

Operations management for competitive advantage



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Introduction :

Operations Management is present in many occupations as well as those of manufacturing and service industries. I believe it to be present in daily duties of any person although they may never notice. With this in mind I see operations management as a skill anyone has with an aim of achieving an outcome of something they are working towards in a logical process with thought of awareness of a system structure.

Operations management has been around for some time yet it was Christopher Polhelm (Sweden) first recognised a skill and recorded that ' Nothing increases demand so much as low prices. Therefore there is a great need of machines and appliances which will diminish the amount or intensity of heavy work' (Extract from text book Operations Management - supplied by DMU for open learning please see bibliography) this was around 1700. There are cases in many history books and stories passed down that operations management was present before this yet not identified as operations management. From 1700 business development has grown significantly and seems to have been a notable point of operations management to present day. Operation management is depending upon five performance objectives i. e. Quality, Flexibility, Cost, Speed and dependability.

Quality: Quality means doing things right. An operation needs to be spotless and in order, have appropriate and attractive furnishings and make sure that the staffs are friendly and helpful. Quality reduces costs and increases dependability.

Flexibility: The Flexibility facilitate to any changes. Different products and services need to be available, for example the opening times need to be varied as the main customers (students) have varying timetables.

Cost: The membership prices need to be a suitable price to facilitate students and people with different financial situations. The cost of hiring employment needs to be considered as well as the cost of the equipment. The lower the cost of producing their services, the lower the cost to the customer will be. This is a very attractive attribute, especially to students.

Speed: The speed of the internal processes can reduce inventories and reduce risks.

Dependability: The staffs want to be able to do things in time for the customers to receive their services. Being reliable causes the customers to become more loyal over time. Dependability can save time, save money and give support throughout the operation, internally and externally.

In this assignment I try to focus on above all objectives and how manufacturing process is going? How much time taking each Department for their work? Why occur delay for delivery to Customer? What's role of Human Resources in maintain Quality, Cost and Time? Why storage is create scarcity of space? Why quality is going down? Product value and Customer satisfaction Etc. Operation management find out best solution before arise problem. Operation Management is helpful for Decision making, Developing a process strategy, managing effective project, process analysing, Demand Forecasting, managing Quality, planning Capacity, managing Inventories etc.

In this assignment I researched on Rama Newsprint & Papers Ltd, India, <https://assignbuster.com/operations-management-for-competitive-advantage/>

which is largest private paper Production Company. It is running by more than 2000 workforce. This is manufacturing Cream Wove, Super printing, base paper for coating, map litho; SS map litho, Copier paper and newsprint etc. It has \$ 50 million equity or spread over in 400 acres land. RNPL has also own 23 mw Power plants. This company is huge in paper industry sector and I am sure it will be increase my knowledge in Operation management and its systems.

Manufacturing Process of Newsprint & Paper :

The paper industry is basically based on wood and wood based pulp. But Rama Newsprint is produce paper by Recycling process. This plan is zero wastage process plans. Wastepaper is a key input in the production of newsprint, packaging paper and paperboards. Production of specialty paper involves the use of different varieties of pulp, which lend special quality to the paper. Here below illustrate whole manufacturing process of paper.

R & D and QC Department :

This department play important role in manufacturing process. R & D department is continuously taking sample from Raw material, Deinking and Paper machine for checking quality of ongoing process and find out anything wrong in the process. As per operation management quality is very important issue and this is handled by R & D and QC department.

Raw materials Department :

Paper manufacturing is start from Raw materials department. This department is using Virgin Pulp, Local/Imported old newspaper (ONP), News & Pams, Mixed office waste, Old Telephone Directory, Old magazine grade

(OMG) for raw materials. But these all materials are available in wastage paper. This department is sorting fibre, plastic, iron, dust etc from waste paper. Sorting is important part of process. If sorting is not good, quality of paper will be bad. This is very sensitive department and root of the process. This department retain maximum labour for sorting work. After sorting process this wastage paper send to Deinking department and complete their work.

(Ref C : http://www.madehow.com/images/hpm_0000_0006_0_img0128.jpg)

Deinking Department :

After completion of Raw materials sorting process, Deinking department is ready to start next process. In this department waste papers have been mixes with water and wash by Chemical. This department's core work is removing Ink from paper and converts in to Pulp by mixing Sodium hydroxide and sodium sulphide. The chips close into pulp in the resolution. Next the pulp is sent through filters. Bleach may be added at this stage, or colourings. The pulp is sent to the paper plant. That's for this department called De-Inking. In this stage also mix some chemical for create brightness in paper and which is providing by CAPP department. This completed Pulp has been send to paper Machine Department and finished their work.

Paper Machine Department :

The pulp is next put through a beating and squeezing course called, properly enough, pasting. Inside a large container, the pulp is subjected to the produce of machine beaters. At this point, various packing materials can be

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supplementary such as chalks, clays, or chemicals such as titanium oxide. These additives will control the dullness and other qualities of the final product. Sizing's are also added at this point. Sizing affects the way the paper will react with various inks.

(Ref C : http://www.madehow.com/images/hpm_0000_0006_0_img0128.jpg)

In order to ultimately revolve the pulp into paper, the pulp is fed or pumped into colossal, automated machines. One ordinary category is called the Fourdrinier instrument. Pulp is fed into the Fourdrinier machine on a touching belt of bright mesh selection. The pulp is squeezed through a series of rollers, while suction strategy under the belt drains rotten water. If the paper is to obtain a water-mark, a device called a dandy moves across the sheet of pulp and presses a design into it.

The paper then moves on top of the press part of the machine, where it is pushed between rollers of wool felt. The paper then passes over a series of steam-heated cylinders to eradicate the left over water. A large machine may have from 45 to 65 aeration cylinders.

– **Finishing House Department:**

Finally, the dried paper is injured onto large reels, where it will be additionally processed depending on its last use. Paper is round and packed in further by passing through metal rollers called calendars. A particular finish, whether supple and waterless or solid and glossy, can be imparted by the calendars.

The paper may be further ended by passing through a container of sizing material. It may also obtain a covering, which is either brushed on or rolled on. Covering ads chemicals or pigments to the paper's outside, supplementing the sizing and fillers from previous in the course. Fine clay is often used as a covering. The paper may after that be supercalendered, that is, run from first to last extremely silky calendar rollers, for a closing time. Then the paper is cut to the wanted size.

Product Wear House Department :

This is the final stage of Paper process. This stage PWH department is packing cutter paper and send to storage or customer. This department is storage paper size wise on different place. Whenever requirement arise easy to find out and send to customer.

Product life cycle of RNPL :

When offering papers product to customer is that they have a variety. They have an enormous number of a ways of expenses their money and spaces to spend it. Therefore, Rama newsprint & paper's places considerable emphasises on developing a new paper product which customer's want.

Market research establishes exactly what this is.

However customer's requirements change overtime. What is fashionable and eye-catching today may be excess tomorrow. Marketing constantly monitors customer's first choice. In order to assemble these changes, RNPL has tried to launch new product with change in old product. The type of selling undertaken and the amount invested will be dissimilar, depending on the phase a product has reached. For example, the begin on of a new product

will classically involve television and other advertising support. At several time a company will have a variety of assets, a share portfolio integrated shares in a range of different companies of product each in a diverse phase of life cycle. Some of RNPL's option is going constant at the growth stage. Paper is a daily use product but not much profit making industry. In Indian market more than 800 paper industries are running in paper sector. So competition is on high level and also tough. That's reason is for paper industries are not reach to maturity level of product life cycle.

Process Flow Chart :

A process chart is a set method of documenting all the activities performed by a person or group at a workplace, with a customer, or working with certain materials. It analyzes a process using a table, and provides information about each step in the process. It is used to drill down to the job level for an individual person, a team or a focused nested process. In this process five categories.

Process flow chart with easy to identify gap between two process and this is giving idea to management for generating idea for resolve it. On below chart easy to identify marketing department send order to PWH department on right time. But lack of efficiency of PWH department, they are not putting in to process and make a delay. Also PWH department is looking storage department. But there negligence on work create scare of place. Here paper machine department have good efficiency in spite of they cannot work due to scarcity of space. So whole operations in PWH department is making delay in process.

Quality Circle :

Quality is important part in Paper Industry. If industry ignore to this concept, They will be loose their customer and lose their image in market. Rama Newsprint & papers Ltd is also believe in this concept and Quality circle implemented in organisation. RNPL established department wise Quality circle committee and they meet to one time in a week. They discussed regarding problem, production, cost reduction idea, new technology, participative management, Decision making on new things etc.. They are tried to solve problem at department level. If it's not possible than bring it to management level and search solution. Quality circle is good concept in management theory and RNPL completely follow to this and short out problem on root level and avoid delay. This is also responsible for cost saving and quality improvement.

Porters Value Chain

Michael Porter (1985) the strategic inventor of the ' Porter Value Chain' constructed a chain effect understanding that every business should implement for logical understanding and awareness of its inputs and outputs as a business. He separated the business functions into primary and secondary methods, primary being dedicated to the product or service and secondary being supportive methods to aid the primary.

Porters (Michael Porter 1985) Value Chain (VC). From the model suggests, that no issue how many operational units that are concerned in the course of generating customer value; these primary actions can be conceptualised into five common stages. The five primary stages are inbound logistics, operations, outbound logistics, marketing and sales, and service. These <https://assignbuster.com/operations-management-for-competitive-advantage/>

primary stages are supported by the firms' infrastructure, human resource management, technology development, and purchasing and procurement. The stages within the VC should not be seen in segregation but looked at in a wider context and include the connections between stages not just within the processes. The relationship between sales, operations and procurement for instance can determine how much stock is to be carried and therefore reflected in cost of inventory held.

(Ref Book – Operation Management Processes and Supply Chain – Lee, Larry & Manoj)

Value activities are divided in to two types, Primary activities and support activities. Primary activities involved in the physical creation of the product, sales and transportation to the buyers as well as after sells services. Primary activity alienated into five categories. Support activities are support to primary activities and each other given that purchased inputs, technology, human resources and various firm-wide functions.

Primary Activities :

The primary activities of the organisation are group in to five main areas:

Inbound logistics : RNPL concerned with receiving, storing and distributing the inputs to the products. In this included raw materials, handling, stock control, transportation etc..

Operation : the transformation of these various inputs into the final paper or newsprint : machine, packaging, testing etc.

Outbound logistics : The collection, storage and distribution of the product to customers. In RNPL involves Product ware house activities, material handling, transportation etc. In this part most important to bring services to customer on fixed location.

Marketing & sales : in this part RNPL create their own image in paper industry by advertising, highest production per day and strong administration department. Also loosening with customer and take a feed back of customer.

Services : all the activities depend upon services after sells. After sells services consist of installation, start up of product, replacement, warranties etc. RNPL also provide quality assurance guarantees to customer.

Support Activities :

The support activities divided in to four areas.

Procurement: all primary activity have been refers to the process of acquiring the various resource. This is the main part of the organisation.

Human Resource management: RNPL is very poor about human resources and this is the main root of problem. Here value chain is play important role to emphasise more training & development, motivation like monitoring & non monitoring ways to workforce, recruiting skilled manpower.

Technology development : Technology is directly related with product, process or resources. if employees do not understand how to operate equipment, its create big problem for firm. In RNPL most of the workforce

recruit experienced with higher pay scale. This is increase production cost to firm. If they create their own workforce by providing T & D to old staff is better than higher new staff.

Infrastructure : RNPL plan lay out and infrastructure is good but some place require some change. Infrastructure is also consisting of the structure and routines of the organisation that sustain RNPL culture.

This all activities are implement perfectly by RNPL is must be require for in competitive terms, value is the amount that buyer are willing to pay for what a firms provided them with product perceived value. Value chain model is very helpful to RNPL for win to paper market and therefore they have to implement and follow above all activities.

So value chain is guide to industry how to win market and create own image in market. For RNPL has a value chain is key success.

Recommendation :

As student I cannot give the exact idea about reading just few papers for the company which is running successfully since 1991. Company has history of 19 years they have created their name and fame through their working pattern and workforce who works for them. I am little bit small to evaluated and give the recommendation to the company's board of directors they are the genius in their planning and implementation of their Operation Management systems.

1) Most of the companies are manufacturing product depend upon order or make to stock. RNPL is also following these methods. But RNPL not use

perfect performance metrics in process and these are the main reason for delay in manufacturing product. As a student I would like to suggest to RNPL, if they will follow some below formula for manufacturing process. Defiantly they will almost achieve their target.

Operation time = Setup time

Run time

Throughput time = Average time for a unit to

move through the system

Speed = Throughput time

Value-added time

Cycle Time Example

Suppose RNPL had to produce 10 paper roll in 50 hours to meet the demand requirements of a product. There are 3000 minutes (60 minutes/hour x 50 hours) in 50 hours. So the average time between completions would have to be: Cycle time = 3, 000/10 roll = 300 minutes.

Process Throughput Time Reduction

All of this work done after RNPL should apply bellow main three concept for process.

A) It must be execute activities in corresponding.

B) Change the series of activities.

C) Reduce interruptions

2) Human Resource Management :

Humans are core part of process and they have been a particular platform in Organization. Human is sensitive part of operation management. If employees are not satisfied, organization will loose target. Employees play important role in quality management and have a power to make decision that will improve quality and customer services. Strategic goals for quality and customer satisfaction require teamwork and group participation. RNPL is face lack of satisfaction in their employees and that for so many causes are responsible.

I would like to suggest some ideas for implementing in company for success in paper sector.

Employees are not satisfied with management systems. Management follows autocratic and close leadership and this is demotivate to employees. If RNPL will understand employees requirement and change the management styles towards employees, definitely company will get incredible growth.

Change the management style from Autocratic to Liberal, means employees have been invite for decision making, Quality circle, participation in management, giving more responsibility etc.. These all are motivate to employees for achieving goal.

RNPL should more focus on Technical & commercial training to employees. Trained workforce is more productive as well qualitative and also Time saver. RNPL should be implement below T & D activities through minimise cost, time and maintain quality.

Create Apprentice force in the Organisation. Apprentice is productive, cheaper and easy to available.

Provide more paper machine operation training to employees and these are useful for minimise cost and increase qualitative production.

Job specification has been implementing in Organisation. Employees have been mastery in work through it. These is key of maintain quality, cost and time.

Job rotation is also important part of operation. It should be implementing in RNPL.

Also provide commercial training like time keeping, communication, leadership, cost reduction etc.

3) Raw materials department has been also needed some change for Time saving and Quality maintaining. In sorting work per bunch require maximum 20 to 30 minutes. But lack of inspection on labour makes delay in this process. Also sorting work is not going accurate. This is creating adverse impact on Paper quality and deinking departments system. So as per my suggestion management have to take strict step against labour.

4). Product warehouse department is end of the manufacturing process part. This department is looking storage, separation and selling work. RNPL has lots of space for storage. In spite of arise scarcity of space due to lack of skilled staff. They have no any proper storage system which is helpful for identify thickness wise paper. So they have to implement storage system like inventory management system.

5) Central Engineering stores is located so far away from main core department in plan. Maximum time wasted in collection for equipment from store to concern department. If central department located near to core department, definitely maximum time will be saved by RNPL.

Conclusion :

I conclude that although most businesses look different in their operation most of them actually are similar because all businesses need a foundation to start off with and when they build from their foundations this is where differences occur because of their overall business plan in the 5 key business function. They are Operations Management, Human Resource Management, Marketing, Accounting & Finance and Information Management in which they operate from. They start to defer within the sectors they build their business on as every business has a different way of getting their products and services forward depending on the market they explore in which they try to dominate through success to keep the business alive.

The key difference is how they outsource their organisational role and activities all depend on how the business is adapted to operate to meet the demand of the business's activities. This is vital for the business to fulfil their

organisational needs so the operation of the business is flawless and it will maximise their organisational productivity and stability.

History of RNPL : (Appendix – 1)

Rama Newsprint and Papers Ltd is largest private sector in Printing & Writing paper manufacturing company at a single spot in India. It has 22 percent capacity of production in Indian newsprint sector, based on Virgin Pulp as well as Recycled fibre, to manufacture either 1, 44, 000 tonnes per annum of Newsprint or 1, 80, 000 tonnes per annum of Printing & Writing paper or a mix of both. The paper mill was established in 1996.

Its is set up with an equity of Rs. 233 crores (US \$ 50 million) and spread over 450 acres of land in village Barbodhan, Gujarat, India, the company is managed by professional Board of Directors having enormous practice in related fields.

The company is able to produce Newsprint and Writing paper from Virgin pulp as well as Non-conventional raw materials. The company has also demonstrated deep commitment to the cause of preserving the environment, by setting up a state of the art facility for manufacture of Environ friendly Chlorine free paper. The Company has its own Power plant and water works, means uninterrupted power and water supply leading to non-stop production. A causative feature is the internal engineering workshop for defensive maintenance and looking after leading to permanent invention of process, quality and productivity.

Technical partnership with world best in the newsprint industry and aided by a highly qualified and committed workforce of about 500 personnel has now <https://assignbuster.com/operations-management-for-competitive-advantage/>

seen us expand into synergetic industries as well as set up an sell overseas existence in Asia and Africa.

Water : RNPL has sufficient water bring for its plants and for general human use from Narmada & Water Resources Department, Government of Gujarat. RNPL has also occupied a range of initiatives for water upkeep such as Rain water harvesting, recycling & re-use of water in the process of manufacturing.

Power : RNPL has 23 MW confined power plant installed at site, which ensures supply of quality power for permanent operation of the plant without any break due to power cuts. RNPL has also reserve unit of 17 MW installed at site. Majority of RNPL's power demand is met through confined plant. However It has power authorize boundary of 8500 KVA for paper mill and 550 KVA for raw water supply intake pump house from Gujarat Electricity Board in case of any possibility or surplus demand.

Mission :

To establish ourselves as leaders in the paper industry in terms of efficiency, productivity, profitability and above all, customer service..