

A Study of Manufacturing Process and Facilities in B/S Engineering Industry

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ABSTRACT

This study was undertaken in Babasaheb engineering works in tasavade M I D C karad. The main purpose of the study was to understand Production/Manufacturing process of the company's product as well as to study the plant layout of B/S engineering works Ltd. in detail. Researcher has studied the different products produced in organization with their specification as well as different machineries and equipments used for the production in an organization. Study related to the Raw material used for the production process is done. The researcher has selected the topic that is "A Study of manufacturing process and facilities" in the small-scale engineering firm. Basically, the researcher is student of master of business administration degree also the specialization area of the researcher is operation management and marketing management the researcher is interested to do research in operation management. The manufacturing process and facilities is one of the important aspect of the production department of the organization mostly we study in engineering firm, these two aspects are very much important. The whole production activity depends upon actual production process, plant layout and effective utilization of available production facilities. Hence, the researcher has selected the said topic for research as "manufacturing process and facilities in small scale engineering firms."

Keywords: facilities, manufacturing process, plant layout

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INTRODUCTION OF STUDY

The concerned study was undertaken in Babasaheb engineering works in tasavade M I D C karad. The main purpose of the study is to understand production process of the company's product as well as to study the plant layout of the company [1]. The company focused on manufacturing of air conditioning compressor parts and parts of submersible pumps. The study is divided under two phases,

- (1) Manufacturing process
- (2) Plant layout

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master of business administration degree also the specialization area of the researcher is operation management and marketing management the researcher is interested to do research in operation management. The manufacturing process and facilities is one of the important aspect of the production department of the organization mostly we study in engineering firm, these two aspects are very much important. The whole production activity depends upon actual production process, plant layout and effective utilization of available production facilities. So, the researcher has select the topic for research as "manufacturing process and facilities in small scale engineering firm [2]."

The researcher has selected the organization that is B/S engineering works for the research study the organization is engineering based organization which is situated in tasawde M.I.D.C industrial area. The industrial area is one of the famous industrial area in Satara district. This industrial area is famous for manufacturing of compressors parts. B/S engineering works has manufacturer of air conditioning compressor parts and submersible pump parts. This is the one of the famous industry in tasavade M.I.D.C karad. So, the researcher has selected this organization for the research study [3].

OBJECTIVE OF THE STUDY

The study of manufacturing process of air conditioning compressors parts, various pump components to domestic and overseas leading pump manufacturer of submersible pumps and motors, hydrolic block in B/S engineering works Ltd.

- (1) To study the plant layout of B/S engineering works Ltd. in details.
- (2) To the study the different products produced in organization with their specification.
- (3) To study about different machineries and equipments used for the production in an organization.
- (4) To study different Raw material used for the production process [4].

IMPORTANCE OF THE STUDY

- (1) It is helpful to know about the raw materials with their specification, used for the production process.
- (2) It is helpful to know the main steps in detail, used in the production process.
- (3) It is helpful to know different machineries and equipments used for the production in an organization.
- (4) It is helpful to know the main products produced in an organization with their specification.
- (5) It helps to understand the actual production planning used in an organization.

LIMITATIONS OF THE STUDY

- (1) The study has been completed during short period of days.
- (2) Time factor has become one of the limitations of the study.
- (3) Cannot provide details about the raw materials and customers link.

RESEARCH METHODOLOGY

Under the research methodology the researcher has used primary and secondary source of collection data.

Primary Data

In the study of primary source of data collection is by observation made in B/S engineering industry Ltd. Also, the researcher has collecting information through discussion with supervisor and workers [5].

Secondary Data

The data collected through secondary sources is called “secondary data.” The production process chart and diagram of plant layout of the company and the company profile, history and statistical data were collected as secondary information of the project the researcher use the following secondary sources for collecting data.

- (1) Reports, registers and invoice, etc.
- (2) Production manual.

INTRODUCTION OF COMPANY

We are pleased to present ourselves as makers Gray Cast Iron and SG Iron throwing and machined segments.

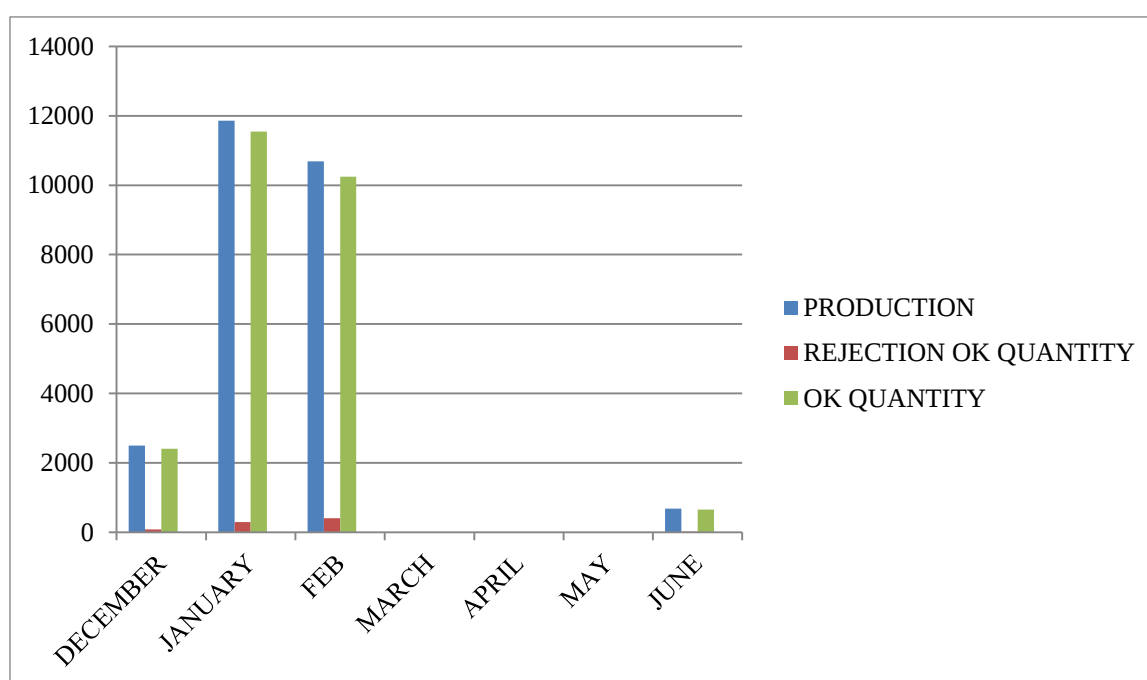
M/s Babasaheb Industries Was set up in 1981. Organization has driving Manufacturer of Gray Cast press SG Iron throwing and machine segments. Organization is having ISO 9001:2000 affirmation from TUV India. Directly organization supplies complete segments of Air molding compressor. Various draw segments to local and abroad driving pump makers of Submersible pumps, engines and hydrolic piece. Organization has full-

handled foundry and machine shop to supply completely complete segments. M/s Babasaheb Industries is situated in Karad, a quickly creating enterprises town, 165 km to Pune. M/s Babasaheb businesses gives Gray Cast Iron and S.G. Iron Casting and Machining answer for all its customer. M/s Babasaheb Industries is outfitted with important present day foundry supplies like Induction Furnace, Pneumatic molding, Spring Lifted Molding, Shot Blasting Machine, Quality Inspection Equipments, etc. And Machine shop equipped with general purpose Machine like lathes, Drilling machine, Rotary Surface Machine, Taping machine, XLO

Fine Boaring Machine, auto trop, center less Grading, Thread Rolling Machine, SPM Drilling Machines, etc. We manufacture variety of finished component ranging from 0.2 g to 40 kg for air conditioning compressors, water pumps components, machine tools components. We look forward to develop long-term business relation by supplying your requirement with assured quality and Timely deliveries at competitive rates [6].

INTERPRETATION OF DATA AND ANALYSIS

Sales of the Company: Production During Last 6 Month for Crank Case 44



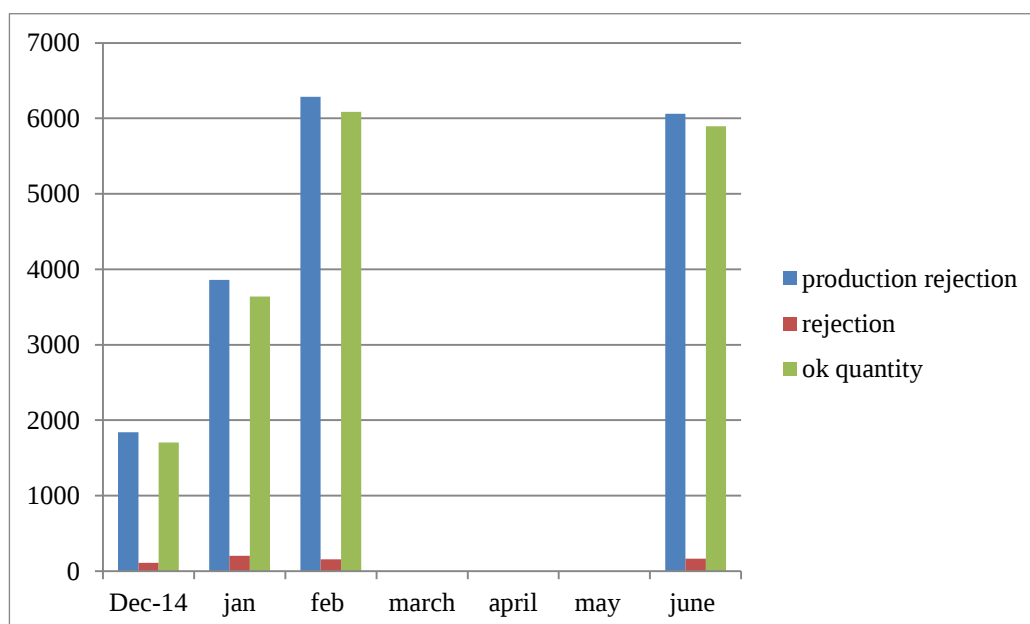
Months	Production	Rejection	Ok quantity
December 2015	2500	87	2408
January	11857	294	11545
February	10690	412	10245
March	—	—	—
April	—	—	—
May	—	—	—
June 2016	684	25	657

Interpretation

The chart shows that high production in the month of January [11857] and Feb [10690], it is declining from December [2500] and June [684]. In the months of March, April and May no production.

6 Month for crank case [KCN]

Months	Production	Rejection	Ok quantity
December 2015	1842	111	1705
January	3858	207	3639
February	6288	155	6087
March	–	–	–
April	–	–	–
May	–	–	–
June	6060	164	5897

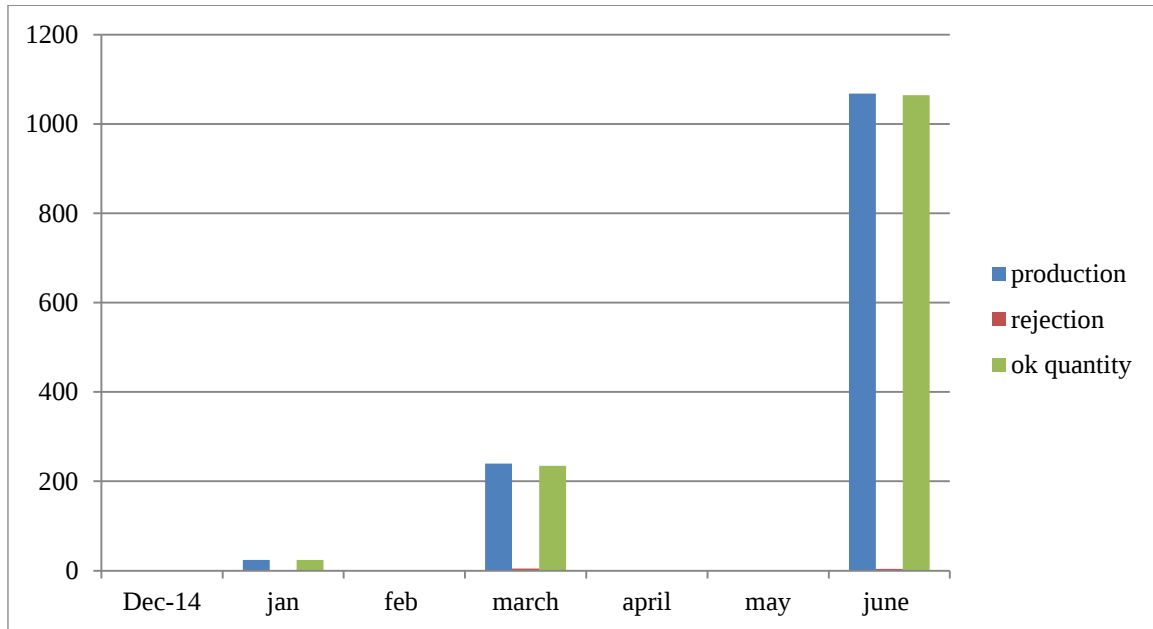


Interpretation

The chart shows that high production in the month of Feb [6288] and June [6060]. It is declining in the months of January [3858] and December [1842] in the month of March, April and May no production [7].

Sales for crank case

Month	Production	Rejection	Ok quantity
December 15			
January	24	0	24
February			
March	240	5	235
April			
May			
June	1068	4	1064

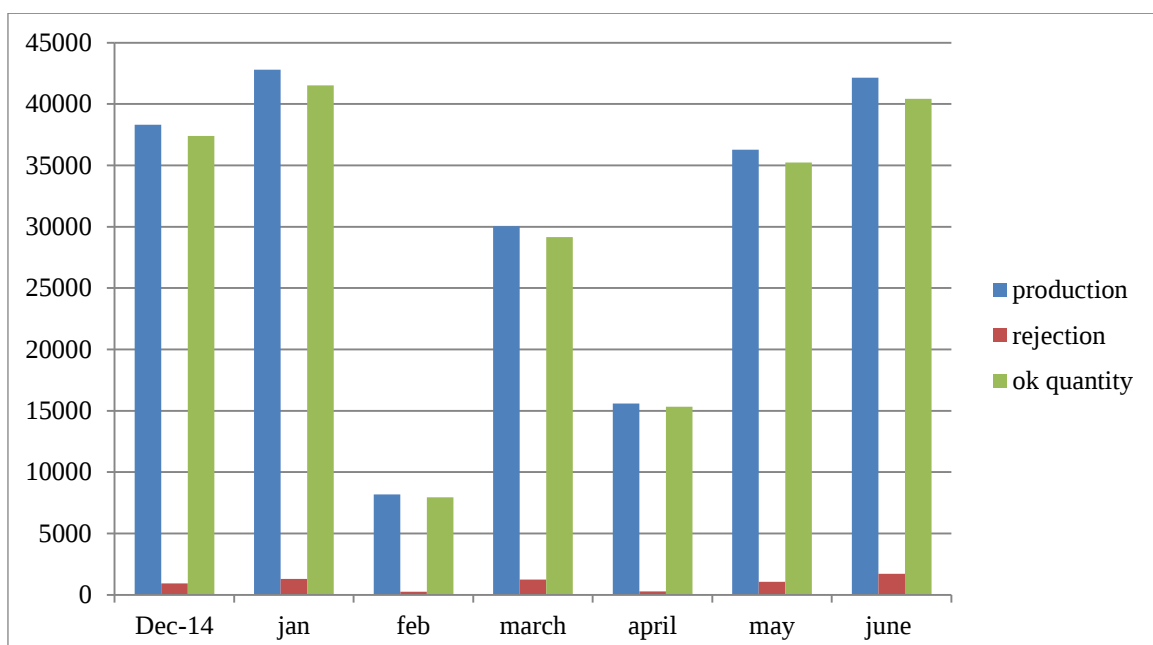


Interpretation

The chart shows that high production in the month of June [1064] it declined in the months of March [240] and January [24]. In the months of December, February and April no production.

Sales for OBB part

Months	Production	Rejection	Ok quantity
December 15	38324	926	37398
January	42812	1290	41522
February	8184	245	7939
March	30040	1251	29149
April	15600	270	15330
May	36280	1057	35233
June	42138	1717	40421



Interpretation

The chart shows that high production in the months of Jan [42812], June [42138] and Dec [38324], May [36280], it starts declined in the months of March [30040], April [15600], and February [8184].

Findings

- (1) It is observed that the main products by the firm are air conditioning parts, water pump part, etc.
- (2) It is observed that this engineering firm has used raw material like Si and Ci, etc.
- (3) It is observed that the main machines and equipments are used for the production are.

Machineries

- (1) KWM – Key Milling Machine
- (2) LM – Lathe Machine
- (3) DM – Drill Machine
- (4) CNC – Computerized Numeric Control

Equipment

- (1) Surface Plate (600mm × 600mm)
- (2) Digital Vernier Caliper (6")
- (3) Height Vernier (up to 24")
- (4) Micrometer Set (up to 50mm)
- (5) 'V' block

It is observed that the firm has mainly focus on production of qualitative products because the firm has purchase only qualitative and pure raw material.

It is observed that this engineering firm has used Job Shop Manufacturing System means the whole production process is changed according to the nature of the Job Order. The firm has used a common set up for different products [8].

It is observed that the monthly production is fluctuating in nature because the monthly production is depending upon customer demand.

In the production layout, if there is a problem with the machine in between the sequence, stoppage occurs in production.

There are very few documents are used in the firm during the day to day production activities.

Suggestions

- (1) As per the production plant layout, it is observed that this engineering firm has the limited plant area that is 8700 sq. it creates some restrictions for the production activity. So, it suggested that the management should have a plan for extension of plant area.
- (2) It is observed that the monthly production of firm is very fluctuating in nature because the monthly production is depended upon the customer demand, it means the firm has not able to use their 100% production capacity, so it is suggested that the firm should try to maintain maximum production level in future period.
- (3) It is observed that most of the production activity are carried out by workers on manual bases, so this system is affects the efficiency of the worker, it is suggested that the firm has plan for automation of production activities in the future.
- (4) It is observed that there is lack of some safety instruments for the workers during the production process such as shoes, goggles, hand gloze and proper ventilation system etc. it is suggested that the firm should try to make arrangements of such safety instrument in the future.
- (5) Training should be given to the unskilled labors to avoid accidents.
- (6) As there is common entry for raw material and employees. It should be avoided and try to make available separate way for each.

CONCLUSION

As per the research study the researcher has been able to understand production process and plant layout in small scale engineering firm.

During the research study well aware about different products such as air conditioning parts, water pump parts, etc. with their specifications also he has well aware about raw material used for the production activity, he has also understood the production process in details with different machine and equipments used for the production process. He has also aware about the plant layout of the firm. The researcher has able to analyze last six months sales of the firm.

Finally, due to research study the researcher has able to understand the concept of production process and layout of the plant.

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