THE QUALITY CONTROL PROCESS OF PRODUCTION SWITCH IN PT OMRON MANUFACTURING OF INDONESIA

A PAPER

This scientific paper is submitted to School of Foreign Languange-JIA to fulfill one of the requirements for taking Diploma III program

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ENGLISH PROGRAMME
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PROSES QUALITY CONTROL PRODUKSI SWITCH DI PT OMRON MANUFACTURING OF INDONESIA

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui bagaimana dan pekerjaan apa saja yang dilakukan di dalam proses Quality Control produk switch di PT Omron Manufacturing of Indonesia yang beralamat di Kawasan Industri EJIP plot 5c Cikarang Selatan,Bekasi- Jawa Barat. Selain itu penelitian juga dilakukan untuk mengetahui hal-hal apa saja yang mempengaruhi kualitas suatu produk dan apa saja masalah yang ditemukan di dalam proses Quality Control di area produksi. Dalam penelitian ini penulis meneliti tentang pekerjaan yang dilakukan oleh operator produksi pada proses akhir yang berupa proses Quality Control di area produksi switch. Penelitian ini dimulai sejak tanggal 8 Januari 2018 sampai dengan 7 Maret 2018. Teknik pengumpulan data yang dilakukan peneliti adalah sebagai berikut : (1) melakukan penelitian langsung di lapangan, (2) meneliti apa saja pekerjaan yang harus dilakukan oleh seorang operator produksi Quality Control,(3) meneliti masalah apa saja yang sering ditemukan dalam proses Quality Control dan bagaimana cara mengatasi masalah-masalah tersebut. Metode penelitian ini adalah metode kualitatif dengan cara mengamati pekerjaan yang dilakukan selama 9 minggu. Penulis menemukan beberapa masalah, antara lain : (1)Sulit menangani masalah atau kondisi tidak normal secara cepat di dalam sistem Quality Control otomatis, (2) Terdapat produk yang tidak bagus lolos dari pengecekan operator, (3) Terdapat operator yang tidak mengikuti cara kerja dengan benar, (4) Ketika terdapat kondisi tidak normal pada terminal dan Button Heigh akan mengurangi konsentrasi dan ketelitian operator dalam melakukan pengecekkan karna terjadinya penumpukan,(5) Sulit menemukan kondisi upnormal dari Feeling button yang NG,(6) Ketika terdapat banyak kondisi tidak normal pada hasil produksi,operator kesulitan menentukan batas kualitas produk yang NG atau bagus, (7) Sering ditemui part-part yang bermasalah,(8)Sulit melakukan pengecekkan dengan cepat dan teliti.

Kata Kunci : Quality Control.

QUALITY CONTROL PROCESS OF PRODUCTION SWITCH IN PT OMRON MANUFACTURING INDONESIA

NILA SUSANA WATI

ABSTRACT

This study aims to find out how and what work is done in the product quality control process at PT Omron Manufacturing of Indonesia having its address at Industrial Estate EJIP plot 5c in Cikarang Selatan, Bekasi-West Java. In addition, research is also conducted to find out what things affect the quality of a product and what problems are found in the Quality Control process in the production area. In this study the authors examine the work done by the production operator on the final process in the form of Quality Control process in the production area of the switch. This research started from January 8, 2018 until March 7, 2018. Data collection techniques conducted by researchers are as follows: (1) conduct direct research in the field, (2) examine what work should be done by a Quality Control production operator, (3) to examine what problems are often found in the Quality Control process and how to overcome these problems. This research method is qualitative method by observing work done for 9 weeks. The authors found several problems, among others: (1) It is difficult to handle problems or abnormal conditions quickly in the system Automatic Quality Control, (2) There are products that are not good escaped from operator checks, (3) There are operators who do not follow the way of work correctly, 4) When there are abnormal conditions in the terminal and Button height will reduce the concentration and accuracy of the operator in doing the check because of the buildup, (5) It is difficult to find the ubnormal condition of the NG Feeling button, (6) When there are many abnormal conditions in the production, operators have difficulty determining the quality limit of NG or good products, (7) Often encountered problematic parts, (8) It is difficult to check quickly and thoroughly.

Keywords: Quality Control.

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MOTTO AND DEDICATION

MOTTO

There is nothing in vain from a result done with each process that you take a step by step. The result you get is a teacher who can make you fall or stand tall according to your perception. Bet all your wish,will,courage,ability,sacrifice,and all the things you can give in every process in the journey of life you have to live. In order for happiness when you get your results as big as all the things you have devoted to your efforts.

DEDICATION

This papper is dedicated to both my parents who never stopped loving me, for the whole family who loves me,for all my beloved friends, for my future husband, and for everyone who support and love me.

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First of all, the writer would like to thank ALLOH SWT for all the blessing and grace given. It is impossible for the writer to finish this paper without the strength and permission that given by Allah SWT.

This paper writing is to fulfil one of requirements for taking diploma program (D3) of English Department of School of Foreign Languages JIA. In this paper, the writer explains about Quality Control Process of production switch in PT Omron Manufacturing of Indonesia.

During the research, the writer uncounted a lot of hardship and difficulties both finding the data and arranging it into an accepted scientific paper. Therefore, the writer would like to take this opportunity to express his thankfulness to all the following people who have advised and supported data and information to finish this paper, especially to :

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Finally, the writer hopes this paper will be useful especially for her and generally for everyone who reads it.

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CHAPTER I

INTRODUCTION

A. The Background of the Research

Industry is a field that uses the skills, persistence of work and the use of tools in the processing of products. The industry is also known as a continuation of effort to be sufficient economic needs associated with the earth after agriculture, plantation, and mining. Industry globally is differentiated into two is the goods industry and service industry. The goods industry is the business of processing raw materials into semi-finished goods or finished goods. Examples of these industrial activities can be several types of real tangible goods such as electronic goods, food and beverages, as well as goods automotive industries such as motorcycles and cars. The goods industry is also known as manufacturing industry.

Meanwhile service industry is an industry engaged in services or services both to serve and support other industrial activities or provide services or services directly to consumers such as health care, telecommunications, transportation, as insurance and others. Industry services can be closely related to the goods industry.

In the process of producing a certain goods required some parts that use the service industry. For example is the warehousing services and bank services. The electronics industry is known as the most successful industry in building supplies around the world. ASEAN countries are the

target of potential electronics products. The industrial sector in Indonesia is the largest contributor to the national economy. Indonesia can be categorized as an industrial country because of it.

In the New Order era there is a policy of prohibiting the import of ready-made electronic products and attracting foreign companies into Indonesia as a cooperate partners of local companies. Electronic exports in Indonesia increased in the end of 1978. In 1990 electronic exports increased after the May Package deregulation policy successfully attracted investors from Japan, South Korea, and Taiwan to Indonesia.

Development of the electronics industry in Indonesia can't be separated from the trend of global economic development (global factory). Open door policy by the state that reduces state intervention and structural obstacles to the entry of foreign capital makes the electronics industry a priority to in the industry since 2008. Electronic suppliers companies are located in one area that is located in Cikarang-Bekasi to form an integrated supply chain that can reduce the cost of distribution.

Omron Manufacturing of Indonesia is one of the electronic companies of foreign investors which is in one region industry in Cikarang. Although PT Omron does not produce electronic products directly but its existence is one big part in the electronics industry in Indonesia because the resulting product is one of the important electronic components products.PT Omron Manufacturing of Indonesia is one of the companies that have contributed big in the field of electronic.

In present, electronic becomes something that can't be separated from everyday human life. Many electronics companies in Indonesia need good electronic components to make electronic products qualified. Omron Manufacturing makes several important electronic component products such as relays, switches, sockets and digital sensors to be applied to some electronic products with good quality and competitive price.

In Indonesia PT Omron Manufacturing is not the only company engaged in electronic components also able to provide excellent product quality assurance among other companies reliable and reliability checking system. In industrialization there are three main factors that become the key to success that is human resources that play a role in the process of production, capital or investment and technology.

Human resources are very important thing in the industry, even though there are now many companies that use automated systems in various aspects of the industry. One example is the use of machines in the production area, even though the company has used automatic machines that do not require a lot of human power but in some processes human resources are still needed in operation and the smooth productivity of the machine. Automatic machines themselves can also be created from human thought.

Capital or investment is also an important factor in the industry. Industry is an activity that can produce products or services. In various processes to produce these products or services, capital is needed to meet production demands. Investment is also an important capital so that the

company is able to produce goods or services with a large amount and can be accepted by a wide environmental scope.

The last most important factor is technology. Technology is very helpful in industrial activities in various aspects. One of them is the development of a manual production system which initially requires many workers to have innovated into an automatic production system that only requires few workers in their operations. This cannot be separated from the rapid technological advancement.

In the industry there is a process that is the main characteristic of production. Production is an important thing that becomes the basis of an industry. Without the production process of an industry can't meet the main requirements as an industry because the industry has an important meaning of the process of making a product itself.

One important thing that support the production process is the process of quality control is a process that determines the quality of a product before the circulation in the market. In the electronic industry quality control process is an important part that became benchmark a product quality and become a face in a product. Various process of quality control or checking in the production area within a company or industry certainly different from each other depending on the products produced.

Each company will set quality standard products produced standard quality is a role model in the production process in order to produce products in accordance with the provisions set. Electronics company

certainly require the support of various other companies for the manufacture of electronic products. PT Omron Manufacturing is one example of an electronic component company that plays a role distributes its electronic component products to other companies that need it. The electronic component companies, production process, and quality control stage are not widely known by the general public.

Based on the reasons above the writer chooses the title "Quality control process of Switch Production in PT Omron Manufacturing Indonesia"

B. Question & Scope of the Research

1. Research Question

a. How does Quality Control process of switch products in production area in PT Omron Manufacturing Indonesia?

b. What are the difficulties in the Quality Control process?

2. Scope of the research

The author focuses on the stage of checking in the production area, the things that must be considered in determining the quality of the product, some ways that can be done in order to immediately determine the source and take steps to do when there is a problem in the production process and learning problems that have arisen because the lack of standard checks and things that have been done to overcome them.

C. Objectives & the Significances of the Research

1. Objectives of the Research

a. To know the process of quality control of switch products in the production area.

b. To find problems and help to overcome problems related to quality control processes in production areas.

2. Significances of the Research

With this research can provide benefits for readers and authors.

a. For Authors

The author writes this research in order to understand the importance of the process of quality control in the area of production in industry. To increase the author's knowledge about the electronic industry and it is supporting components and the checking process. Useful for writers to complete the diploma III programs graduation requirements.

b. For Readers.

This research is useful to increase knowledge about industry especially in electronic field. Giving knowledge to reader about quality control process in production area and difficulties found in process of quality control. The reader can use this research to know more about electronic component especially component electronic switches.

D. Operational Definition

Quality control is the process of checking a product for the quality of the product produced in the production process in accordance with the quality standards specified by the company. When the quality of the resulting product does not comply with these standards, it has become the task of the quality control process to remind and notify the workers responsible in the production process that there is an ubnormal condition. Then will be sought out the cause and resolved in order to produce the product with company quality standards and is eligible for sale. In the process of quality control employees responsible in this process must have a good accuracy and concentration in order to know when there are a few conditions of product quality is not good or can be categorized as a product that is not worth selling.

The spearhead of a manufacturing or industrial goods company is the process of production and quality control. Process production is a process in producing a product with several stages before the product is ready to be sold to the buyer. Quality control process in the production area is the process of determining the quality of products first after the product is produced in the production area. This quality control process includes several stages of checking the overall product one by one product produced in the production area. Both processes determine the quality of a product and determine the number of clubs that a company can get.

E. Research Methods

The authors chose qualitative research methods referring to the understanding of research methods by Marczyk, Maatteo, and Festinger in Essential of research design and methodology (2005) that qualitative research involves studies that do not attempt to quantify their results through statistical summaries or qualitative analysts. The study usually involves interviewing and observing without formal measures. A case study that is an in-depth examination of one person is a qualitative study. (p . 17)

The author performs several interviews on several production operators in the switch production process at PT Omron Manufacturing of Indonesia Located in EJIP industrial area plot 5c, South Cikarang, Bekasi, West Java to get some data needed in research as well as to support the author's idea in analyzing data. Author also make observations on the production process within the switch department in the period which has been determined and agreed upon by both parties to carry out the internship activities in PT Omron which the authors use to conduct research in this paper.

G. The systematization of the Research

The scientific paper consists of five chapters to make easier readers to find information the reader needs. Division of chapters in this study has gives clear indication about the sistematization of the research. The five chapters as follow :

Chapter I are Introduction. This chapter explains about the background of the research, the scope of the problem, the question of the research, the objective of the research, the significance of the research, operational definitions and the systematization of the paper.

Chapter II Theoritical Description. This chapter consists of the definition of quality control in manufacturing industri, Role of Quality Control Process, Managing Quality Control Process, and Relevance Research.

Chapter III Company Profile consists of Company History, Organizational Structure, and Procedure Work frame.

Chapter IV Report of Observation Findings consists of Data Description, Observation Obstacles, and Problem Solving.

Chapter V Conclusions and Suggestions. This chapter explains about the conclusion and the suggestions of this paper to Process Quality Control for the improvement.

CHAPTER II

THEORITICAL DESCRIPTION

A. Definition of Quality Control

1. Definition of Quality Control

According to Yao and Zheng (2002), the Definition of Quality Control is about scientifically conducted ways of observing, testing, and checking the production of goods and services. These are made to make decisions that can improve performance in industrial processes. The test is performed to improve the process in production to improve the quality and quantity of the production to be next produced. Observations are needed to find out whether it is necessary to make a decision to change or make improvements in the process or not alter them at all. The main problem here is how and under what conditions observations and tests need to be done to improve the quality of products and services. (p .1)

Quality Control is an important thing in every profession and industry. As globalization continues, consumers are likely to pick and choose the best products from around the world. The ability to produce quality products or services is a key demand for jobs and companies to survive. For example, companies that are unable to produce products and services of good quality will lose or will not have consumers. In the era of globalization consumers can choose products or services that have the best quality of products or services produced by various companies spread all

over the world. This is what makes Quality Control process is the important thing that is needed to produce good products and services. (Webber & Wallace, 2007, p .9)

Quality can be defined as being a few things, ranging from "satisfying customers" requirements for users to "confirm requirements". Thus it is clear that every definition of quality must be about the things about the customer. Give satisfaction to anyone who becomes the main goal of a business, any business. According to the experiences for two decades in the United State and in the world market. Demonstrates quality is one of the most important factors for business success and growth. Businesses that have high quality in the products, enjoy more profits and win the competition. It is important for employees to be responsible for the design, development and manufacture of a product. They should also understand correctly the concepts and techniques used to quality improve product. Quality control is an important role in improving the quality of goods and services. Quality Control helps maintain the quality of a product to be able to give satisfaction to customers. (Chandra, 2001, p .1)

Many things that are expected in the Quality Control system, among others, for the collection of data related to the product and basic working procedures. These data will be information used by the Quality Control system. Then the basic inspection activities that are part of Quality Control will have some development in terms of methods and systems, checks made by approved operators, and use of the information and

techniques and tools used. The main mechanism of Quality Control is a check that serves to filter products and services with quality beyond the specifications sent to customers. The steps taken in Quality Control result in greater control carried out in a process and involve the incident to occur to be lower. Organizations that approach quality management based on inspection and quality control operate in detection type mode that is findings and correct errors. (Dale, 2003, p .22)

Quality control and improvement are a series of activities to ensure that the product or service is qualified and improved on an ongoing basis. Ability variability is often a major source of poor quality, statistical techniques, including designed experiments and SPC, are the main tools of Quality Control and improvement. Quality improvement is usually done by involving a team led by personnel with specific knowledge of statistical methods and experience in implementing them as well as on a every basis project. Projects should be selected so that they have a significant business impact and are linked to all business goals for the quality identified during the planning process. Some important quality philosophies include system and quality standards, quality and cost and the relationship between quality and productivity, quality laws and economic implications, as well as some aspects of implementation. There are also three aspects of quality planning there are quality assurance, and quality control. (Montgomery, 2009, p .17)

Quality Control relates to maintained process variables, pressure, temperature, composition, currents, etc. that are of the same type as the

desired operating value. Change is always the case, and if action is not taken, important process variables related to product quality, safety, and will not reach the production level conditions that are in accordance with the planning (Smith, 2002, p .1)

From the various definitions above can be concluded that Quality Control is an important process in determining the quality of goods or service products that involve various considerations and customer satisfaction. In the process of Quality Control will get data about the production process of a good or service so that action can be done when things do not match the procedures that occur in the production process so that the product or service produced has a good quality standard in accordance with predetermined quality standard. This process is also a process that determines the viability of an industry to produce quality goods or services so that companies or professions can survive in competition.

2. Purpose of Quality Control

The main purpose of Quality Control is to maintain control. Performance evaluation is performed during the production process of goods or services in progress, and performance is compared with the objectives during the production process of a good or service. The results of the information received are then used by members who perform the process of producing goods or services. (Eldin, 2011, p .10)

Quality improves, increases in costs related to productivity and quality have complementary properties. Sometimes managers say that companies do not have the resources and enough time to ensure that the quality of the product or service is delivered correctly at first. They will lose valuable operational time if they concentrate on planning for good quality, such planning is in the Quality Control. Then as a result production costs will rise and output will be much reduced.

Despite such opinions, the staff and management will provide a special time to implement a Quality Control system which, in the process of re-processing the product or service for the second or third time, mobilizes the resources to take corrective action to ensure the product or service is of a good quality , and provide explanations to customers who have rated that the product or service is of an inappropriate quality. It is done to provide a good quality guarantee.(Dale, 2003, pp.15-16)

Quality can be defined in various ways. Everyone has a conceptual understanding of qualifications as they relate to one or more desirable characteristics that a product or service must possess. Quality has become one of the most important factors in the selection of competing products or services on the market. This is something that has spread widely among consumers of a product or service, whether the consumer is an individual, an industrial organization, a bank, a financial institution, a retail store or a military defense program. This then gives effect in the form of understanding and improvisation quality is the main factor that leads to

business success, growth, and enhance competitiveness. Quality becomes one part of the overall business strategy. (Montgomery, 2009, p .4)

Because of the importance of quality in the business, it creates Quality Control that serves as a quality control to match the specified by the consumer and the quality standards applied in a company. From some opinions above can be concluded that the importance of the Quality Control process is also influenced by several purposes that are none other than for the benefit of customers and business owners. The value of a good or service will increase in line with the quality provided by the production. To gain public trust that the products or services we produce have a high quality quality assurance is required given the company to customers. This quality assurance is generated by factors incorporated in Quality Control. These factors include technology and labor. Workers who are incorporated in Quality Control must also have some special criteria in which there is a special training process that is different from the workforce in other parts and able to be responsible for the work. Workers in this section must be able to work with care and meticulous.

In accordance with P.carpenter's opinion in the book Guidelines for Sensory Analysis in Food Product Development and Quality Control, a person working in Quality Control should always be trained to be objective and consistent, and work with all their ability to know when a product or the resulting service is beyond the normal limits acceptable to their company. Each company usually has certain limits in determining a

product or service that can be said in accordance with the quality standards they have set. (2000, p .3)

When the quality of the goods or services we produce has a good quality then the consumer will have a trust to us which is then followed by the purchase or use of goods or services. Good quality resulting from products or services will increase the productivity of goods and services within a company.

3. Inspection .

According to Webber and Wallace in his book Quality Control for Dummies (2007), examining the production of goods or services as well as the service delivery process to ensure compliance with customer defined quality requirements is the most fundamental Quality Control technique. harness has the meaning that a good or service meets the quality specifications specified by the customer, and if it does not conform to the specified quality means not in the term Quality Control. By measuring one or more customer properties and measuring customer quality specifications, it means that you have checked the product or service. (p. 12)

From the above explanation can be concluded that the examination is a process that is closely related to Quality Control. By conducting an indirect examination we have done Quality Control of goods or services produced. This process relates to the data to be obtained for Quality Control on the production process that will help determine the quality of

the outcome of the process. Examination can also help adjust the quality of production with quality standards determined by the company to provide satisfaction to customers.

In other words examination is a very helpful process in Quality Control. Inspection in Quality control usually includes all processes in the production process. At each process in the production process will be checked periodically so it will be immediately known if there are abnormal conditions in it. Customer satisfaction is one of the things that determine the success of the inspection process in Quality control. This satisfaction can be measured from the meaning of quality that has become the customer's own reference. This becomes one of the benchmarks that should be obeyed for the continuity of a product and income of a company. Usually in meeting the high quality standards of customers in order to provide satisfaction to the production. Companies must provide good supporting factors as well. In the provision of these factors is not uncommon companies must spend a considerable amount of capital.

In accordance with the opinion of Ahmed in his book entitled Modern Approaches To Quality Control (2011), which states that the "quality" means products that meet the needs of customers so as to provide customer satisfaction. It means that the meaning of quality is income-oriented. A higher purpose of quality is to provide greater satisfaction for the customer and one's expectation to supplement productivity. Providing more things or providing better quality, usually requires an investment

followed by an increase in costs in the production process. Quality has a higher meaning in this sense that is usually "more expensive". (p .1)

Inspection and testing are performed every few minutes by automated devices and people, as long as industry measurements. Results obtained from investing and testing are numerical, such as count or number of measurements on unsuitable sections in the sample or sample. These numbers or data are obtained to take action on a manufactured process that is useful for improving and improving or for making a decision about incoming products. The characters produced from the results or data vary, from each piece, from one sample to another and from time to time. It does happen even if the production process is constantly being held like the human possibilities.

It can also be said for functional or administrative services where the product is a service rather than a manufactured unit. Services delivered such as project management, consulting, testing or maintenance and can vary greatly. Against certain criteria it can also be evaluated. Standard criteria or in connection with similar delivery or equivalent services. We have static problems wherever we have variations, whether we know it or not. We must use methods designed for data analysis ie static methods, when problems occur. They can be used to minimize the chances of making the wrong decision. Many statistical techniques can be easily learned by anyone even with a very limited background. They will greatly

assist in improving control and process in decision making on many products or in shipping services. (Burr, 2004, p.1)

B. Manufacturing and Electronic Industry

1. Manufacturing

According to White and Koster (2015) , In manufacturing there are several systems. The system in manufacturing allows to generate and process orders or work orders to build a part. In this system, using material and routing notes to create an operational route complete with requirements and ways to perform the production process. The process records costs from materials, subcontractors, labor and additional expenditures. Advanced features found in manufacturing systems make it easy to propose, plan, predict, design, buy and track products from manufacturing. This system provides all information from records maintained and constructed during the production process in accordance with the compliance of the system against the reporting fee to serial number or lot search. (p .10)

According to Cecelja in his book Manufacturing Information & Data System (2002), Manufacturing organizations have a role as a resource, generally in the form of finance, to add value to raw materials which can then be called finished products, which have demand. Manufacturing organizations use a number of resources in some form, including information, tools, people or workers, energy and finance to

achieve this transformation process. If the resources used during the lifetime of a company cost less than the revenue generated by that resource, it can be said that the company is experiencing success. As a result of this, when viewed from a macroscopic point of view, manufacturing organizations can be described as systems between the flow of materials and resources.

The flow of resources has information that is one of the foundations of the needs of the manufacturing organization. Typical examples of information contained in this flow are requests for payments, laws, and customer orders. If it arrives on time, this information will invite a request for more information within the organization. The need for information from a manufacturing organization the cause is clear from a macroscopic point of view since information becomes one of the major external resources on which the organization must rely on it to carry out its functional responsibilities. (p .1)

So far the information about manufacturing should be regarded as an asset of a manufacturing company. Although there are some other opinions that say that in some cases, manufacturing information is only present in the production system as a means of obtaining a manufactured product but adding a value to the product indirectly. Transporting, storing, and producing manufacturing information is, in essence, an activity that does not add value to the product by itself, but only ensures that sufficient value is added to the raw materials that have arrived at the company in

order for the outgoing product to be marketable and profitable. Adding value to raw materials involves adding information given to them, to use the same concept of physical information by adding orders to the raw material. The view of manufacturing information, in particular, produces the information necessary to add value to a product in the form of value added activity. It could also be said that storing this information transporting it or changing it is also an activity since we talked about the company's assets. (Cecelja, 2002, p .19-20)

According to Benhabib in the book Manufacturig Design, Production, Automation, and Integration (2003), In manufacturing there are also some considerations. Considerations in manufacturing can also be termed as production or fabrication. The process during the design phase of a product is critical to the success of the product design. Material selection must go through manufacturingability analysis and consideration in order to produce a product of good quality.

2. Electronic Industry

According to Bishop, electronics is about the way we use electrons to do things that are useful and interesting. Electronic has a big role for all aspects of our lives. In everyday life we must use electronic equipment manufactured by electronics industry. Without electronics, our lives will be less comfortable, less secure, less attractive and less fun. These are

some of the impacts of electronic usage on the various aspects of our daily lives that indirectly rely on electronics. (2006, p .1)

Electronic industry becomes one of the important things that can not be separated also in the industry because most industries use various products from this electronics industry. However, the field of the electronics industry has a number of issues to be solved in industrial practice. Many processes begin with relatively simple device controls such as electric motors, through more complicated devices such as robots, to control the entire fabrication process, controlled by electronic systems.

An industrial electronic engineer deals with many of the physical phenomena as well as the sensors used to measure them. So it can be concluded that, the knowledge required by this type of engineer is not only about electronics but also special electronics, for example, which are required for high power applications. The importance of electronic circuits goes far beyond their use as the final product as they are also an important building block in large systems, and thus electronic industry engineers must also have knowledge of control and mechatronics. There is an inherent requirement for the use of a communication system that connects not only elements of an industrial process but also tailor made to a particular industry's environment, since most fabrication processes are relatively complex.

Efficient factory control and supervision requires the adoption of intelligent systems in a hierarchical structure to meet the needs of all

components used in the production process. This can be achieved through the use of intelligent systems such as neural networks, fuzzy systems, and evolutionary methods. (Wilamowski&Irwin, 2011, p .xi)

3. Electronics Components

According to McComb and Boysen in the book Electronics For Dummies (2005), says that electrical components are the parts we use in electronic projects. We use some electrical components to control the flow of electricity, such as adjusting the brightness of the light dimmers. Electricity only moves other electrical components, such as the sound thrown by the speakers. Some other types of electronic components are, sensors, used to detect something like light or heat and then make the current to do something in response, such as turning on the alarm. (P .15)

Electrical components, or parts that make up an electronic device, can control electricity. For example, a switch that connects the bulb to an electric current. The switch only makes the electric current breaks in the circuit, To disconnect the electricity on the bulb and make it dark and some other examples. Some other parts that control electricity are resistors, capacitors, diodes, and transistors. These electronic components are parts that are usually smaller in size than electronic products. (p .16)

4. Switch

Switches are mechanical devices that decide or divert the flow of electrical current into a circuit. In other words, switch is one of electronic component that has fuctions to disconnect and connect electrical current.

Other types of switches, such as button switches, rocker switches, magnetic-reed switches, etc., work slightly differently than slider switches. One example is, a reinforced magnet switch uses two thin pieces of metal contact such as a leaf that can be coaxed together by a magnetic field . A Switch Switch is marked by the number of poles and the number of throws.

Two important things to note about a switch are: whether the switch has a position when it is grounded and then off or whether the switch has a momentary contact. The temporary contact switch, which mainly includes the pushbutton switch, is used when needed only to open or close the connection briefly. The momentary switch contact is in the normally closed form (NC) or (NO) which usually means open. The pushbutton switch silently acts as a closed circuit (passing current) when left untouched. When left untouched, the normally open pushbutton switch serves as an open circuit. The central-off position switch, seen in the switch diverter, has an additional "off" position located between two "on" positions.It should be remembered that not all switches have instantaneous contact features, these features must be specified. (Scherz, 2000, p. 84-85)

According to Earl Boysen&Nancy Muir in his book Electronics Project for Dummies (2006) ,the switch is button that seems simple enough: You flick it one way to go on and the other way to go off. However, understanding what's happening behind that switch requires that we give you a bit of background about switch.

a. Open: A switch is in an open condition when there is no electrical connection. When switch is open, there is very high resistance between a wire coming into a switch and the wire going out of the switch.
b. Closed: A switch is closed when there is an electrical connection. When a switch is closed, there is very low resistance between a wire coming into a switch and the wire going out of the switch. There are different kinds of switches, referred to as SPST, SPDT, and DPDT.
c. SPST (single-pole, single-throw): This kind of switch has two lugs to which you can solder wires.The two wires are connected when the switch is on condition, when the switch is off, the two wires are disconnected.
d. SPDT (single-pole, double-throw): This kind of switch has three lugs to which you can solder wires: one for an incoming wire and two for outgoing wires. When the switch is in one position, the incoming wire is connected to the first of the outgoing wires. When the switch is in the other position, the incoming wire is connected to the second of the outgoing wires. (If you have a different need and this is the type of switch you happen to have in your parts bin,you can use just two lugs to make it work as an SPST.)
e. DPDT (double-pole, double-throw): This kind of switch has six lugs to which you can solder wires. These lugs can be attached to two incoming wires and four outgoing wires. When you flip this switch,you simply switch each incoming wire between two of the outgoing wires.

f. Toggle switch: This switch gets its name from the fact that you flip a lever to turn it on and flip it back to turn it off.

g. Pushbutton on/off switch: Every time you push this button, it changes from on to off or vice versa. Momentary pushbutton switch: Pushing this switch is what changes its state, but only for the moment. These are also classified by whether they are normally open (NO) or normally closed (NC). For example, a momentary normally open switch is closed only while you hold the pushbutton down. When you release the button, it goes back to its normal open state.

h. Tactile switch: Tactile switches are rated by the amount of force that is needed to push the button and are often flat so that they can be easily inserted somewhere without protruding. This is a type of momentary pushbutton switch.

i. Slide switch: Logically, this switch operates when you slide a knob to change it from on to off or vice versa.

j. Relays: These switches are operated by a voltage rather than by pushing a switch. This makes them very useful for turning on or off a component, such as a light or motor, through a remote control or by voltage generated by a sensor. (p . 45-47)

C. **Relevance Research**

The author tries to find research related to DIII English literature program. The author found the same title in STBA JIA library . The title found is The Role of English in Quality Control activities at PT Sanly Industries Cikarang, written by Yuni Agustian in 2006. The contents of the paper are general English discussions, Quality Control activities at PT Sanly Industries Cikarang, story of PT Sanly Industries Cikarang, explains the use of English in the area of production and Quality Control, the importance of the use of English as an international language, and the role of language english in Quality Control.

The similarity between the writer paper and previous paper is about Quality Control section. While the difference is the problem of the research and the location where the research conducted.

CHAPTER III

Company Profile

A. Company History

PT Omron was formerly named Tateishi Electric Manufacturer founded by Kazuma Tateishi in Japan. On May 10, 1933 (Year 8 in Showa) stand Teteishi Electric manufacturer in Higashinoda Osaka Japan with relay as its first product. Due to the success of its product Tateishi Electric Manufacturer is known as specialist in product relay. With production running smoothly Kazuma expanded the business and built a new factory and expanded to Tokyo and the company rapidly developed. In 1941 (the year 16 in showa), the Asia Pacific war broke out. In 1945 (Year 20 in showa) , the Tateshi Electric factory located in Nosata Osaka was burned by air strikes.

Because Osaka feared being targeted by air strikes, some of the most important machines, materials and spare parts were transferred to Omura in Kyoto. On August 15, 1945 (Year 20 showa) the war ended , and Tateishi Electric Manufacturer re-started the business at Omura Kyoto in the end Omuro location became the company name and Omron's famous brand to date. In addition to the protector product Relay that has been produced Tateshi Electric then succeeded in developing the first generation of microswitch in the country. As an observer Kazuma immediately flew to America to visit the factory and finally knew about

the development of production automation and supporting tools. After returning to Japan, Kazuma started product development for automation.

In 1963 a unique machine installed at Daimaru Kyoto was the first vending machine in Japan. At Kita Senri station Hankyu Osaka line was installed automatic ticket vending machines and doors automatic checking system without human labor. In 1972 stands Omron Taiyo Electric factory now called "Omron Taiyo" in Oita in cooperation with the welfare home as the first factory to employ disabled people in Japan. It was made policy for workers that they were not treated privately apat owns the company's stock.

Therefore the company has finally made profit within a year since its establishment. In 1986 stood Kyoto Omron Taiyo Electric (now Omron Kyoto Taiyo) which became the working location of disabled people who work full of spirit. Then Kazuma established also the center life science research because of its concern in the field of health. Currently developed into a healthcare business called Omron Health Care. In 1979 reached an annual income of 100 billion Yen. Kazuma resigned as president and replaced by his eldest son named Takao. After that Kazuma Tateishi became company advisor and on January 12, 1991 died at the age of 90 years due to heart disease. As the founder of the company, he has experienced ups and downs of life.Siary before he died, Tateishi Electric Co., Ltd.. Changed its name to Omron Co., Ltd. A name that has so far

contributed to the world with quality products headquartered in Omuro Kyoto.

Omron Asia Pacific now has offices and facilities spread across 24 major cities in 10 countries in the region. It houses four manufacturing sites and 22 business firms. Omron manufacturing facilities in Indonesia, Malaysia and Thailand produce components for a variety of specialty markets from relays and sensors, to automotive technology and health care. OMRON currently consists of 118 branches worldwide, composed of asia pacific, europe, china, america. One of the largest factories of Omron Asia-Pacific is located in Indonesia.

Pt Omron Manufacturing of indonesia is a Joint Venture company between Pt Pioneer Trading Co. Ltd. (indonesia and Mnagement Center of aAsia-Pasific Pte Ltd (Singapore) then OMRON established a company in indonesia on 29 th February 1992 which led by Irawan santoso and standing until now with the name of PT.OMRON MANUFACTURING OF INDONESIA (OMI). Start operating on April 1, 1993 and inaugurated on September 2, 1993 by the Minister of Industry (Tungki Ariwibowo) .Pt OMI is located in East Jakarta Industrial park (EJIP) Plot 5c South Cikarang, Bekasi, West Java and has a land area of 77,573 m2. The OMI industry is control components under the supervision of Omron Corporation's division of Japan.

Pt OMI produces essential electronic components such as relays, switches, temperature controller and digital sensor. Omron Manufacturing of Indonesia produces 7.8 million relays, 11.5 million switches and 20,000 sensor units every month at this plant. Omron currently exports its products to Europe, Asia, Autralia and North America. Omron Manufacturing Indonesia a large company that employs employees who have special needs or disabilities by working with a foundation dealing with people with disabilities.

Omron Manufacturing of Indonesia has a guideline that however a person's physical form with his / her shortcomings as long as the person has the willingness and passion to work, the person is duly treated equally and given the same opportunities as others who have perfect physical.

B. Omron Principle

1. Company Core Values:
    a. Working for the welfare of society
2. Principles of Management:
    a. Challenge yourself to always do better
    b. Innovation driven by social needs
    c. Respect for humanity
3. Commitment from Management:
    a. Respect individuals and their diversity
    b. Maximum customer satisfaction
    c. Build relationships with shareholders

d. Awareness and application of Corporae Citizenship

4. Principles of implementation reference:

   a. Prioritize Quality

   b. A strong commitment to challenge yourself

   c. High integrity and ethics

   d. Confidence and mutually beneficial cooperation

5. Company motto

   a. Through mutual efforts we improve our lives and society.

C. Organizational Structure

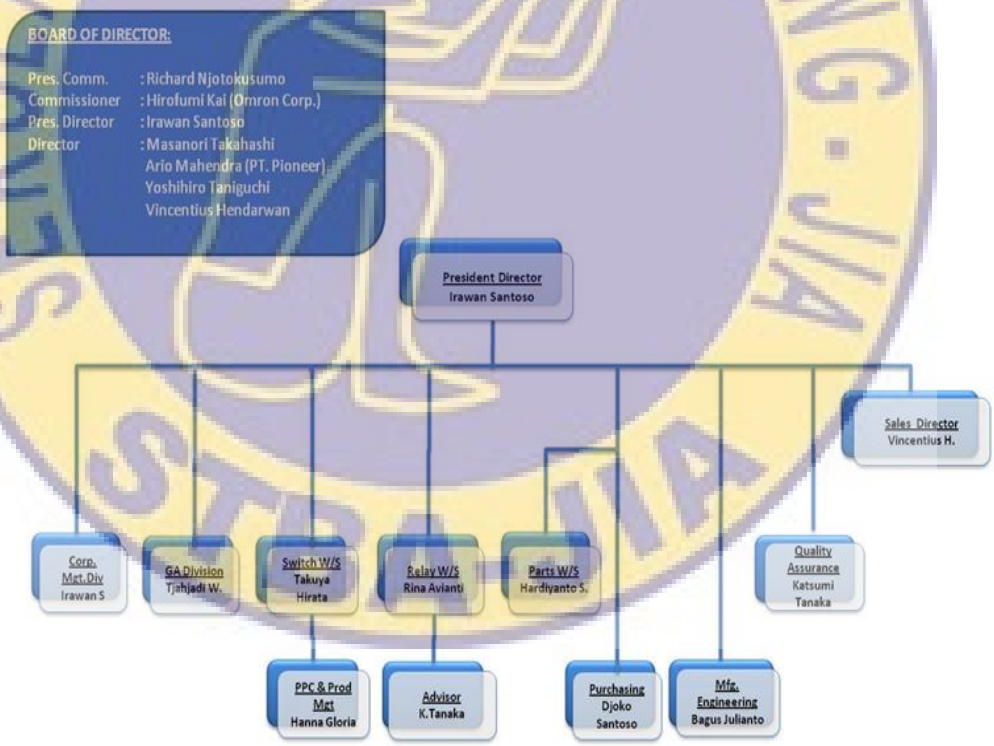

Figure 1 : Organization Structure

The above chart is a component of the organizational structure of PT OMRON MANUFACTURING OF INDONESIA in general or also called the core organizational structure of leadership. Each department leader still supervises several subordinates, such as department manager, supervisor, clerk, leader, leading, etc. The above chart illustrates the supreme leader of each department. The organizational structure is made in such a way that various one reason to make it easier for the reader to observe the organizational structure, allowing the reader to recognize the core structure of the organization first before it is introduced to the complete structure of the organization and a bit confusing when viewed before recognizing more in the details of PT OMRON MANUFACTURING OF INDONESIA.Pt Omron Indonesia Consisting of several departments, among others:

1) Relay Department

Producing Relay Products with different types and functions.Relay is an electronic switch that operates based on electromagnetic force that automatically opens or closes switch contacts.

2) Switch Department

Produce Switch Products with various types and utilities.Switch product consist of several types of switches.

3) ME (Manufacturing Enginering) Department

It is a department that has the task of making machines for the production process in each department.Omron is one company that uses

its own variety of automatic machines in the production process so that the confidentiality of the idea and manufacture of the machine is very guarded to protect the machine copyright which is used in order not to be imitated by other companies.

4) IAB Department

Produce IC (Integrated Circuit) product with various type.

5) PMD

Producing many parts of products made of plastic. For example case,button and others

6) Shipping Department

This department is in charge of the product delivery of Omron products either Switch, Relay or Iab products to various destinations either outside or inside the country.Each product produced from various departments in Omron that aready for delivery will be completed with some of the shipping supporting documents within this department.

Each department is still divided again into several parts for example in Switch Department have 6 section there are :

1. Store Production (PPC)

In this section have a job preparing the material to be assembled into the product,prepare box for packing process in line (production area),prepare MO (Manufacturing Order Sheet) or document from the order of goods to be made,and various matters relating to the production process.

2. Office Production

   Have job to take care of the purchasing department of the production informing to the production process,create a plan or ideas that support the smoothness of the production process,record employee data,record the absences,overtime schedules,and everything that supports the fluency of the production process and employee data.

3. Production Process

   Have job to produce product according to the purchase request in the appropriate way and has been determined company.

4. Planning

   Have job packing the product in the last package products that are already in small packaging from within the production process location.After the product is packed planning have job to send the product to the shipping department.

5. PM (Production Mechanical)

   Have job repair,maitain,and make machines or equipment which is used for the production process.

D. Prosedure and Framework

1. Working Procedure

   Procedure The work of a production operator has been arranged in the WGS (Work Guidance Sheet) inside inside the production room in order to create a good production process for the company without

harming the operator. In PT Omron each type of product has different production process so that each production process has different WGS and must be obeyed by the production operator. The working procedure of a production operator in general is as follows :

a. Processing or managing a product or goods from a basic material or raw material is processed to be shaped and in accordance with the purposes or wishes of the company (finished goods).
b. Production operators work along the assembly line, undertake specific tasks in accordance with requests or rules of the company that must comply with safety guidelines and ensure that the final product meets high quality standards.
c. Production operators are sometimes required to maintain or operate a machine required to perform a specific task.
d. Production operators may also be asked to keep records of their output and compare them with production schedules.
e. Carry out production procedures with procedures based on target quality company, mengoprasikan machine, process and control the production process.
f. Implement, manage and control from basic materials or raw materials into finished material production process with target based on company procedures.
g. Prioritize work discipline, work safety, security standardized company procedures and health that make a priority in company records.

Basically working procedure of production operators in PT Omron Manufacturing of Indonesia is mengoprasikan and maintain the machine, do the product assembly, do the raw materials and so forth in accordance with the ministries and processes that are the responsibility of each in the production process with the rules already defined in the WGS (Work Guidance Sheet).

2. Framework

a. Day and Working Hours

Basically the workday of PT Omron Indonesia employees is 5 working days in one week. The number of working hours is 8 hours per day and 40 hours a week for day work, and seven hours per day and 35 hours a week for night work with the following arrangement:

Working Hour	Start Working	Break Time	Total Working Hours
Shift I (Normal)	07.15- 16.00	a. 11.45 – 12.30 b. 12.15 – 13.00 c. 12.30 – 13.15	8 Hours
Shift II	16.00– 23.40	18.20 – 19.00	7 Hours

Shift III	23.40 – 07.15	a. 02.00 - 02.25 b. 04.40 – 05.00	6.50 Hours

Figure 2 : Daily Working Hours

Official holidays, including religious holidays, are the days off for all employees of PT Omron Manufacturing of Indonesia if the employee keeps on doing the work, while the other holidays are determined by the head of the company together with the union. on that day it is calculated as overtime.

b. Work Overtime

Overtime is the work done by employees beyond the hours worked as described in the framework and above table. Overtime work is only done if:

1) Stacking of work that, if not resolved soon, further disrupts the production process and will incur major losses for the company.
2) Jobs that, if not resolved soon, further disrupt production of the process.
3) The employees in charge of the displays are not yet in place

4) In the Settlement work that is important for the development of the company
5) In a state of sudden concern with the interests of workers and the Company.

c. Work Shift or Night Work

1) Shift work is a work performed by workers in turn consisting of Shift I, Shift II, and Shift III.
2) Pt Omi employs female workers at night according to the prevailing laws and regulations stipulated in the joint work contract agreement agreed upon by both parties.
3) For workers' safety and comfort, especially pregnant women, the company does not hire such employees at night. (Omron, p. 12-15).

3. Salary

a. Wage payment system

1) Payment of wages to workers at Pt Omron on the 27th of each month running. If such date falls on a holiday, it is paid on the previous working day.
2) Income tax on workers' wages at the expense of the company.
3) The wage calculation period is from the 14th of last month to the 13th of the month in the following month.
4) In consideration of religious festivities, the timing of wage payments may be accelerated upon the proposals and agreements of Entrepreneurs and Trade Unions (Omron, p.21).

b. Overtime Wages Payment System

1. Overtime wages on weekdays:

First Hour: 1.5 x wages / 173

Second Hour: 2.0 x wages / 173

2. Overtime wages on weekly holidays / national holidays / public holidays

Eighth hour: 3.0 x wages / 173

Ninth Hour: 4.0 x wages / 173

3. Overtime pay for Idul Fitri / Idul Adha / Natal / Waisak / Nyepi / Imlek plus compensation money Rp 125.000.

4. Overtime pay on the day of the company's holiday, the calculation is the same as the calculation of overtime pay on a weekly holiday.

c. Components calculated for the calculation of overtime pay are:

1. Basic wages.
2. Fixed allowances.

d. Wages for new workers:

During the probationary period the wage for the worker is 90% of the basic wage and the eligible allowances in accordance with the group and shall not be lower than the prevailing minimum wage.

Benefits:

Besides the basic wage, the company also provides the following benefits:

1. Positional allowance
    a. Working allowance
    b. Family Benefits
    c. Attendance allowance
    d. Transport allowance
    e. AShift allowance
2. Holiday allowance
3. Year-end bonuses. (Omron, p. 22-30)

e. Company-provided facilities for Employees :

1) Pickup shuttle bus
2) Corporate Mess facilities with light payments are deducted whenever wages are received
3) Each employee gets leave from the company and during the leave period the worker gets a full wage with the following conditions :
    a. Annual leave is given 12 working days taken for mass leave 8 days.
    b. Taking leave entitlements must be submitted in writing no later than one week in advance.

c. For workers who leave the company the leave rights that has not been taken will be compensated in the form of money or deducted from works days.

4) Medical check up for any worker who has a working period of 2 (two) years or more at least 1 year old.
5) Social security and welfare facilities (BPJS)
6) Recreation facilities, sports, arts, and birthdays
7) Eyeglass facilities (the company provides 500,000 eyewear support for once a year using a doctor's letter.
8) Dental treatment.
9) The company provides recreation for workers and their families (1 wife / husband and maximum of 3 children) in a delegation.
10) The Company holds a corporate birthday celebration with all workers
11) The company provides sports and art facilities for workers in the corporate environment

f. The company provides food for all workers in the company's kantin with the following rules :

1) Lunch for workers who work at normal hours and shift 1
2) Dinner for shift 2 workers and overtime work
3) For workers who work on shift 3 provided dinner at first break and additional food during second break time

4) For workers who work overtime long shift 2 given food and drinks
5) In the month of fasting for Muslim workers who fast the provision of lunch is abolished and replaced with appropriate money
6) The company provides beverages and snacks for fasting workers who work overtime until 18:20 in the fasting month
7) The work clothes to the workers as much as 2 sets for female worker
8) The male worker uniform excluding work pants.
9) The company provides the tools and equipment of occupational safety company provides and health used by workers in accordance with occupations such as eyeglasses, gloves, masks, aprons, and ear protectors.
10) The company provides employee cooperatives.

CHAPTER IV

REPORT OF OBSERVATION FINDINGS

A. Data Description

In this chapter the author describes the results of research conducted at PT. Omron Manufacturing of Indonesia in the period of 3 months starting from January 8, 2018 to March 7, 2018. Researcher doing fieldwork practice in the department of Switch department to obtain data related to the process of Quality Control Switch at PT. Omron Manufacturing of Indonesia. Quality Control Process in PT Omron is not only done on the quality control only. In the production process carried out in the production area there is a Quality Control process that is responsible for ensuring Qualitas of production directly after the production process is done.

Quality Control in the production process has several responsibilities, among others, is to determine the limits of a product's quality can be accepted by the company. When there are abnormal conditions in the product, the worker in the Quality Control section within the production area will inform the responsible leader in the production area which will then be followed up in order to know where the cause of the abnormal condition is and why and how the condition is not normal in the production process can affect the production. In the most recent production process of the switch there is a series of Quality Control processes. The process is divided into two: the automatic Quality

Control performed by eletrical machines are arranged in such a way as to be able to detect abnormal conditions of a product.

The second is a Quality Control system that is done manually by the production operator in the Quality Control section. Observations done by the author in approximately 3 months or 9 weeks and get a series of information about the process incorporated in the Quality control system. From some time observation in get data as follows:

1. Production Process

The Quality Control System discussed in this chapter is the Quality Control system that is carried out within the production area. In the switch department of PT Omron Manufacturing there are several types of switches produced, at the end of each production process there are production operators who served as Quality Control of all products produced. Quality Control Operator is commonly referred to as appearance. In addition to the appearance of Quality Control system that is applied to each part of the production process. Production operators responsible for certain production processes should report to the responsible superiors in the production area when there is an abnormal condition, regardless of the form of the abnormal condition.

Abnormal conditions are often found in a variety of conditions, including the conditions found in the machines he operates, machines or devices that assist operators in certain production processes, and materials that are not good or with conditions that do not conform to the usual or have defects. Whatever

type of abnormal condition, should be reported if the operator aware od it and has become one of the obligations for the operator to have awareness, thoroughness and full concentration of his work. Quality Control in each of these production processes is applied to minimize unfavorable product yields when there are abnormal conditions in any of the factors in the production or process and may promptly address these abnormal conditions. In order for all production can have the same good Quality and many production products there are systems that regulate the workings of production operators in accordance with their respective processes called WGS (Work Guidance Sheet).

In addition to control product quality and quantity of production system is also a system that has been studied and tested by the party who has the authority for the production process can be done optimally and with attention to the safety and comfort of production operators also so as to create balanced production conditions for workers and employers. The production process taking place in the production area is determined by MO (Manufacturing Order Sheet) which is the record of ordering or purchasing switch products from customers. Recording of orders or purchases or all matters relating to orders is handled by the Staff Planning section which is then informed to the supervisor. The supervisor then records orders on a computer system that serves to inform the order or product to be produced in accordance with the order or purchase of the customer.

This information will be obtained by the Leader who is the superior of Leading operator who has the authority to deal directly with the production supervisor. Then a Leader will inform Leading Operators of each production area according to the type of switch ordered by the customer, which then occurs the process of switch production. In the process of prduction, the parts used were also written in the MO made or prepared by the Store area production area in charge of preparing the parts that will be in the series into a switch product. This will facilitate traceability when there are abnormal conditions in the product or parts that are compiled into a switch product. Recording of parts or orders of this switch is one set of Quality Control System that has been set by the company.

2. Operator Leader (Leading Operator)

The employee in this position is usually a permanent employee because the responsibility of a worker in this position is greater than the position of the production operator in general. A Leader Operator or commonly referred to as a leading operator outline has the following responsibilities:

a. Responsible for the running of the production process.

b. Controls operator work to achieve daily output

c. Control the condition of the machine and confirm to Production Maintenance if there is a problem occurring in the process or in the production area

d. Motivate the production operators to work well.

In other words, a leading operator has a big share of the Quality Control process in the production area. A leading operator also a leader in a production area that has a great responsibility for matters relating to the production process and its smoothness.

3. Automatic Quality Control System

After the parts successfully assembled into a unified electronic product in the form of switches in the production area. Switch products must be through a Quality control system automatically made by electrical machines incorporated in the production process before passing into finished products ready to go through the final checking step manually and then sent to the department in charge of packing and sending products to customers . Electrical machinery in the form of machines that can detect automatically through the help of sensors that have been designed when there are abnormal conditions in the product. The electrical machine has a certain number of limits in determining the quality of a product.

These machines are the first determinants of the quality of the switches produced within the production area. Before passing through manual checking steps the products must go through this automatic check to be detected if there is any damage or abnormal condition inside the switch product that can not be seen visually. In this system there is also granting or putting lot number (date of production) of switch products to give an indication on switch products. This is done to facilitate the search when there are conditions that are not in

want and as an indication of product orders in accordance with the writen in MO (Manufacturing Order Sheet).

The feasibility of these electrical machines also every day must be tested by Leading Operator. Each before starting the production process or at certain times Leading Operator will check the machine whether the electrical machines can run normally or not and record the results of checking, checking time, and what has been checked every day.

4. Quality Control Manual System

Once the product or switch product has passed in the automatic check stage, the products must then go through a manual checking sequence at the end of the production process that is still being performed within one production area. Although the process of checking the switch products in this section is done using the help of the tool, but in the process must be done manually by the operator and the tool is a help for the determination of product quality and checking system does not take place automatically like automatic checking done by electric machines. The process of checking the switch products must be done in several ways and requires precision and accuracy, so in this process consists of several processes that must be done more than one person. In one of the switch types examined by the author there are three production operators in this section. The division of each operator's tasks are as follows:

I. Quality Control Process 1 (Pitch Gauge)

Quality Control Work Process in this section is called the Pitch Gauge process. The checking operator in this process has the following responsibilities:

a) In charge of ensuring the terminal or iron at the bottom of the switch which is connected to the cable or PCB has good condition (not bent). The terminal must also be in a state of intact and good, not scratched, no rust, and does not change color. Checking is also done using the tool. The working principle of this terminal checking tool is the same as the tool used to check the height of the button. The product is loaded into the tool manually, and when found the product upnornal conditions will not come out easily from the tool. This indicates that there is an upnormal condition commonly referred with Terminal Been. From the observations made , there are also some upnormal conditions that are often found by the operator in the form of a scratch on the terminal so that the product can not enter into the tool that has been provided and the product can be categorized as a product that NG.

b) In addition to checking the condition of the terminal operator in this section also checks the height of the button on the switch. Whether the button that has been installed in the switch product has the same height or not. This check is done with a tool already designed to measure the height of the button automatically when the operator passes the product through the tool. When one of the products does not run smoothly while passing

through the tool, the button switch hits a few or many of the tools, the operator will feel the friction so that the product is said to be a NG (Not Good) product because it does not pass from the Quality Control tool called Button Heigh. When the condition is found the product will be inserted in the box provided to dispose of the NG product called the inferior box. The operator will report the abnormal condition to the responsible boss in the production area and will soon find out the cause of the condition. The size of the height of the button that has been determined by the company is 0.6 mm.When the height of the button exceeds that number then automatically the product will not pass through the heigh button gauge. Uponormal conditions in the form of Button Heigh can be caused by several things, among others:

a. The button material paired with the case of the switch does not match. There are some initial buttons marked with caviti or letters and numbers printed in the area of the button which will be found in an upnormal condition when paired with several cases with certain part initials (there are prints of numbers and letters is in the bottom area of the case).
b. There are conditions Upnormal to the material. Condition such as there is a small or large scratches on the button.

The tools used in checking are checked once every 6 months to ensure that the equipment complies with the specified standard, and if there is any damage or conditions that change on the equipment it will be re-adjusted according to the conditions set by the company. There are certain parts within

the company that are tasked to ensure the tools within the company in accordance with the standards set by the company.

II. Quality Control Process 2 (Appearance 1 or Feeling NG)

The Quality Control Operator working on this section is called Appearance 1 or the Feeling NG Check Operator. The operator in this section manually checks the product using a magnifying glass tool that has a light around the inside glass area or commonly known as Manufiying. However, the switch product is a product that is somewhat small size then the tool is used to help facilitate checking. The task of the operator in this section include:

a) Ensure the switch is working properly by doing manual checking in the form of pressing the button on the switch to the on position from the off position 2 times. This is done to determine the limit function on off button switch can be categorized as a good or not good product.
b) In charge of checking the condition of the case on the switch products at the top, front and back whether the case is not abnormal conditions such as cracks commonly called the case crack, etched, dented etc.
c) Check the condition of the lot number print on the back area of the product whether the condition is good or not (for example: skewed, unclear, there is a misprint etc)

d) View switch product conditions on the side of both sides of a switch product called a snapfit.

If there is an abnormal condition means the product can be categorized as a bad product (NG). Some examples of such abnormal conditions include:

1. Felling NG: is an abnormal condition in the button switch when we press the button on the condition of On to Off to feel something unusual (heavy, as there is concern, too light etc). In the process of checking this upnormal condition found on the product can not be seen visually, because the checks are done using the sharpness of felling not by relying on the sharpness and accuracy of vision.

2. Floating Button: is the condition of the button when the position on or off can not return to its original position (floating / floating)

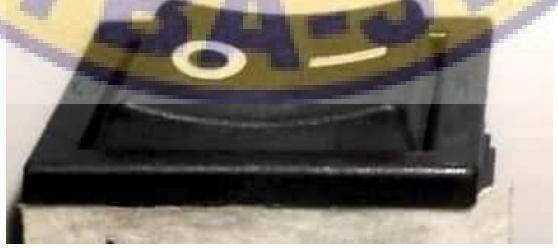

Figure 3 : Switch Button Floating

3. Case Crack: is an abnormal condition in the case of a switch product in the form of a large or small crack.

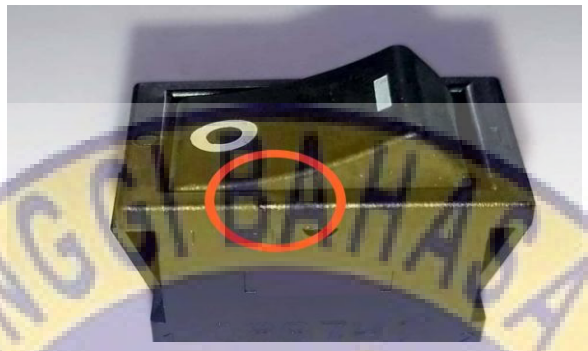

Figure 4 : Switch Case Crack

4. Snapfit Shortmold: is the condition on both sides of the right and left sides of the imperfect switch product.

Figure 5 : Snapfit Switch Shortmold

If the operator in the Quality Control section finds these conditions on the product then the product will be disposed into the space provided in its work area called the inferior box and report the problem to the Leading Operator in order to take immediate action to correct it.

III. Quality Control 3 (Appearance or Final Inspection) Process

The operator in this section is responsible for the overall checking of the product. Often referred to as Appearance 2 in the production process. Responsible to provide final guarantee of the products produced. It also has responsibility to count the number of products produced per hour and must know the production schedule (the number of products to be produced, the type to be produced, the lot produced that day). The operator in this final process has full responsibility for product Quality, he must ensure that the quality of the product conforms to the quality standards received within the company. The checking tasks performed are:

a) Separate good and bad products with the help of additional lights in the work area by holding the switch product with both hands and rotating to all sides (front and back, right and left, top and bottom) to be visible when there is no condition normal on the product.
b) View and check carefully one by one the product switches produced to ensure that the resulting products do have good quality as determined by the company.

c) In charge of counting the results produced in each hour and then record it in the board that has been provided.

d) In charge of transferring the product of the switch from the line into the molded plastic box to adjust the type of switch products provided in the work area or called the tray.

Some examples of switch products in abnormal conditions that are often found in this final checking process include:

1. Case Crack contained on various sides of switch products (front and back, top and bottom)

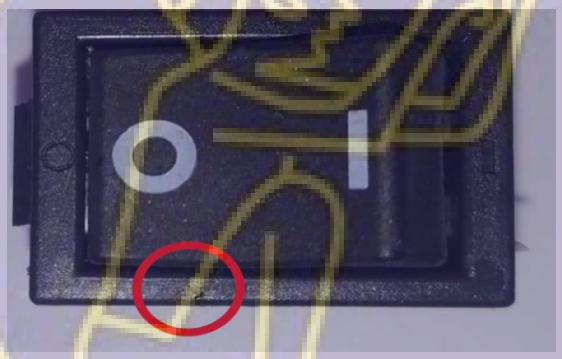

Figure 6 : Switch Case Crack

2. Case Dented: is a case condition on a dented switch product

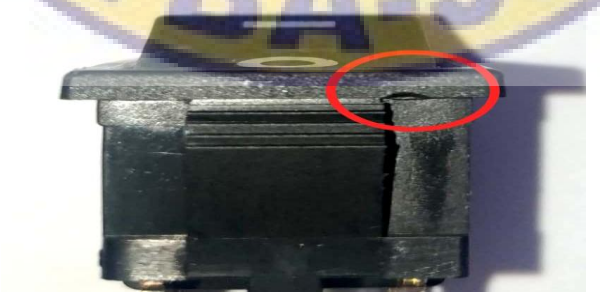

Figure 7 : Switch Case Dented

3. Button Bubble: is a condition on the button switch that contains small or large bubbles that are visible and in accordance with the limits allowed by the company.

Figure 8 : Switch Button Bubble

4. Marking Button Not Good: is a mold condition on button switch that has abnormal condition (missing half, uneven, unclear, dirty, etc)

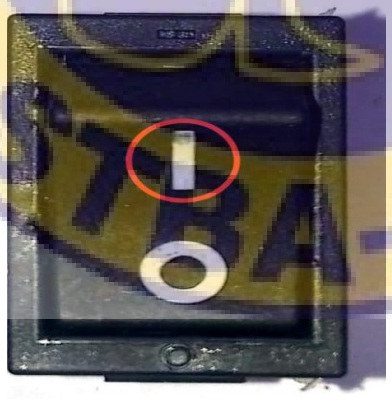

Figure 9 : Marking Button NG

5. Marking Case Not Good : is a condition of the product indication mold on the front case case of a switch product called an uneven marking case, partially missing, unclear, dirty etc.

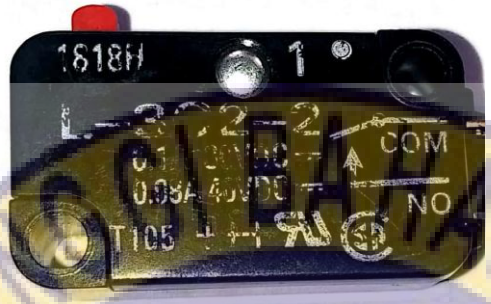

Figure 10 : Marking Case NG (Erase)

From several stages of checking process that must be passed by the above switch products can be concluded that only switch products that really have good quality that can be sold or sent to mememnuhi request purchase from customer. When there are abnormal conditions in the product operator Quality Control will report it to the leading operator. When the leading operator is not in the production area then the operatoe Quality Control will turn on the indication lamp located above the end of the production area to give an indication that there is an abnormal condition in the area production.

B. Observation Obstacle

First week

1. Time: January 8 - January 12, 2018

2. Job Task: Learn the knowledge of Automatic Quality Control system that is done automatically using the electrical system in the production area, Make observations in the production area when the production process is running.

3. Difficulty: Difficult to handle problems or abnormal conditions quickly in the system Quality Control automatically because of the limitations of employees in the Production Maintenance

Second week

1. Time: January 15 - January 19, 2018

2. Job Task: Learn about the knowledge of Quality Control system manually done at the end of the production process and done by the production operator who served in the Quality Control system, make a quick glance at the production area, given the explanation about the Job Desk operator Quality Control in the area production

3. Difficulty: There are products that are not good escaped from operator checks.

Third week

1. Time: January 22 - February 26, 2018

2. Job Task: Learn and observe how the production process of the switch takes place, how the operator working procedures on their part, how the Quality Control system applied by each process.

3. Difficulty: There are operators who do not follow the way they work properly according to the one set in the WGS (Work Guidance Sheet).

Fourth week

1. Time: January 29 - January 2, 2018

2. Job Task: Observe the work process of Quality Control operators in the Pitch gauge, to find out what upnormal conditions are often found, how it works, find out the limit of the product's upnormal condition

3. Difficulty: When there are abnormal conditions on the terminal (Terminal Been / bent) and Button Heigh will reduce the concentration and accuracy of the operator in doing the checking, there are products accumulated because of these abnormal conditions because the product can still be repaired and can not be dumped inside inferior box.

Fifth Week

1. Time: February 5 - February 9, 2018

2. Job Task: Observe the work process operator Quality Control Feeling NG and try to learn to do the checking process

3. Difficulty: It is difficult to find the upnormal condition of the NG Feeling button because the upnormal condition does not include the physically visible NG condition, the line condition in the production area that is beyond the operator's ability makes it difficult to check.

Sixth Week

1. Time: February 12 - February 16, 2018

2. Job Duty: Observe the work process operator Quality Control Final Inspection and try to help do the job

3. Difficulty: When there are many abnormal conditions in the production result, the operator's difficulty determining the quality limit of the product can be categorized as a good or NG product, the lack of brightness in additional light lamp used for checking

Seventh Week

1. Time: February 19 - February 23, 2018

2. Job Duty: Seek information, learn and help when there is an abnormal condition in the process or production

3. Difficulty: Often encountered parts that are problematic

Eighth Week

1. Time: February 26 - March 02, 2018

2. Job Tasks: Assist the work of the Final Inspection Operator such as checking the marking, checking the marking button on the switch, checking whether there is a case of crack (one of the ubnormal conditions that can categorized the product as an NG product)

3. Difficulty: Difficult to perform fast and thorough checking.

Ninth Week

1. Time: 05 March -07 March 2018

2. Job Duty: Observing the work leading operator.

3. Difficulty: No Obstacle

C. Problem Solving (Problem Solving)

To solve all data and answer some constraints faced by the author, the authors conducted direct interviews with Quality Control Operator and Leading operator and observed directly to study in more detail and precise in PT Omron Manufacturing of Indonesia.

First Week. **Difficult to handle problems or abnormal conditions quickly in the system Quality Control automatically because of employee limitations in the Production Maintenance.**

Adds workers to the Production Maintenance section, and learns to improve the machine by observing how the PM fixes when there is damage.

Second week. **There are some products that are not good escaped from operator checks.**

Warning the operator to be more concentrated and cautious, to re-check the products in the indication there are abnormal conditions.

The third week. **There are operators who do not follow the way they work properly according to what has been set in the WGS (Work Guidance Sheet).**

Warning and give understanding to the operators concerned about the importance of cooperation in the production process and the importance of

togetherness to produce good quality, report to Leading Operators if other operators are aware of the problem so that the operator concerned can be followed up, and provide an understanding of the WGS function.

The fourth week. **When there are abnormal conditions in the terminal (Button Terminals) and Button Heigh will reduce the concentration and accuracy of the operator in doing the checking, there is accumulation of product due to abnormal condition is because there is possibility of product still can be repaired and can not be disposed in inferior box because the amount is too much.**

Give a place to separate products that have abnormal conditions, give additional operators when abnormal conditions are found to help tidy up stacked products and improve repairable products, Find out the causes of abnormal conditions and take action to address them, Provide additional processes (Pitch Gauge) inside the production area.

The Fifth Week. **It is difficult to find the upnormal condition of the NG Feeling button because the upnormal condition is not including the physically visible NG condition, the line condition in the production area whose speed is beyond the operator's ability makes it difficult to check.**

Conduct special training of operators in that section and adjust line speed with operator capability.

The Sixth Week. **When there are many abnormal conditions in the production result, the operator's difficulty determining the quality limit of**

the product can be categorized as a good or NG product, the lack of brightness in the additional light that is used for checking.

Separate products that are doubtful Quality category and request confirmation from superiors on the determination of product quality limits. Replace the extra lamp or switch it with another lamp.

The Seventh Week. **Often encountered parts that are problematic.**

Replace lot number part, Inform the existence of part-part which problem at provider or maker of the part-part.

The Eight Week. **It is difficult to check quickly and thoroughly.**

Conducting training to the operator to be accustomed to checking, do not change the operator on the part because operators who served in the Quality Control must have good ability in that regard.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

A. Conclusion

The author explain and describes a paper on "The Quality Control Process of Production Switch in PT Omron Manufacturing of Indonesia". The data in the author can be obtained from some daily activities carried out by Quality Control Operator, Leading, production operators and some employees at PT. Omron Manufacturing of Indonesia. Then the data in the author can be analyzed and concluded as follows:

1. The basic activities of Product Quality Control Switch are the joint responsibility of all employees.
2. Quality Control process is done in different ways depending on the needs and types of switches produced.
3. Each product must have a really good Quality and must go through various checking process before it can finally be sent to the consumer.
4. Production operators must comply with work procedures that have been set by the company for the resulting switch products can meet the quality standards set by the company.
5. Quality Control Operator must have ability and responsibility in its field.

B. Suggestions

After completing the observation, the author wants to provide suggestions for companies and readers. The author hopes that his advice can increase profits and provide many benefits to companies, jobs and readers.

1. Suggestions for the company

a. Employees who have jobs in the Quality Control section must have precision, accuracy, diligence, and also deft to have checked products that have high credibility. Employees who do not work in this section should be trained and given some tests whether the employee qualifies to work in the Quality Control section. Although basically every employee must have a high level of awareness, and responsibility for the work process of each.

b. In order for the resulting product to have a good quality, every employee must have the awareness to keep with the working procedures applied for the production process to run smoothly.

c. Companies should pay close attention to details of the needs and constraints that are often encountered in the Quality Control process even if they are small. This is done so that the Quality Control process runs well and smoothly.

d. Quality Control is an easy thing to do and apply if every worker has embedded awareness of the importance of Quality Control to provide the best quality on the product switches produced and it should start from our own.

2. Suggestions for Readers

a. Hopefully this research can provide knowledge about electronic components and Quality Control for all readers.
b. Quality Control is something that can be applied in some industries and not just in the electronics industry. Readers can understand and learn some things about Quality Control from this research.
c. The author hopes the reader can also take a lesson on how to be a good worker for the company.

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Figure 11 : Main Building

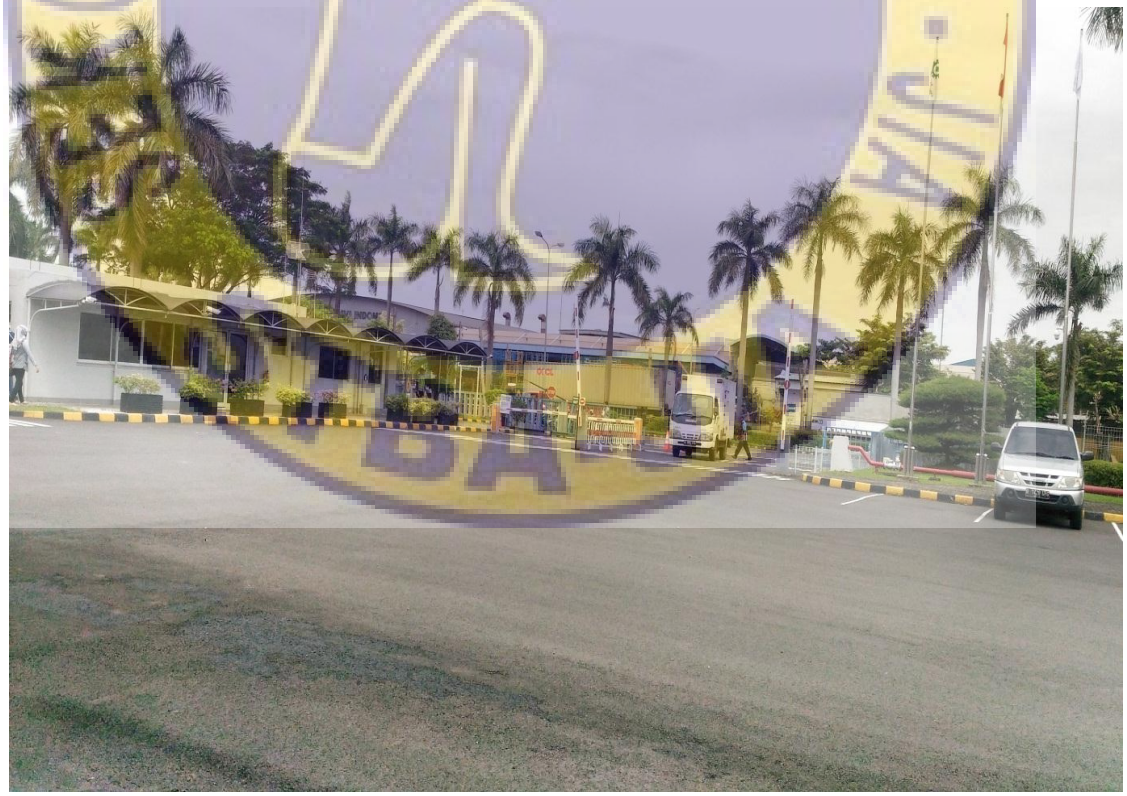

Figure 12 : Company Yard

Figure 13 : Road Between Each Department Building

Figure 14 : Mosque Area

Figure 15 : The Door of The Woman’s Prayer Room

Figure 16 : Loker Room

Figure 17 : Company Main Lobby

Figure 18 : Pedestrian area

Figure 1 : IAB Department Building

Figure 20 : Rest Room in The Production Area

Figure 21 : Rest Room in The Production Area

Figure 22 : Relay Department Building

Figure 23 : PMD Department Building

Figure 24 : ME Department Building

Figure 25 : PE Testing Room

Figure 26 : Switch Department Bulding

Figure 27: Exit of The Switch Building Department

Figure 28 : Lobby Switch

Figure 29 : Switch Production Timeline

Figure 30 : Example of The Production C8EA Type Switch

Figure 31 : Example of The Production Z Type Switch

Figure 32 : Example of The Production A3U Type Switch

Figure 33 : Example of The Production A8GS Type Switch

Figure 34 : Example of The Production A8L Type Switch

Figure 35 : Example of The Production D2FD Type Switch

Figure 36 : Example of The Production C4V Type Switch

Figure 37 : Example of The Production D3M Type Switch

Figure 38 : Example of The Production D3D Type Switch

Figure 39 : Example of The Production SS Type Switch

Figure 40: Example of The Production L- Type Switch

Figure 41 : Example of The Production D3DC Type Switch

BIOGRAPHY

The writer was born in Yogyakarta on 18 September 1993, Her Mother is Ngatini and father is Suhartoyo. She is the second child of three brothers. She educated at Jetisharjo Elementary School Yogyakarta in 2000 – 2006. She continue studying to 01 Tempel Sleman Yogyakarta in 2006 – 2009. The writer took Social science when she was in 01 Tempel High school Yogyakarta in 2009-2012. After graduating she decided to work in one of the Japanese Restaurants in Yogyakarta for three months. At the end of 2012, she moved to the Bekasi city to work in PT Mattel Indonesia, and she interested to join the School of Foreign Languages-JIA Bekasi at English Department in 2015. During she study at the college, she work at PT Omron Manufacturing of Indonesia until the beginning of the year 2018. After studied 3 years at Foreign of Languages-JIA, the writer hopes will graduated this year and immediately get a new job.