Manufacturing process of nissan motors

Critical Analysis of the manufacturing process of Nissan Motors UK Ltd with the recommendations to the quality issues using Lean Manufacturing Techniques

Executive Summary:

Quality is the being the major concern of every organization from the day manufacturing and production started. Quality of a product indirectly depicts the life of the product through which we can understand whether or not the product is worth enough for its price. If a product is designed as per the need of the purpose and if it fits well for the intended purpose, then its quality is acceptable. For ensuring this, many quality procedures, manuals and tools were formulated which should be used by every organization for identifying themselves as quality products manufacturer. The baseline of quality improvements is that, all improvements must be continuous and incremental which is needed for every organization in order to compete with rivals.

With the growing technology and demand on automobiles, it is very essential to concentrate on the quality of vehicles that are delivered as they are dealt with life of individuals. Quality of a product is always determined by the consumers and they are not mentioned by the producers. A quality product from an automobile industry means that, the product has met all the requirements of the customer as well as it has yielded profit for its manufacturer. For obtaining these both the top and low level managements must work together for balancing all the processes in the industry as well minimising or avoiding all the wastages which pull down the productivity rate. In order to achieve this, Lean Manufacturing Techniques where designed, which is finding its place in almost every industry in the world.

Lean works for achieving various targets which when put together helps to improve the overall standard of the company and the customers as well. According to lean, produce goods only when needed that too in required quantity and never do vice versa to that and end up with lot of inventories. It also helps to integrate all the employees for ensuring elimination of wastages as well as for achieving continuous incremental improvement. Many big manufacturers have implemented and seen success through lean concepts, few among them are, Toyota, Ford, Nissan etc. Each organization adopts lean techniques as per their requirement and capacity.

Nissan Motor Manufacturing (UK) Ltd is a car manufacturing unit in Sunderland, Tyne and Wear, United Kingdom. This plant is owned and operated by the European division of Japanese car manufacturer Nissan, whose head quarter is put up at Japan. Nissan Motor Manufacturing UK Ltd is the biggest car manufacturers in United Kingdom. They are also hitting the top sales result for each year within UK. The organizational structure of Nissan shows that they make use of selective lean techniques for ensuring high productivity.

The overall Aim of the research is to carry out analysis on various other concepts of lean and interpreting them for finding out , why many other concepts are less common among many organizations, thereby modifying those concepts as per organizations need and recommending Nissan for implementing them in future in order to meet their quality issues.

Objectives

To understand the manufacturing process of Nissan Motors UK

Identify the lean manufacturing technology adopted by Nissan to produce different models in the past few years

Competitive analysis of the management techniques of other leading car manufacturers

Recommend new steps to Nissan Motor UK ltd for quality issues through lean manufacturing techniques

Project Outcomes/ Deliverables:

Knowledge on the lean techniques used by Nissan and understanding the criteria chosen by them for implementing different techniques for different products

Review on Nissan's manufacturing processes

Rivals techniques and their standards will be known which help Nissan to improve their standards and compete in the market

Overall productivity of the plant and quality of products at the UK plant will improve

Why are you interested in the project?

Lean manufacturing is one of the best methods that is being adopted and followed by every developing and developed organizations. I always look into the quality of a product and check whether it's worth for its price; this propelled me to undertake an industrial project on Quality Control Approaches in a Brake Lining Manufacturing Industry during my under graduation. Pursuing that, I decided to carry out research on all the quality

related topics from which I understood that, quality of a product is defined by customer's and that can be achieved by incorporating their demands into the process. So, I chose Lean concepts through which continuous quality improvement can be achieved that would improve the company's productivity and profit as well as reduce the production cost on the whole.

Nissan Motor Manufacturing UK Ltd is the biggest car manufacturers in UK whose 80% of production is being exported as well as that Nissan is being preferred by one out of five customers who buy cars in UK. Looking at the organization's structure and rate of production hike each year, I was interested in knowing the lean techniques that was used by them, this would help me to improvise my present knowledge on lean concepts as well as understand how Nissan has implemented lean for ensuring high productivity. Moreover, this research will create an opportunity for me to analyse the various other concepts of lean and find out why they are less common among many organizations, thereby, modifying those concepts as per organizations need and implementing them in future.

What are the key questions the project attempts to answer?

What are the various methods through which Nissan Motor UK manufacturer their cars?

What Lean techniques are being adopted by Nissan for various models?

Who are the immediate competitors for Nissan and what are their strategies towards continuous improvement?

What can be done to resolve the quality issues of Nissan and improve their overall grade?

What research methods do you intend to use?

The Research work requires both Qualitative and Quantitative data collection for completion because of the nature of the title. Many measurable quantitative data's have to be collected for understanding the current position of the industry as well as for calculating the productivity raise. Initially, books and Journals were referred along with Magazines and online guides for obtaining the background of the current issue which is going to be handled.

Initially, information regarding the overall manufacturing process of the company will be gathered which will help to understand their production methods.

Secondly, data collection will be carried out for knowing their production units and sales number which will pave way for deciding whether or not to improve their quality and production rate.

Finally, more quality improvement tools must be identified in addition to Nissan's present tools so that new additions will help them to improve their standards. This will be carried out by referring quality guides and competitors manufacturing techniques. However, in real time application we do need some practical approach which can't be obtained through quantitative data collection. Therefore, even qualitative data collection procedure is followed irrespective of the total time consumption involved in it.

Data collection and analysis must be carried out after these steps which will help us to understand the current status of the target company as well as about its competitors. All the quantitative data's regarding the company's overall production and sales along with its competitor's information will be collected and compared for knowing the position of each of the company from its competitor. This also helps to get clarity towards our target.

Primary data's are collected using various methods; initially interviews are conducted with the company employees. Either face to face interviews will be conducted or group meetings will be carried out on specific topics which probably are the questions for which answers will be obtained at the end of interview. Various kinds of interviews will be carried out based on the requirement of the scenario, they are:

Structured Interviews

Semi-structured Interviews

Unstructured Interviews

All these sessions will be carried out with department heads as well as with the shop floor workers for understanding the overall production techniques and strategy of the industry. Also for knowing the quality improvement areas because they work with the machines and with reality which will enable them to sort out the prevailing problems.

Brainstorming sessions will be carried out for finding out the reasons behind Men, Machine, Material and Method which influence the quality of a product. This is carried out by directly questioning the involved persons

directly or by distributing questionnaires from which major production supporting elements can be determined.

Focus Group Meetings can be carried out with the help of a moderator who will carry on the meeting on one specific topic. The moderator will fix a minimum of six different questions which the group is expected to answer. Focus group will have around six to seven employees who will help to gain information on the current lean techniques and tell the reasons for not implementing other lean concepts in the industry.

Furthermore, all the reports, observations and case studies will be brushed through for deriving more information's that will help in analysis. Even paper based and electronic resources will be utilised for knowing the practicality of the application. All the collected data's will be use for carrying out relevant analysis methods.

A final brainstorming session is conducted using both the qualitative and quantitative data's that will help to find out a solution for the current issue. Obtained solution must satisfy all the key questions and its feasibility will be checked based on which decisions for recommendation will be considered.

What primary and/or secondary data sources do you intend to use?

Primary Data

Interviews:

Personal as well as group interviews will be conducted with the managers of each department for knowing what is inside Nissan. Interviewing will be

primarily used to gain an understanding of the underlying reasons and motivations for people's attitudes, preferences or behaviour. This can be conducted at work, at home, or some other agreed location.

Brainstorming:

This session will be carried out with all the employees in the organization using a set of question or by distributing questionnaires through which various causes for an effect can be determined.

Focus Group Interviews:

A moderator will be selected for conducting this interview with a set company employees. The target of the meeting will be towards one specific target from which the quality issues and developments needed in the company can be determined.

Observations & Case Studies:

Careful examination of the events occurring in the organization will be monitored for knowing the practical issues. Past records of the company will be reviewed for deciding on the kind of actions that can be taken for improving its status.

Secondary Data

Paper based Sources:

Journals will be reviewed for understanding the various quality issues that has been tackled in other industries using lean techniques

Books, Magazines and Newspapers will be referred for knowing the current trends that has been developed and practiced in the field of lean

Annual reports and internal organizations report will be used for collecting statistical information about the organization

Electronic Source:

Online databases and internet source will provide whole lot of information regarding the industries performance and future goals which will be utilised for implementing any new changes.

In addition to all these, qualitative and quantitative data's will be collected using official or government sources as well as from unofficial or general business sources.

Please provide draft chapter headings for your report

Summary

Introduction

Research proposal

Literature search and analysis

Writing literature review

Data and Information collection

Data analysis and Interpretation

Taking counter measure for identified issues

Testing outcomes against aims and objectives

Formatting result

Reporting result

Conclusion