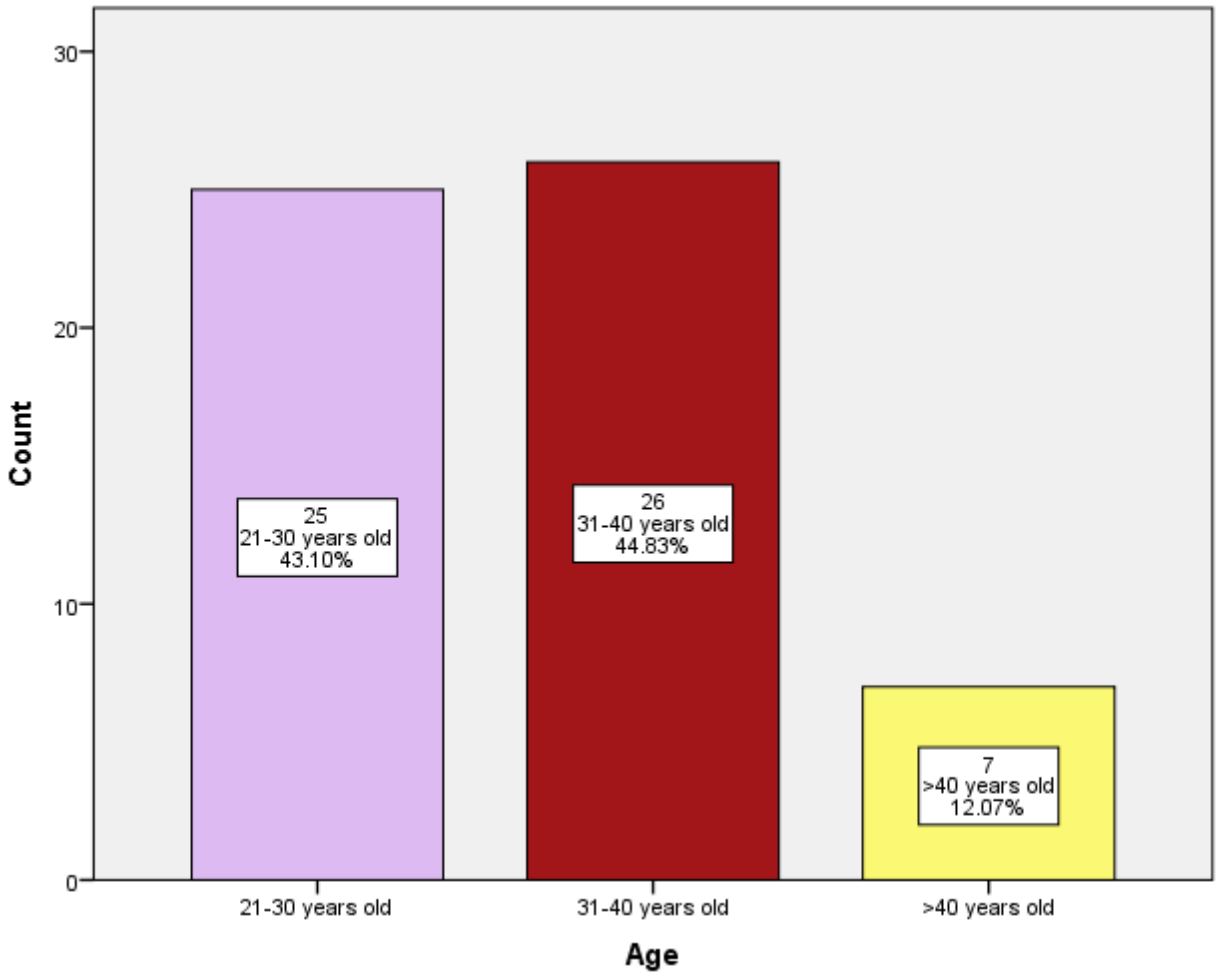
This section begin with the empirical analysis by testing all the hypothesis included in the study by looking at the differences in factor related to gender, ages, race, status, education background, work experience and profession. The demographic of respondent shows in Figure 4.1 that in term of gender, there are no significant differences between the two sexes. The percentage of male respondent is about (72.41%) which is about 42 respondents, while female respondent is about (27.59%) which 16 are involved in this survey.

Figure 4.3.1 Graph of Gender



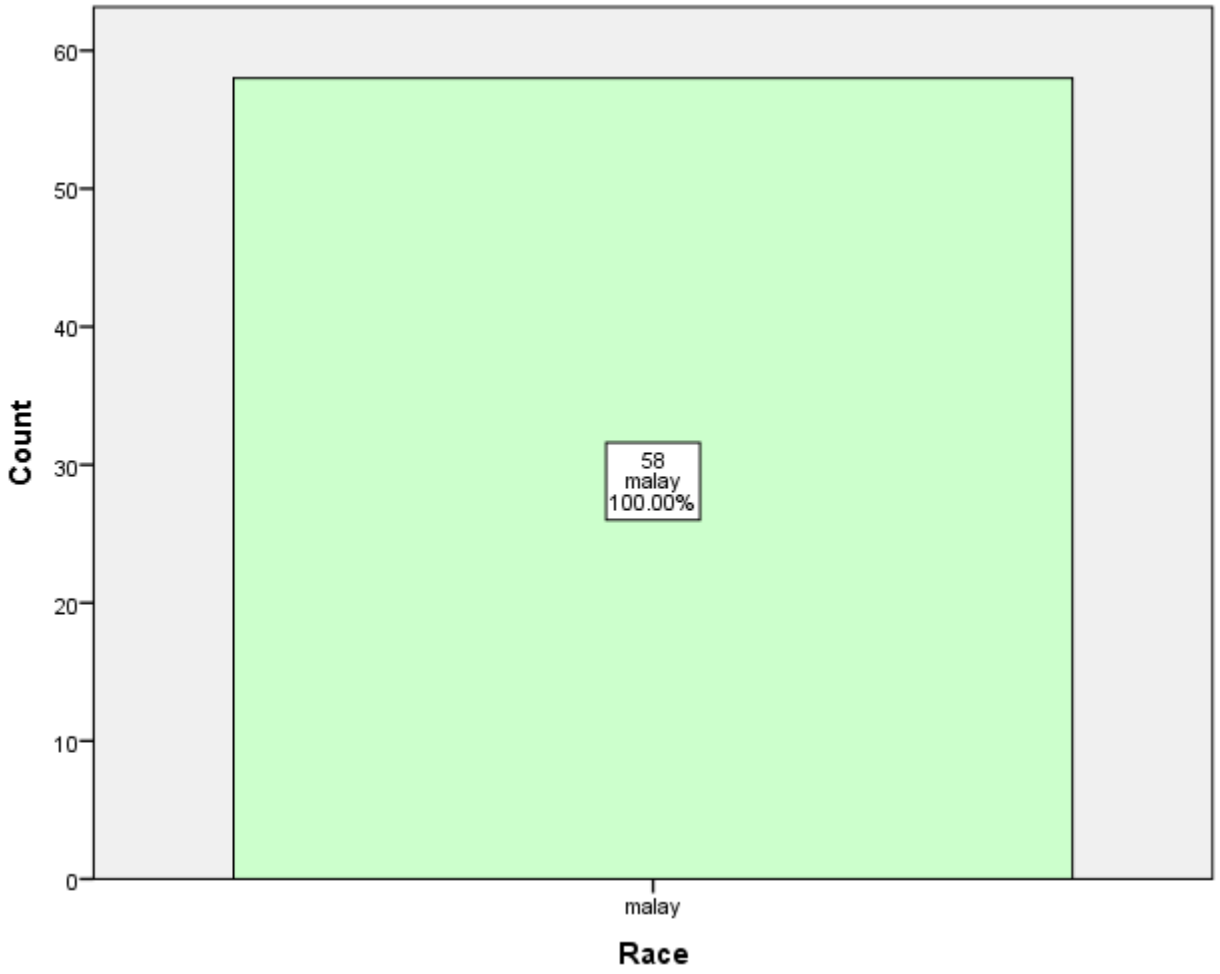
From the data that had been collected, the entire respondents fall the age above 21 years old. Most of the respondent are age between 21 to 30 years old which is (43.10%) about 25 respondent, followed by age between 31 to 40 years old about (44.83%) which are 26 respondent. There is no significant difference between the two ranges of the age. Then, followed by age that above 40 years old which are (12.07%) it is about 7 respondents.

Figure 4.3.2 Graph of Age



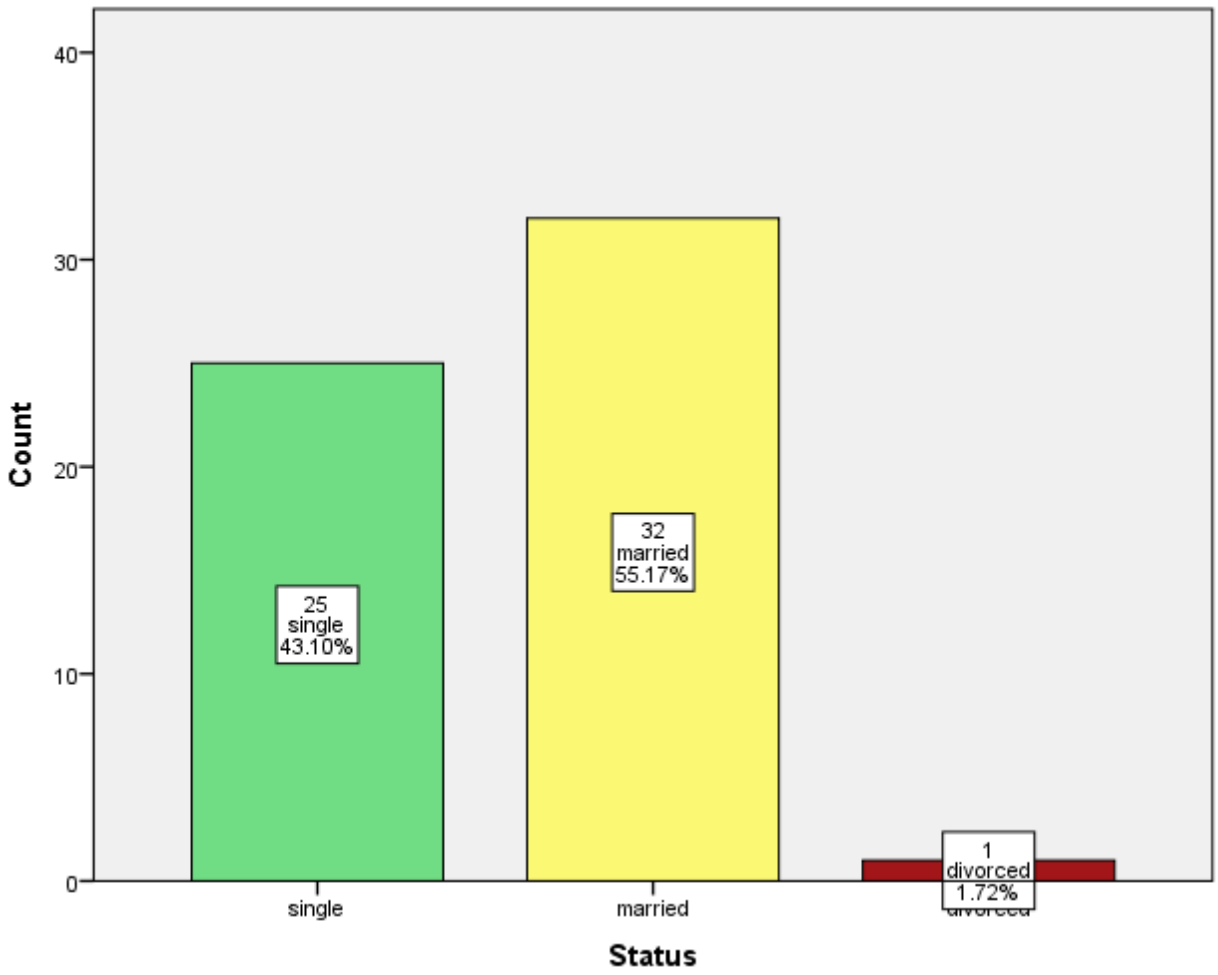
In addition, incidentally respondents involved in this survey are (100%) Malay, the respondent is about 58 people. Malay has monopolized the population the company because the manufacturing company for questionnaires survey majority is operates by Malay races and they have interest on capability to work in manufacturing based company.

Figure 4.3.3 Graph of Race



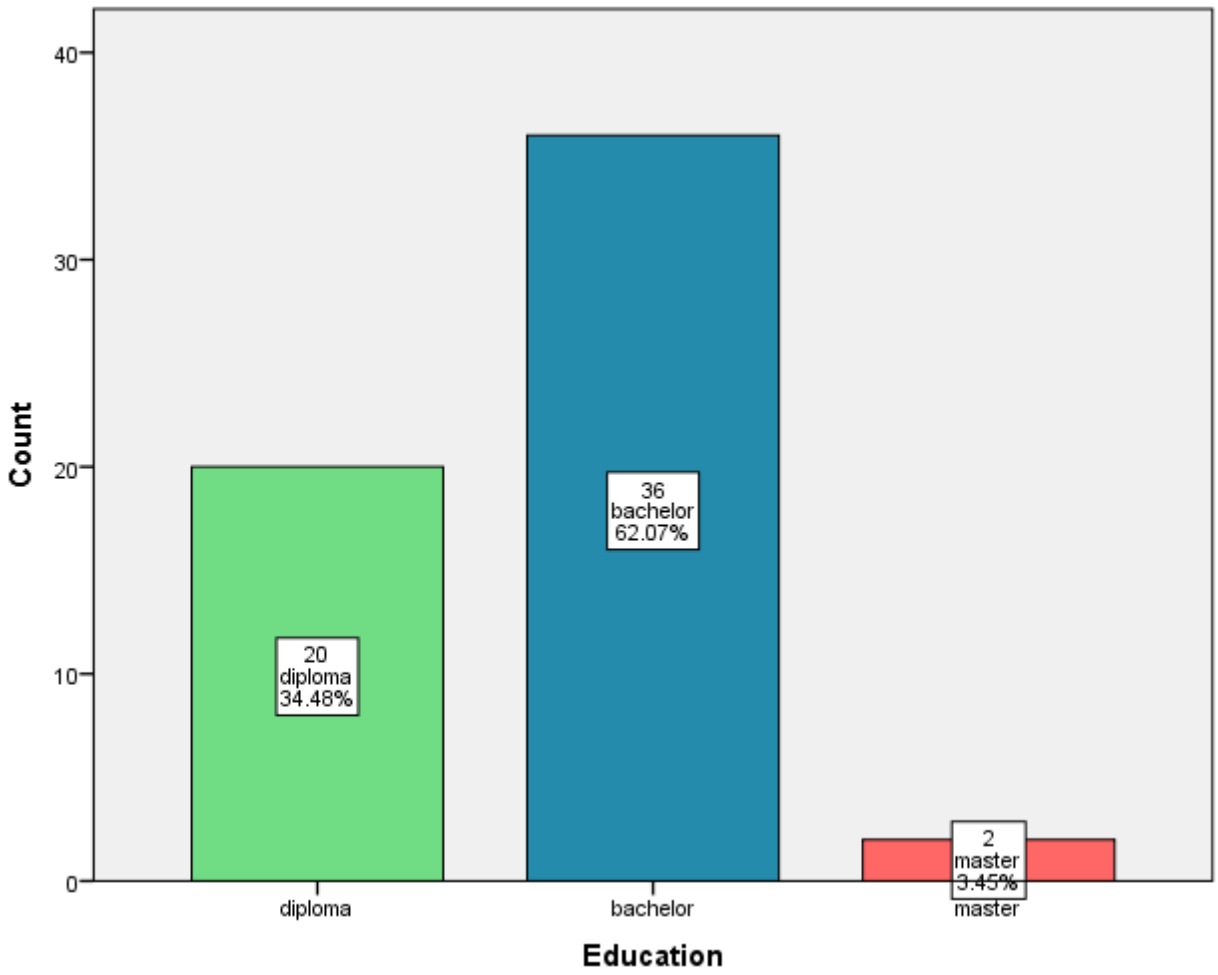
Furthermore, most of the respondent in this survey marital status are married which are (55.17%) it is about 32 respondent, followed by respondent that are single which are (43.10%) it is equal to 32 and (1.72%) which is about 1 person from the respondent are divorced.

Figure 4.3.4 Graph of Status



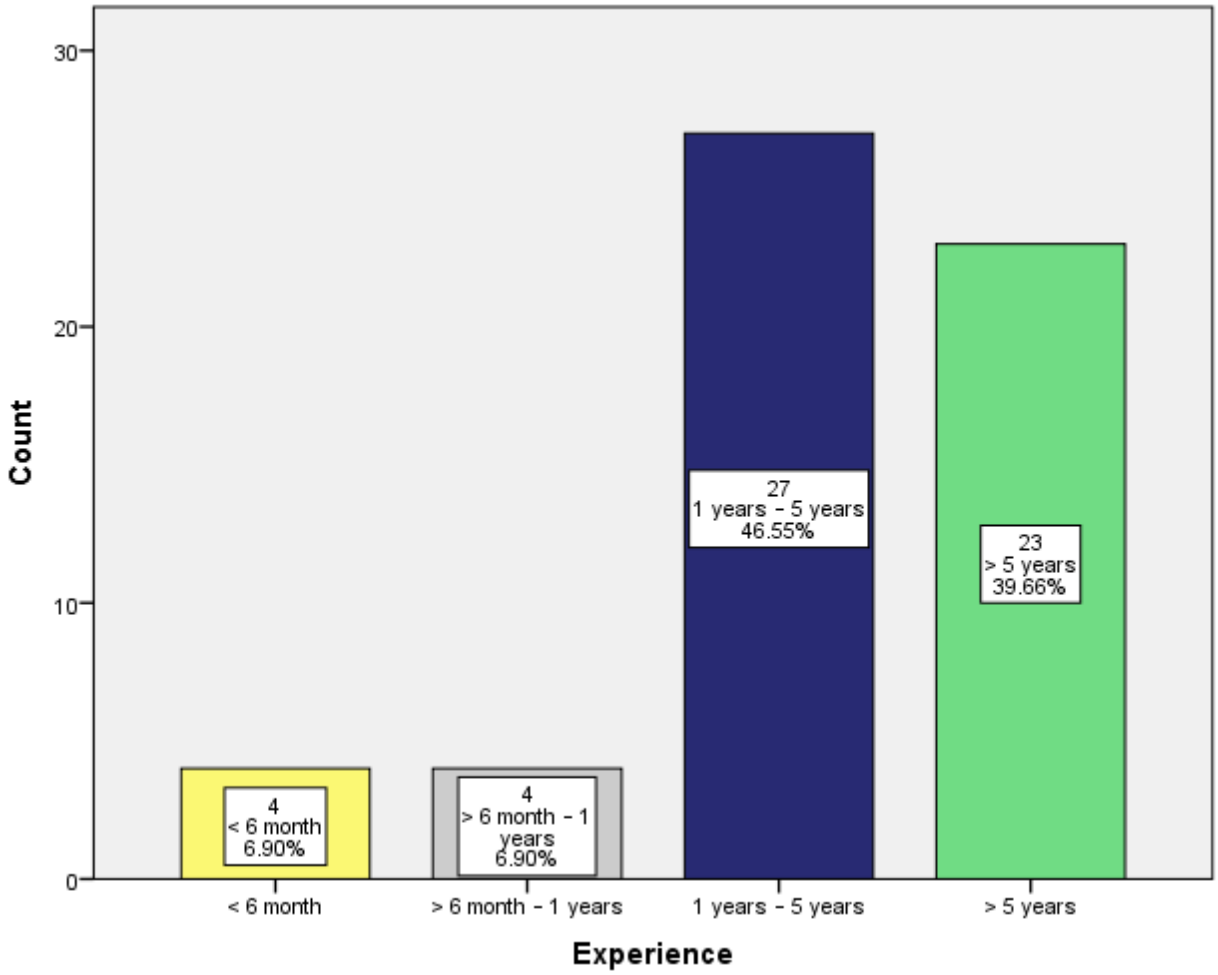
The education background is an important aspect to fulfill the company requirement in order to apply for a job. Respondents have different education background and classify in to six levels, which none education, SPM, Diploma, Bachelor, Master, PhD. The minimum respondents for the level of education background are master which are (3.45%) which is 2 person or respondents. Followed by respondent that have diploma which is (34.48%) that equal to 20 respondent and bachelor that have percentage about (62.07%) which is 36 respondents. There is no employees that do not have education background. There is also no employee that has SPM level education background.

Figure 4.3.5 Graph of Education



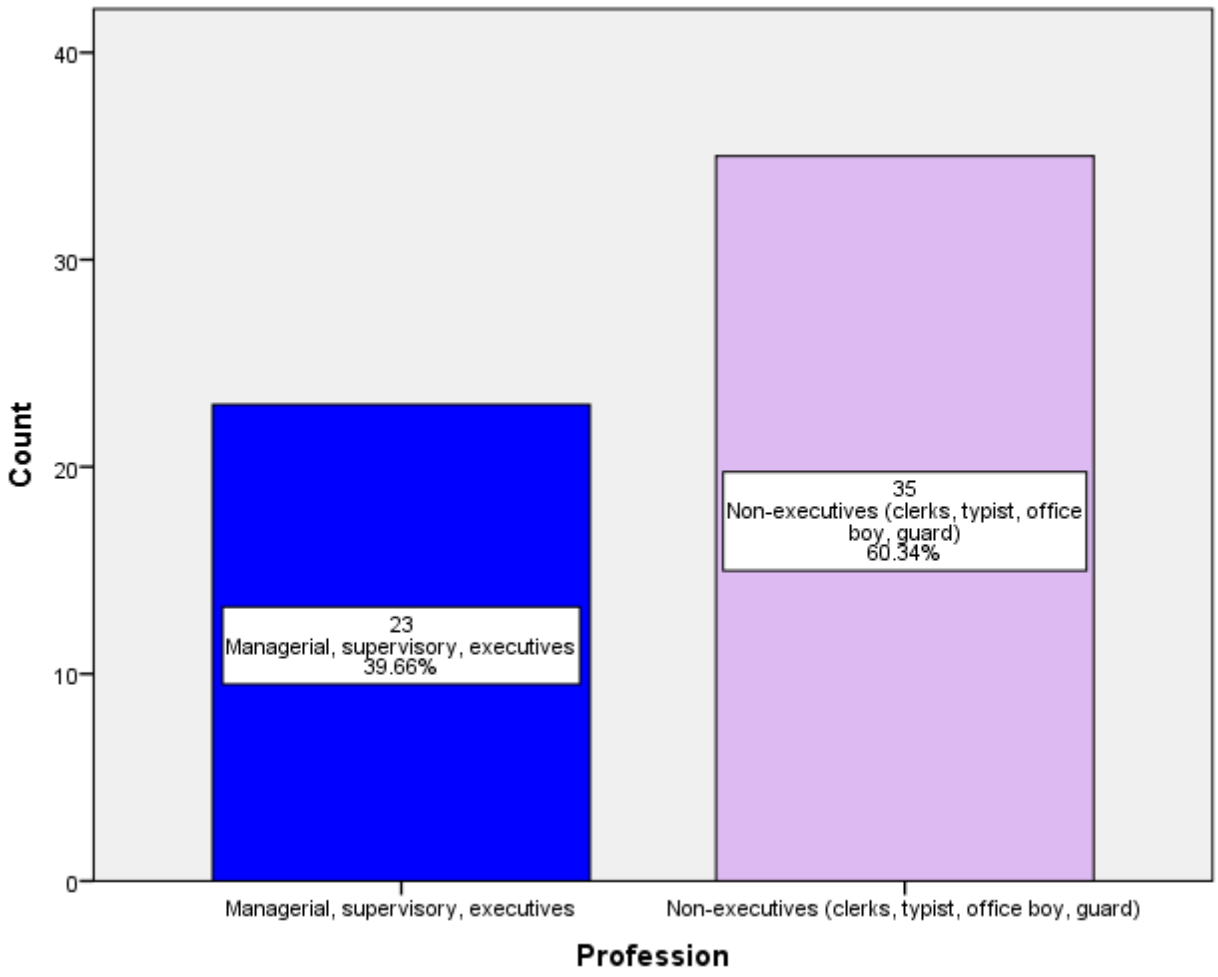
In terms of job experience in the automotive industry, the average experiences of the respondents among 1 year to 5 year and accounted for (46.55%) that equal to 27 respondents. Respondent that have job experiences more than 5 years accounted for (39.66%) which is about 23 respondents. Respondents that has job experiences between 6 month to 1 years has accounted for (6.9%) which 4 respondents, same goes to the respondent that have job experiences less than 6 month.

Figure 4.5.6 Graph of Experience



For the current profession in company, it mostly dominated by Non-executive (clerks, technician, office boy) that accounted for (60.34%) which is about 35 respondent followed by (managerial, supervisory, executive) which are (39.66%) that are equal to23 respondent.

Figure 4.3.7 Graph of Profession



4.4 RELIABILITY

Reliability is important in the survey question to know the questionnaires that had been constructed are reliable or not. The data will indicate the reliability of the question. Reliable will declared when variable derived from test instruments provide stable and reliable response over a repeated administration of test. Nowadays, one of the popular statistical reliability test used is Cronbach's Alpha (Cronbach, 1951)

Internal consistency or average correlation of item in a survey instrument will determine by Cronbach's Alpha to measure the reliability. If the score is higher, so the generated scale is more reliable.According to (Nunhaly, 1978) he has indicated 0.700 is value to be acceptable reliability coefficient but lower threshold are sometimes used in the literature. The table below shows the reliability statistic using Cronbach's Alpha.The results 0.797. The results show that the data is reliable and good because it exceeds 0.700

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.883	.882	18

Table 4.4.1

The level awareness of Quality Control (QC) among the workers in the automotive industry

Section B

	Item	Cronbach's Alpha
General Quality Control opinion	Have you heard of QC	0.880
	Are you aware of the basic of QC	0875
	Has your company started implementing QC	0.871
	QC aims to know customer satisfaction in the business	0.886
	Teamwork and participation are important for achieving a good product	0.885
	Training and education are important elements with respect of QC implementation.	0.883
	Management must provide adequate resources in every aspect of the business.	0.876
	A work environment, which is conducive for improvement, is created through management-worker partnerships.	0.881

Table 4.4.2 Cronbach Alpha for General Quality Control opinion

The table above shows the value of the Cronbach's Alpha for the question in part B that has all passed the valid level. According to the table, all reading exceeds 0.7 that s good range for Cronbach's Alpha. The highest value for this section is G4, which 0.886.The lowest value for this section is G3 which 0.871.

Section C

	Item	Cronbach"s Alpha
Employee's Discipline	Employees are empowered and are participating in decision implementing of QC	0.877
	There is willingness of employees to offer feedback for improvement	0.870
	Our employees know with explicit detail what the need to do achieve and exceed defined target	0.878
	In our organization, there is high employee morale	0.875
	Employees are educated of the principle of TQM and need to get it right first time and always	0.881

Table 4.4.3 Cronbach's Alpha Employee's Discipline

The table above shows the value of the Cronbach's Alpha for the question in section C, first part, that has all passed the valid level. According to the table, all reading exceeds 0.7 that s good range for Cronbach's Alpha. The highest value for this section is A1.5, which 0.88 1.The lowest value for this section is A1.2 which accounted of 0.870.

	Item	Cronbach's Alpha
Quality tools used in the automotive industry	Use of basic statistical tools(check sheet, histogram, cause & effect analysis & control chart in the production process)	0.874
	Use of advanced technique (such as DoE, QFD etc.) in the process.	0.867
	Non- production related function such as marketing and sales used quality tools & technique for improvement activities	0.867
	Appropriate technique are implemented when necessary	0.876
	Benchmarking of direct competitor product and process as a tool for improving own product and business process	0.876

Table 4.4.4 Cronbach's Alpha Quality tools used in the automotive industry

The table above shows the value of the Cronbach's Alpha for the question in section D that has all passed the valid level. According to the table, all reading exceeds 0.7 that s good range for Cronbach's Alpha. The highest values for this section are Q4 and Q5, which 0.876.The lowest value for this section are Q2 and Q3 which accounted of 0.867.

Item Statistics

	Mean	Std. Deviation	N
G1	4.28	.451	58
G2	4.16	.556	58
G3	4.28	.696	58
G4	4.21	.554	58
G5	4.09	.571	58
G6	4.19	.512	58
G7	4.17	.679	58
G8	4.09	.571	58
A1.1	4.10	.718	58
A1.2	4.07	.645	58
A1.3	4.07	.672	58
A1.4	4.29	.676	58
A1.5	3.95	.867	58
Q1	4.12	.774	58
Q2	4.07	.746	58
Q3	3.86	.712	58
Q4	4.00	.419	58
Q5	4.07	.491	58

Table 4.4.5 Mean & Standard Deviation Item Statistic

Most of the mean in every variable show the value above 4.The value shows that most of the respondents moderately aware with the Quality Control implemented in their company. It shows that Quality Control Is important in the automotive industry, especially to fulfill the customer satisfaction.

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.114	3.862	4.293	.431	1.112	.013	18
Item Variances	.408	.175	.752	.576	4.284	.023	18

Table 4.4.6 Item Means & Item Variances Summary Item Statistics

Since the overall mean of all variables is 4.114 means that most of the respondent aware with the implementation of the Quality Control (QC) in the DRB-HICOM Defence Technologies Sdn. Bhd. (DEFTECH).Besides that, they also aware with the Quality Control tools that used in the industry.

CHAPTER 5

CONCLUSION

5.1 INTRODUCTION

This chapter will conclude the study based on the objectives of the study. The main objective will highlighted on this study is to study the level awareness of Quality Control (QC) among the workers in the automotive industry. The objective of this study had been discussed trough the previous chapters are concluding in the previous chapter. Besides that, for this chapter will discuss the limitations and recommendations for further study are included in this chapter. This chapter concludes the study by discussion results of the data analysis was done on Chapter 4 on data analysis and findings. This study basically aimed to reveal the level of awareness of employees in automotive industry on the Quality Control (QC). From the literature review, those factors are discussed with a sound knowledge of the factors in various angle were achieved.

5.2 CONCLUSON

The study was based on Quality Control (QC) and the elements integrated on that. According to the objectives of this study, this is focus on the level of awareness of Quality Control (QC) among the employee and the quality control tools used. If the workers aware and understand with the Quality Control, the product and service will improve. The level awareness can be measure based on 3 elements in Quality Control (QC) which are personnel, competence and controls. The level of awareness of Quality Control (QC) tools can measure by the feedback from the survey. The respondents alert with the tools that the company used. After having the survey and feedback from the respondent, the data was analyzed based on frequency, rating and reliability. All the calculation and data analysis was stated in previous chapter.

5.3 LIMITATION

Every research or study had its own limitations. During this study there are some limitations that had been faces especially in first face which is conducting research process and literature review. It is because the scope of Quality Control in the automotive industry is not

widely known or had been doing by other people. So, the information is very limited and hard to find many references from author. Coincidently, it is related with the Total Quality Management (TQM). Lots of information is from searching internet. In general, about 45 % in formation is from journal and reading sources. While another 55 % from online sources.

Additionally, when conducting the research process, which survey by questionnaire, the data is difficult to collect. It crashes with time. Most of the respondent have busy with their own work. Besides that, some of the respondent just answers the questionnaires without understand the question. It will be impact on the result of the data. Then, the other problem is some of the respondent did not give their feedback. For example, from the 30 questionnaire given only 21 give the feedback.

5.4 RECOMMENDATION

The other study can be done for more detail in specific process and elements. It is because the process and elements can be narrow down too few of most influence of awareness in automotive industry to improve the standard and level of the service. Furthermore, it suggested that further study would also be necessary to collect further data for study the process and elements in other area. Besides that, the respondents to identify clearly before distribute the questionnaire to avoid the respondent that did not give the positive feedback.

5.5 SUMMARY

Although there are some limitation that had been faces during first stage of the research, the literature review and data finding for this research has been done successfully. The objective of the study was achieved by studying the level of awareness of Quality Control (QC) among the employee in the automotive industry. People will know the information and the importance of Quality Control in the automotive industry. Since there are many people outside that still not have awareness regarding to the Quality Control.

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APPENDIX

FACULTY OF TECHNOLOGY

University Malaysia Pahang

Questionnaire on "Quality Control in Automotive Industry"

My name is Wan Nur'Ain Ruzana Binti Wan Ibrahim, a student undertaking Bachelor's Degree in Project Management with Honors in Universiti Malaysia Pahang (UMP). This is a survey done as part of my dissertation to understand how the quality control help automotive industry to achieve the quality based on the employees awareness. Your participation in this survey is STRICTLY CONFIDENTIAL. Please complete the survey as openly and honest as possible.

(Should you have any doubts, please feel free to contact me via e-mail at ainruzanaibrahim13@gmail.com)

The objectives of this questionnaire are:

i) To study the awareness of Quality Control (QC) among the workers in the automotive industry

ii) To know the level of understanding Quality Control (QC) used in the automotive industry

SECTION A: RESPONDENT BACKGROUND

Please tick in the bracket below (/)

1) Gender/Jantina

( ) Male/Lelaki

( ) Female/Wanita

2) Age/Umur

( ) < 21 years old/Tahun

( ) 21-25 years old/Tahun

( ) 26-30 years old/Tahun

( ) 31-35 years old/Tahun

( )> 35 years old/Tahun

3) Race/Bangsa

( ) Malay/Melayu

( ) Chinese/Cina

( ) Indian/India

( ) Others.State/Lain-lain.Nyatakan:……

4) Status/Status

( ) Single/Bujang

( ) Married/Berkahwin

( ) Divorced/Bercerai

5) Education Background/ Latar Belakang Pendidikan

( ) SPM/SPM

( ) Diploma/Diploma

( ) Bachelor Degree/Ijazah Sarjana

( ) Master/ Master

( ) PhD/PhD

6) Work Experience/Pengalaman Berkerja

( ) < 6 month/month

( ) > 6 month – 1 years/tahun

( ) 1 years – 5 years/tahun

( ) > 5 years/tahun

7) Profession/Pekerjaan

( ) Managerial, supervisory, executives/ Pengurus, penyelia, eksekutif

( ) Non-executives (clerks, typist, office boy, guard)/ Bukan eksekutif (kerani, jurutaip, budak pejabat, pengawal)

( ) Others. State/Lain-lain.Nyatakan:…… **SECTION B: GENERAL**

TQM OPINIONS

1 = Not all aware 3 = Somewhat Aware 5 = Extremely Aware

2 = Slightly Aware 4 = Moderately Aware

	STATEMENT	SCALE OF AWARENESS
1	Have you heard about of Quality Control? /Adakah anda pernah mendengar tentang kawalan kualiti?	1 2 3 4 5
2	Are you aware of the basic of Quality Control? / Adakah anda sedar akan asas Kawalan Kualiti?	1 2 3 4 5
3	Has your company started implementing Quality Control?/ Adakah syarikat anda mula melaksanakan Kawalan Kualiti?	1 2 3 4 5
4	Quality Control aims to ensure the maintenance of proper standards in manufactured goods, especially by periodic random inspection of the product. / Kawalan Kualiti adalah untuk memastikan penyelenggaraan piawaian dalam barangan perkilangan, terutamanya oleh pemeriksaan rawak berkala produk.	1 2 3 4 5
5	Teamwork and participation are important for achieving a good product/ Nilai kerjasama dan penyertaan adalah penting untuk mencapai produk yang baik	1 2 3 4 5
6	Training and education are important elements with respect of Quality Control implementation./ Latihan dan pendidikan adalah elemen penting berkenaan pelaksanaan Kawalan Kualiti.	1 2 3 4 5
7	Management must provide adequate resources in every aspect of the business./ Pengurusan mesti menyediakan sumber yang mencukupi dalam setiap aspek perniagaan.	1 2 3 4 5
8	A work environment, which is conducive for improvement, is created through management-worker partnerships./ Persekitaran kerja yang kondusif untuk penambahbaikan, dicipta melalui perkongsian pengurusan-pekerja.	1 2 3 4 5

SECTION C : Awareness of TQM among the workers in the automotive industry

Employee's Discipline

1 = Not all aware 3 = somewhat aware 5 = Extremely aware

2 = Slightly aware 4 = Moderately aware

	STATEMENT	SCALE OF AWARENESS
1	Employees are empowered and are participating in decision implementing of Quality Control/ Pekerja diberi kuasa dan mengambil bahagian dalam keputusan melaksanakan Kawalan Kualiti	1 2 3 4 5
2	There is willingness of employees to offer feedback for improvement/ Terdapat kesediaan pekerja untuk menawarkan maklum balas untuk penambahbaikan	1 2 3 4 5
3	Our employees know with explicit detail what the need to do achieve and exceed defined target/ Kakitangan kami tahu dengan terperinci jelas apa keperluan untuk yang mencapai dan melebihi sasaran yang ditakrifkan	1 2 3 4 5
4	In our organization, there is high employee morale/ Dalam organisasi kami, semangat pekerja tinggi	1 2 3 4 5
5	Employees are educated of the principle of Quality Control and need to get it right first time and always/ Pekerja dididik dengan prinsip Kawalan Kualiti dan perlu mendapatkan betul untuk kali pertama dan sentiasa	1 2 3 4 5

SECTION D: Quality tools used in the automotive industry

1 = Not all aware 3 = somewhat aware 5 = Extremely aware

2 = Slightly aware 4 = Moderately aware

	STATEMENT	LEVEL OF UNDERSTANDING
1	Use of basic statistical tools(check sheet, histogram, cause & effect analysis & control chart in the production process)/ Penggunaan alat statistik asas (semak lembaran, histogram, punca & kesan analisis & carta kawalan dalam proses pengeluaran)	1 2 3 4 5
2	Use of advanced technique (such as DoE, QFD etc.) in the process. / Penggunaan teknik canggih (seperti JAS, QFD dan lain-lain) dalam proses.	1 2 3 4 5
3	Non- production related function such as marketing and sales used quality tools & technique for improvement activities/ Bukan fungsi berkaitan pengeluaran seperti pemasaran dan jualan alat-alat yang digunakan berkualiti & teknik untuk aktiviti penambahbaikan.	1 2 3 4 5
4	Appropriate technique are implemented when necessary/ Teknik yang sesuai dilaksanakan apabila perlu.	1 2 3 4 5
5	Benchmarking of direct competitor product and process as a tool for improving own product and business process/ Menanda aras produk pesaing secara langsung dan proses sebagai alat untuk meningkatkan proses produk dan perniagaan sendiri.	1 2 3 4 5

DATA SPSS

Statistics

		Age	Experience	Gender	Race	Status	Education	Profession
N	Valid	58	58	58	58	58	58	58
	Missing	0	0	0	0	0	0	0
Mean		2.69	3.19	1.28	1.00	1.59	2.69	1.60
Median		3.00	3.00	1.00	1.00	2.00	3.00	2.00
Mode		3	3	1	1	2	3	2
Sum		156	185	74	58	92	156	93

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30 years old	25	43.1	43.1	43.1
	31-40 years old	26	44.8	44.8	87.9
	>40 years old	7	12.1	12.1	100.0
	Total	58	100.0	100.0	

Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 6 month	4	6.9	6.9	6.9
	> 6 month – 1 years	4	6.9	6.9	13.8
	1 years – 5 years	27	46.6	46.6	60.3
	> 5 years	23	39.7	39.7	100.0
	Total	58	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	42	72.4	72.4	72.4
	female	16	27.6	27.6	100.0
	Total	58	100.0	100.0	

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	malay	58	100.0	100.0	100.0

Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	25	43.1	43.1	43.1
	married	32	55.2	55.2	98.3
	divorced	1	1.7	1.7	100.0
	Total	58	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diploma	20	34.5	34.5	34.5
	bachelor	36	62.1	62.1	96.6
	master	2	3.4	3.4	100.0
	Total	58	100.0	100.0	

Profession

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Managerial, supervisory, executives	23	39.7	39.7	39.7
	Non-executives (clerks, typist, office boy, guard)	35	60.3	60.3	100.0
	Total	58	100.0	100.0	

Reliability Statistics

Cronbach's Alpha	N of Items
.883	18

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
G1	69.78	41.651	.408	.880
G2	69.90	39.989	.559	.875
G3	69.78	38.037	.665	.871
G4	69.84	42.484	.198	.886
G5	69.97	41.999	.257	.885
G6	69.86	41.981	.299	.883
G7	69.88	39.231	.533	.876
G8	69.97	41.087	.384	.881
A1.1	69.95	39.208	.501	.877
A1.2	69.98	38.228	.700	.870
A1.3	69.98	39.807	.468	.878
A1.4	69.76	39.099	.553	.875
A1.5	70.10	38.586	.454	.881
Q1	69.93	37.960	.594	.874
Q2	69.98	36.894	.747	.867
Q3	70.19	37.174	.754	.867
Q4	70.05	40.962	.576	.876
Q5	69.98	40.579	.545	.876

Item Statistics

	Mean	Std. Deviation	N
G1	4.28	.451	58
G2	4.16	.556	58
G3	4.28	.696	58
G4	4.21	.554	58
G5	4.09	.571	58
G6	4.19	.512	58
G7	4.17	.679	58
G8	4.09	.571	58
A1.1	4.10	.718	58
A1.2	4.07	.645	58
A1.3	4.07	.672	58
A1.4	4.29	.676	58
A1.5	3.95	.867	58
Q1	4.12	.774	58
Q2	4.07	.746	58
Q3	3.86	.712	58
Q4	4.00	.419	58
Q5	4.07	.491	58

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.114	3.862	4.293	.431	1.112	.013	18
Item Variances	.408	.175	.752	.576	4.284	.023	18

TASK / Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
FINAL YEAR PROJECT I																		
FYP I Briefing by Coordinator																		
Discuss Tittle & Objective(with potential supervisor)																		
Internal Meeting for Tittle & Objective Approval (each programme)																		
Faculty Will Endorse and Approve Project Tittle & Decide Student's Supervisor																		
Weekly Meeting with Supervisor																		
Submit FYP I Report (proposal)																		
FYP I Oral Presentation																		
FINAL YEAR PROJECT II																		
FYP II Briefing																		
Meet Supervisor(discuss data analysis)																		
Weekly Meeting (to complete FYP II)																		
Submit 1st Draft to Supervisor (consist Data Analysis and Conclusion & Recommendation)																		
Supervisor Comment and Advice for Any Correction																		
Submit 2 copies of FYP II Report and Log Book to Supervisor for Evaluation																		
FYP II Presentation																		
Fill Up Approval for Binding Form to be Endorsed by Supervisor(submit the form to coordinator)																		
Submit Hard-Bind Project Report to Faculty																		

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