

Sequential Work Place Layout Planning to Achieve Rapid Production Rate

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Abstract— In this modern world, we are well aware about the Manufacturing technologies and methodologies. Industries are to adjusting new and more and more machineries and methods but by these approaches, Sequential Work Place Layout Planning to Achieve Rapid Production Rate Abstract In this modern world, we are well aware about the Manufacturing technologies and methodologies. Industries are to adjusting new and more and more machineries and methods but by these approaches, industries are adopting this method for profit. Some of the methodologies is completely changing the world and this kind of technologies companies are adapting too quick and responsively. In this thesis, we are exploring and integrating some of the methodology such as Six Sigma approach and Sequential Operational Production Planning. For controlling this process, we are integrating sequential operational production planning to achieve rapid production rate and higher sigma level. It is alarmed with changing materials into things and services, as professionally it is possible to make maximum profit for it also contains that the management generate the maximum level of Sigma imaginable within a body.

Keywords— Operation Management; Production Process; Sequential Planning; Manufacturing; Sigma Level, Work place layout.

INTRODUCTION

This paper belongs to generate maximum output from a process, which involves about well-designed sequenced planning process these are unified plans to reach maximum productivity. We are incorporating three process together in sequenced planning process first we practical a proper disreputable as operation management it will work like a platform for the other executing technologies in which we are effecting work place layout planning/management/design which will requirement we will relate as per supplies for. In resulting we will use the inbounds supply chain for supervision arrangement for the avoiding lack of the raw measureable and it will also assistance for the save store quickly managed and it will uphold a lowest level of inventory for controlling the over roster, short stock time of raw material and over inventory. In additional next preparation, we are applying the inventory management for the inventory consumption and decreasing inventory-carrying cost. Inventory carrying cost can help to boost the financing conditions of the company it will help

to achieve higher productivity. These methodologies will perform the planning under the platform of the operation management the function of operation management is in that dissertation is to only control the complete process which can result on preparation in Work place design/planning/management, Inbound organized supply chain supervision and inventory controlling. After successfully implementation, this methodology can achieve the highest productivity. Rosters that are mishandled can create important financial glitches for a commercial, whether the mishandling results in an inventory glut or an inventory shortage. To regulatory this procedure, we are mixing Operations management is worried with materials into things and facilities as professionally as likely to maximize the income of a Body. It also

consists that the management of commercial performs to make the uppermost level of competence likely within an institute. The methods they are attainment at an incomplete fraction of output and effectiveness. We performing for an appearance of Methodical process &

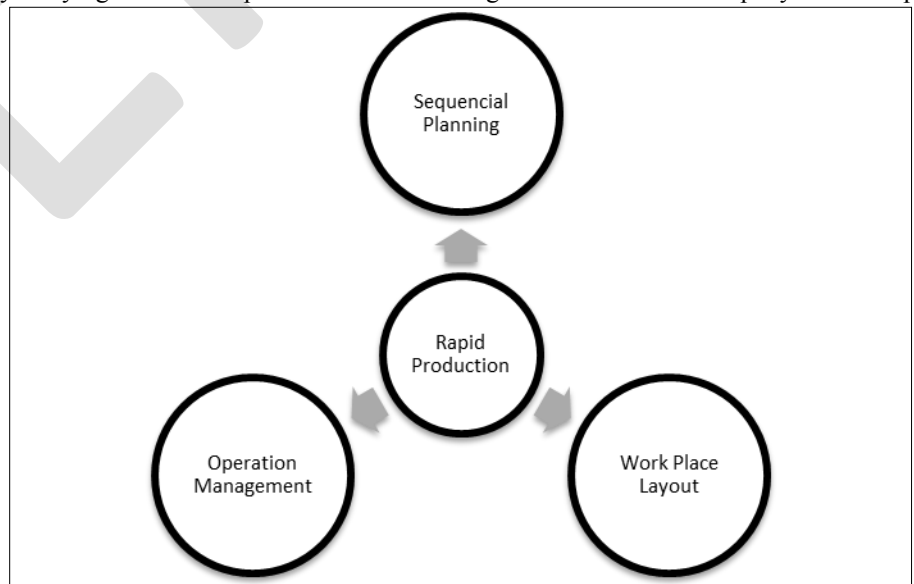


Figure 1- Rapid Production System

mixing these major plans for the better efficiency and the productivity. We are merging preparation of production over a scheme of Operation Running amalgamation through subsystems of this progression as Work Place Layout, Incoming Supply Chain and Schedule Management Scheme for the better output.

LITERATURE REVIEW

Chris Voss, Nikos Tsikriktsis and Mark Frohlich, International Journal of Operations & Production Management - Research based on the investigation of the Pure Case investigation and the limited quantitative consequences of the research can be made; the best only limited statistical analysis. Which is widely used in Europe, although it is the North American agency (Drezer et al., Paneerselvann et al., 1999) published a case study and field study at 4.94% and 3.80%. However, there is a cumulative number of documents based on CASE RESEARCH: The case research has many challenges: it takes time, requires expert observers, and requires follow-up in concomitant findings and in a strict investigation of incomplete cases. However, Case's collapse Research has a much more important effect. It is innovative and creative ideas, a new theory is developed and doctors have great credibility - the ultimate consumer of research because it suppressed by the strictest limits of surveys and models.

ALEDA V. ROTH AND LARRY J. MENOR, PRODUCTION AND OPERATIONS MANAGEMENT Vol. 12, No. 2, summer 2003 Printed in U.S.A.- This document provides a search calendar for the Operations Management Service (SOM). First, we need an SOM program to stimulate. The challenges of the service sector and the connection management of our growing and rapidly evolving national economy drive the urgency of SOM research. Second, we offer a theoretical form that illustrates a broad picture of the key architectural elements in the SOM study landscape. The writing based on research and development prior to the design, development and evaluation of services. Finally, we use our agenda to develop a testing program to stimulate future research in SOM, focus on understanding academic research, and refine developing areas. The operating principles, the theoretical expansion and the development of research techniques in the SOM must increase the monetary significance.

Ibrahim H. Garbie, -Proceedings of the 41st International Conference on Computers & Industrial Engineering, 2008 Vol 7, Issue 13-Be anxiously willing to work effectively, safely and conveniently. The effective demand for ergonomics in the design of the work system can balance the materialistic and professional requirements of the worker. This improves the productivity of the operator, ensures worker safety and physical and mental well-being and job satisfaction. Several research studies have shown positive results that apply to effective value in design, machine and tool design, environment and facilities. Research Studies at Ergonomics has also created data and guidelines for industrial applications. The ergonomic design features of machines, workstations and facilities are well recognized. However, there are still companies in developing countries, especially weak approval and limited application. The main concern of the design of the work system is the development of machines and devices in general. Does not work properly or think. Therefore, poor design work systems are a commonplace in business. Ignorance of ergonomic principles brings disability and pain to the workers. Physical and expressive stress, low productivity, and poor quality of work can result in an unproductive workplace. By reducing the worker's work, the worker can use fewer gestures and reduce the workspace by spending less energy and reducing fatigue. Das and Grady developed the design and demand for anthropometric data. This suggests that an adaptive chair in the office is the most essential for the standard sized workbench. However, the standard height of the workbench not well defined without the anthropometric data of the user population. Most users do not have anthropometric data. This is why the meter is adjustable. Improve productivity in the printing circuit assembly (PCA) plant and seriously consider the health and safety of employees

INTEGRATION OF WORKPLACE LAYOUT, SEQUENTIAL PLANNING, OPERATION MANAGEMENT

Integration of these three methodologies are can provide quite impressive results. Design a new work place can lead the better material flow and better machine arrangements. When we are planning to implement work place layout plan so that we have to design that plan which is suitable to a particular industries. We are incorporating three process together in sequenced planning process first we practical a proper disreputable as operation management it will work like a platform for the other executing technologies in which we are effecting work place layout planning / management / design which will requirement we will relate as per supplies. . The methods they are attainment at an incomplete fraction of output and effectiveness. We performing for an appearance of Methodical process & mixing these major plans for the better efficiency and the productivity. We are merging preparation of production over a scheme or a repetitive product.

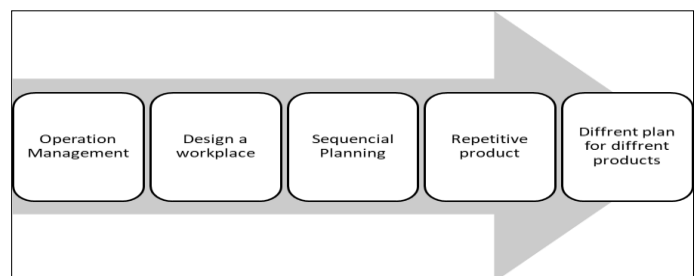


Figure 2- Integration of process

EXISTING METHODOLOGY

In existing technology, we are talking about the processes, methods and operations, which are using by local workshop in micro scale industries. All big companies are using various methodologies like Six Sigma, project management in most of the mechanical industries who belongs to repetitive Products they are using automation. Automation are very costly and it is very high in capital so micro scale industries are cannot adopt these kinds of high stacks Automation. They are following their own beliefs to create a product, so we need to educate them for betterment of production, quality and their growth. Some big companies have the sub vendors, which are using their own old tactics to perform a product. An important job of Product Manager Planning and Product Control. This determines the production process in advance and done according to the plan. The products linked to the complete exchange of raw materials. Productive planning is the transmission, prevention and elimination of prevention difficulties. A technique predicts each step of the product's long-term process. Taking them at the right time and at the right level, and trying to complete the operations to their maximum capacity. The job of control is to facilitate the work and to see everything going according to the plans. The whole process should conducted in the best way and at the lowest cost. The plans of the product manager must anticipate the plans. It is a work of control and planning. Product planning and control requires both good quality products to produce at affordable prices and in the most systematic way. The conversion process is about making decisions about what to produce, how to produce, produce, etc. These decisions are part of the production plan. Deciding to work it is just not enough.

PROPOSED METHODOLOGY

In proposed methodology, we are applying this for the increasing manufacture with the help of three major tools

- Work Place Layout
- Inventory Management
- Operation Management

On the platform of Operation Organization for control, this tools activities. Operation Management is a very vast field but we are using it like a supervisory tool to these three above-itemized tools. If we follow the Principle of Planning and Switch, we have a mechanical store shop and have discussed. "Production of the necessary product in the production of the necessary product can be achieved with the highest efficiency of production through the best and inexpensive method" - PPC is a product of coordinating all manufacturing activities in a manufacturing company playing. Production planning and control mainly involve planning in an engineering company, production, quality, and quality before production and start of training activities. The production plan consists of an organization of the entire manufacturing / operating system to produce a product. Many programs involved in the manufacturing process design the product, determine the needs of equipment and capacity, physical facilities and physical and physical management system, determine the range of processes, and the nature of the operations to be carried out with time requirements and some product size and quality levels. The objective mechanism of the manufacturing plan is to provide a set of guidelines for completing the efficient exchange of raw resources, human resources, and other products together with the physical system. Volume of the product:

Items to decide the product preparation methods: Used product planning, from business to company. Production planning for the production and production of production plan and production of the entire production / operating system will begin production plan. It also works for an industrial plan of revised version of the current product using existing facilities. The vast difference between one company and another manufacturing process is mainly the differences in the financial and technical conditions existing in the management of the enterprises. The three main factors are decisive production-planning processes:

The amount and intensity of production preparation determined by the size and nature of character and industrial processes. The production plan expected to cut industrial costs. In the case of a custom order job store the preparation plan is limited to the preparation of raw materials and parts and components of the production industry and the creation of the works pieces of the production industry.

RESULT COMPARISON OF METHODOLOGY

We observed that the better sequence could drive better performance of the company. No planning can drive low efficiency. No single instruction. The data for each operation is existing to the operator using many generic process papers, which they have to understand! This leads to several different working methods and entire lack of adjustment. No standard layout for paper and data not presented in a user-friendly format. Operation not broken down into clear separate tasks. Not sufficient detail in the method explanation.

This can lead more travel time and distance of the Martial.

Total travel distance of material =

$$19+21+17+24+9+13$$

$$\text{Total travel distance of material} = 103 \text{ m}$$

Proposed Shop Floor Plan

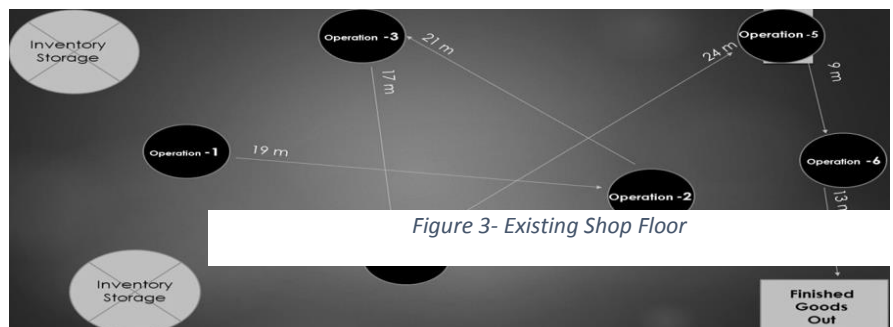


Figure 3- Existing Shop Floor

Now implemented Methodology can leads to high efficiency. Thoroughly linked with the method plan are the operators working commands, which describe how to execute the operation. The satisfied and arrangement of the work commands are critical and can have a huge influence on the product excellence. Some businesses (e.g. automotive) focus deeply on this point and many OEM corporations have set values for suppliers. The work training is so important because it is a critical tool for standardizing working methods, which is a key factor in promising consistent product excellence. A good work shop floor should be like.

This can lead less travel time and distance of the Material.

Total travel distance of material = $5+7+6+9+9+10$

Total travel distance of material = 46 m

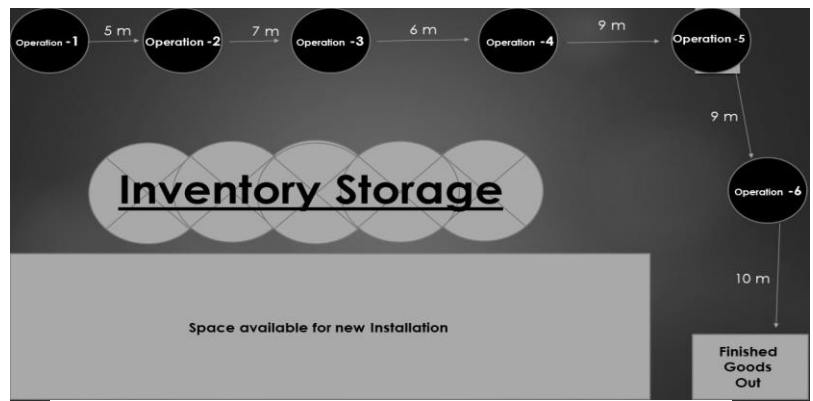


Figure 4- Proposed Shop Floor

ADVANTAGES OF PROPOSED METHODOLOGY

1. Improving Production Rate and quality

How several times has a manager brainstormed ways to growth the frequency with which personnel perform quality control drafts? New floor layouts are the perfect chance to reduce the footsteps/effort mandatory to QC products while care key personnel at or close their primary workplaces.

2. Operator Efficiency

Reviewing machine-manning supplies by looking at the current mix also can factored hooked on new floor layouts. That does small runs may advantage from having an operator that can change repeatedly to the next job. A shop that does very extended runs, or has been clever to schedule parallel size work to lines, can bring prime operator work positions to within a few steps of each other to decrease redundant people.

3. Planning for Expansion

Planning for future machine developments and elevations can pay massive dividends when the time taken to factor in floor planetary.

4. Less travel time of Material Layout Concepts

In each layout, it must be strongminded where the incomplete product arrives the and wherever finished goods leave. Machine arrangement comes next. Typically, the highest layout chance/variable is the conveyor transfer among the equipment, so careful consideration should give to this capital expense.

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CONCLUSION

In Countries like India small scale industries are short of skilled person and not afford automation .for such kind of industries this methodology helps a lot. In sum, the available research determines that openings can have both direct and indirect belongings on worker's strength and well-being. Product will travel less and dispatch will be possible before delivery date. There is collecting evidence that the appearances of the physical work location can function as a coping reserve and provide many opportunities for renovation. Workplace design is a much-referenced catchword when it comes to following and civilizing employee efficiency. Whatever the field called that achieves product flows, which at the instant is inbound supply chain management, the movement is usual. , it is one of the most significant aspects of any professional. The characteristic of this part of the professional is whether you can content the mandate of your clients if you are not sure if you take all the materials accessible to make the final invention. It clearly shows in results that the proposed methodology is performing well.

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