Chapter- III
Profile of the Foundary Units

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PROFILE OF THE FOUNDARY UNITS

3.1 INTRODUCTION

Now the Indian economy is back on the track and economic growth may cross 8.5%. Automobile and Tractor industry is growing faster than the Gross Domestic Product growth and expected to do better. First foundry an establishing two independent small machine shops in seventies. Then the operations were limited to machining of Cast Iron Components procured from outsides and supplying to OE manufacturers as finished components. By the year 1995 need was felt to establish own foundry unit to produce casting as back ward integration.

Kolhapur is the one of the oldest cities in the nation. It derives its important from its past political association and its position as a great commercial, religious and educational center. Kolhapur is known as Kashi of the south from the imposing ancient temple of Mahalaxmi it is said to be build around 550 AD to 660 AD. Kolhapur has a great historical background many battles been fought by King Shivaji at Vishalgad and Panhala. Chhatrapati Shahu Maharaj is an architect and founder of modern Kolhapur. Chhatrapati Shahu Maharaj ascended the throne of Kolhapur in 1894, bringing an end to the 50 year old regency administration. His reign of 28 years from 1894 to 1922 ushered a new era of social, cultural and economic reforms for which he is remembered as one of the greatest rulers in Maharashtra. Chhatrapati Shahu Maharaj of Kolhapur was the most popular Maratha King with a revolutionary vision. He was a social reformer to work for rural and low-caste indigent by providing them free education along with hostel facility in Kolhapur state. In 1782 the seat of Government was moved from Panhala to Kolhapur. The growth of district in modern times is fascinating.

Yash Metallic's was started a foundry unit as a Background integration of the machining set ups, in the year 1995. Yash Metallics Pvt. Ltd came into existence with its first foundry at Plot No G-40, MIDC Shiroli Kolhapur. As the volumes grew IInd foundry unit at Plot No.35, MIDC Shiroli Kolhapur was established in the year 2000 and adjacent Plot No. 36 was acquired in the year

2004 to expand the capacities of II nd unit. All along since establishment of machine shops and graduating into manufacture of castings one shop. Manufacturing set up for cast Iron machined components. Foundry is associated with OE manufacturers such as Mahindra and Mahindra, Volvo Eicher, Join Deer, Carraro.

Foundry purchases casting for machining set-ups, from outside foundry sources. Procurement of casting started becoming difficult result in stagnation of growth. The foundry operation, orders started pouring in and growth started galloping till date. Automobile and Tractor components is the foundries main product. Foundry Industry is on upswing, especially for manufacture of Auto Components for OE manufacturers. Catering to the needs of Automotive Sector is foundries Core Competence built over number of years. (Foundry's Annual Reports)

3.2 GEOGRAPHICAL AREA

Kolhapur is one the important stations situated in southwest Maharashtra. It is bounded on the north by the Satara on the west by the Sindhudurga and Ratnagiri, on the east by the district Satara and on the south by the Belgaum of Karnataka state. The district has an area of 7685.00 sq. km. which are about 2,50 percent of the total area of the state and a population of 2,989,507 as per the census of 1991.

MIDC-Shiroli - Maharashtra Industrial Development Corporation opened up the Industrial zones of shiroli 12 kms away from Kolhapur city on National Highway No. 04 in 1967. Maharashtra Industrial Development Act, 1961 then the corporation designed the map proposed plan to government. The important functions of MIDC include providing infrastructure facilities and get available land to needed entrepreneurs. At MIDC Shiroli, 269.00 sq. Hectors land was in possession has got 488 industrial plots contributed to 166.93 sq. Hectors and rest of land was utilized for infrastructure, amenities and open space. But these efforts did not cal enough ice on the magnitude of rapid industrialization. In 1983 MIDC opened up one more avenue. (Barcelona, 2010)

3.3 FOUNDRY OBJECTIVE

1) To set a goal of producing defect free product by improvement in manufacturing set-ups and techniques upgrading human resources by extensive training at all levels.

2) On time supplies to meet customers quality requirements.

3) Reduction in manufacturing cost through continual improvement product adoption of affordable technologies and cost effective manufacturing processes.

3.4 OPERATIONS OF FOUNDRY UNIT

Different stages in manufacturing of a casting include the following:

3.4.1 Preparation of moulds and charge material

This involves preparation of (*i*) moulding sand, (*ii*) casting moulds, and (*iii*) charge (metals and alloys). Fresh sand is mixed with bentonite and other additives and processed to prepare green sand, which is the most commonly used moulding sand in Kolhapur, typical batch size varies between 200–500 kg. The green sand is then used to prepare moulds for the castings. Simultaneously, metal scrap, pig iron, and other alloys are loaded in the furnace for melting. The ratio between raw materials depends on final casting properties. A typical cast iron casting has raw material in following percentage: metal scrap (25%), boring (60%), pig iron (10%), and others (5%).

3.4.2 Melting stage

The metal is then melted in either a cupola furnace conventional or divided blast or induction furnace. The typical temperature requirement for CI casting is around 1500°C, steel casting is around 1650°C, and for aluminium casting 750°C. Once the melting is completed, the molten metal is poured into the sand moulds using a ladle operated either manually, automatically, or semi-automatically, that were prepared in the first stage and allowed to cool down and harden.

3.4.3 Finishing stage

Once the metal has taken shape of the mould, it is removed, shot blasted, and cleaned. It also goes through some machining, if required. The final product is tested using spectrometer and packed for dispatch. Meanwhile, the sand from the moulds is either disposed or treated in a sand reclamation plant for reuse.

Units using sand reclamation in Kolhapur are generally able to reuse about 80% of the sand. A more technical illustration of the manufacturing process of a typical foundry unit in the Kolhapur cluster is presented following chart. (TERI, 2012).

Figure 3.1

Manufacturing Process

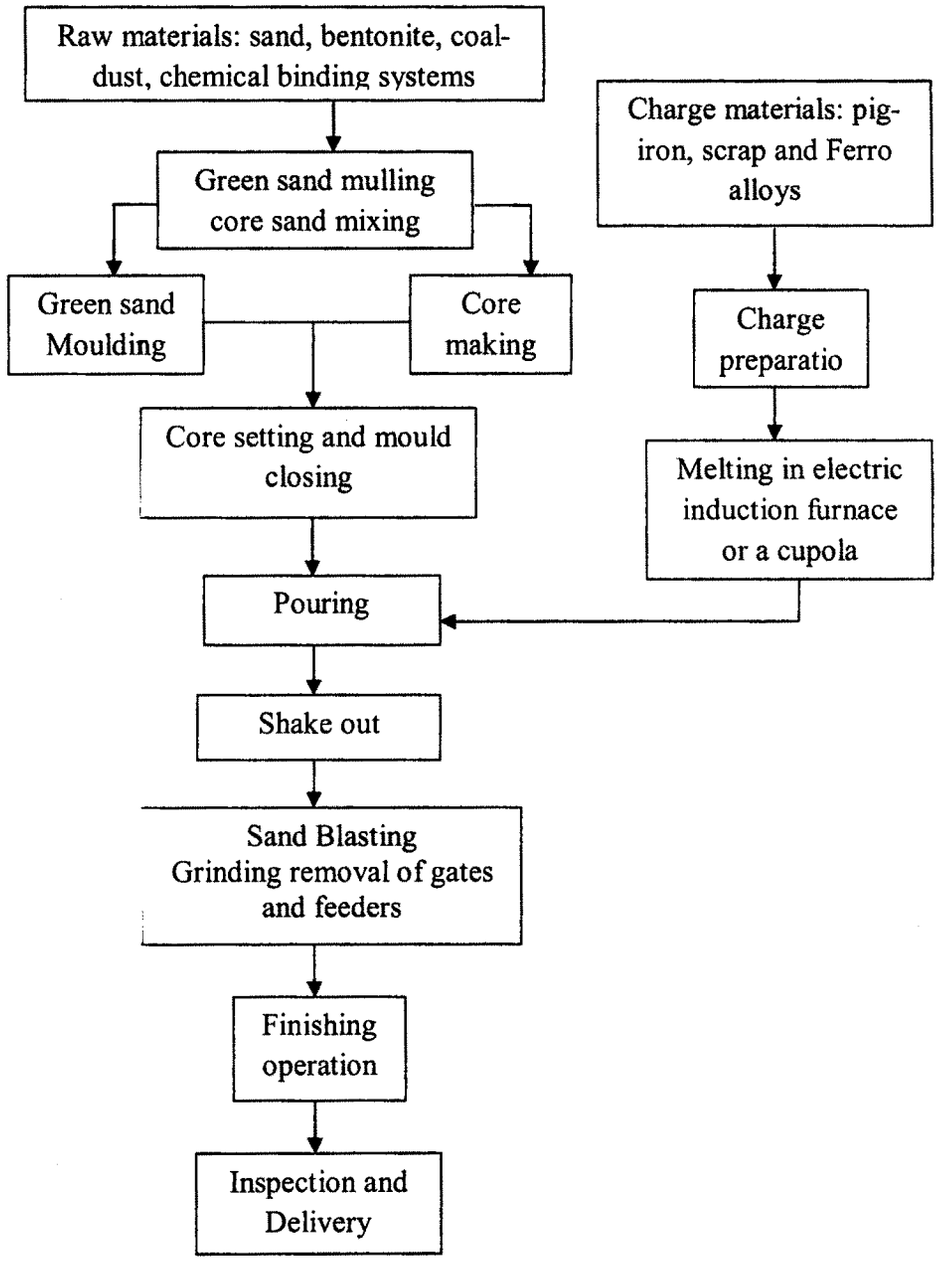
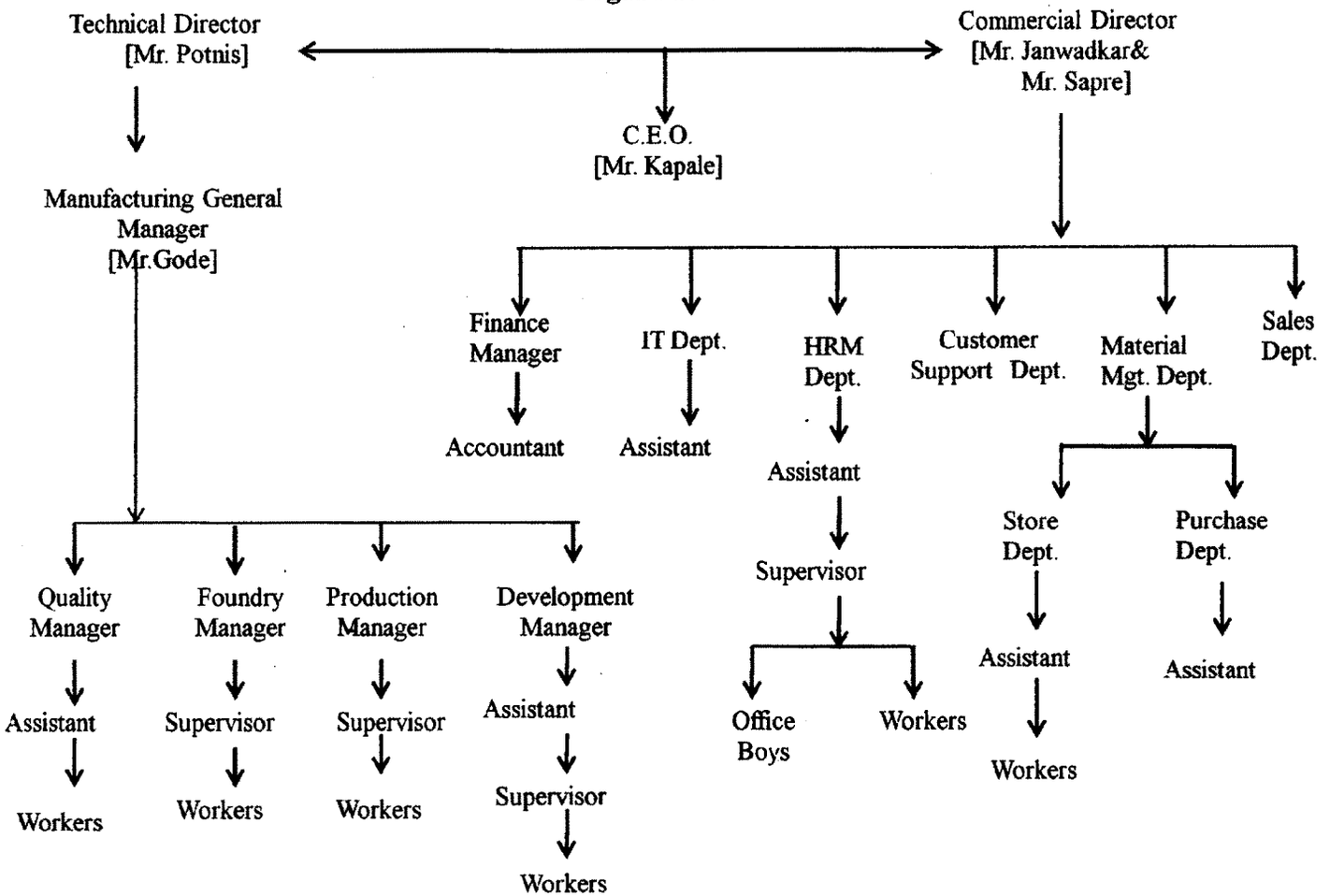


Figure 3.2
Organization Chart



3.5 ORGANIZATION STRUCTURE OF THE FOUNDRY UNITS

Every business needs to be organized in proper way for better performance and it requires there essential factors such as man, material and machinery. For better performance almost all small scale industries in general and foundry industries in particular a tried to bring down cost at minimum level on the one hand and to produce cheapest product of a better quality, on the other hand foundry industries also identified as form of organization or a group to person. These persons have different position on the organization in the structure of the network relationship between the various positions of the persons in an organization.

Private companies are those which are established by more than two persons and not exceed fifty persons, who contributed their own capital in the foundry. The members of these foundry units are the Board of Directors, Mr. P. V. Janwadkar and Mr. P. V. Sapre are Commercial directors and Mr. Potnis is Technical director, who is B. Tech (Metallurgy) from Indian Institute of Science Bangalore with 40 years of foundry manufacturing experience. Mr. Sudhir Kapale is Chief Executive officer with 46 years of experience in finance and administration. Mr. Gode is Manufacturing and general manager of foundry and he manages various sub managers like Quality manager, Foundry manager, Production manager and Development manager. Under the commercial directors various sub departments worked out that is IT dept., HRM dept., Customer support dept., Material management dept. and Sales dept. All of this departments and managers manage the operations with the help of supervisor, assistant and workers. Finance manager control and manage the all financial problems with the help of accountant. Organization of foundry industry structure is presented as below.

3.6 FINANCIAL PERFORMANCE OF THE FOUNDRY

Global recession in Oct.2008 affected the engineering industry adversely resulting in decline in sales overall industry. Even in the economic downturn, foundry sales remained stable and showed rising trend. Now Automobile and Eng. industry has come out of recession and Indian economy is back on the track. The economic growth may cross 8.5%; automobile and tractor industry

is growing faster than the GDP growth and expected to do better in years to come.

3.7 PRODUCTS OF THE FOUNDRY

Automobile and tractor components,

NGT Rear Housing,

NGT Front Housing,

Eicher Clutch Housing,

Oil Pan ,

H.C.V. Cover,

310 DIA (Flywheel),

352 DIA (Flywheel),

4 Cly Oil Pan

601277 Eicher Clutch HSG

Table 3.1

Manpower of the Foundry

Division	Total	Unit-1	Unit-2
Directors	02	-	02
Technical Staff	06	06	-
Office Staff	69	03	66
Workers	145	64	81
Contract Base Workers	100	-	-
Watchmen's	12	-	-
TOTAL	**334**		

Source: Annual reports of the Yash Metallic's Pvt. Ltd.

3.8 CONCLUSION

Yash Metallic's is foundry unit concern operation in manufacturing Cast iron machined components for automotive and tractor manufacture. When it started off there were very new foundry industry in this sector in whole India and creating a cruel competition for the foundry. Also the price for material required for the product increased. All these things did create problems for foundry. But now foundry has sufficient orders on hand, and in view of extensive demand for its products, foundry has decided to go intended for

expansion and technical up graduation. Taking into consideration foundry performance during last pair of years, foundry is self-assured to achieve the targeted sales after expansion. Though it undertakes various measures as per the need of time to conflict its problems and has survived

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