

## CHAPTER - II

### THEORETICAL BACKGROUND OF MASCHINENFABRIK POLYGRAPH (INDIA) LIMITED, KOLHAPUR

- 2:1 History and Development in Engineering Industry  
in India.
- 2:2 History of Maschinenfabrik Polygraph (India)  
Limited, Kolhapur.
- 2:3 Future Plan of Organisation.

CHAPTER - IIINTRODUCTION :

The Machinenfabrik Polygraph (India) Limited is an organisation where the researcher collected the data for his research Project in "A Study of Motivation Technique Applied". It is an engineering concern which is situated at M.I.D.C., area outside the city limit of Kolhapur. It is growing complex of engineering activities.

2.1 HISTORY AND DEVELOPMENT OF ENGINEERING INDUSTRY IN INDIA :

It was upto first world war, there were few private concerns in engineering industry, which produced bridges and under took fabrication of general steel structure, wagon building and repairs and placement of parts. Railway workshop also did produce some engineering goods and even their raw materials, had to be imported from other countries. In 1924 and 1934, when general depression set in the industry suffered a set back due to fall in demand by the Government and Railway. However after 1939, with the outbreak of second world war, the industry got a fillip the number of units increased to "58" and that of workers to 84000. In 1943, this number was "87"

and 1,50,000 respectively. There were concentrated in and around Calcutta, Madras, Bombay.

Since independence, there has been a fundamental progress in the engineering industry. India has made great forward leap in the manufacture of a variety of machinery and equipments, ranging from pin to aircraft. In 1950-51, the production of machinery was of the value of Rs. 4 crores. Production by 1965-66 the development has been not only to the industrial policy of the Government but also due to the enthusiasm of entrepreneur in private sector.

DEVELOPMENT DURING PLAN PERIOD :

In the first five year plan engineering industries did not receive much attention. There was an emphasis on the development of agriculture. However, some progress was registered in the production of cotton textile machinery. Manufacture of cement, jute, and sugar machinery was also started on a modest scale.

In the second five year plan greater emphasis was given on the development of the heavy and basic industries and so engineering industry also got priority. Workshops, heavy foundries, forges and structure shops were established and

substantial progress was achieved in mechanical and electrical engineering industries. However, the production of industrial machinery did increase but it was not as per expectations. It was during the third plan period, greater emphasis was given to the development of structural engineering industry. Encouragement was given to the private investors in the public sector and number of projects were launched, such as the Hindustan Cables Ltd; Heavy Pressures and Pumps. Ball and Rollers Bearings, Precision Instruments, Factory in Surgical Instruments etc. It was during the planning period, substantial increase took place both in production of mechanical engineering and electrical engineering industries compared to 1960-61, the production of machine tools increased by more than two times, that of sugar machinery about "8" times, Railway Wagons 3 times, Sewing machines by 2 1/2 times and Radio receivers by 3 1/2 times.

It was during the fourth plan efforts were made to increase the fuller utilization the installed capacity investment would be made primary for completion of the progress and also for the diversification in some of the existing units, like HMT Mining and Allied Machinery Corporation, Bharat Heavy Electricals. For filling in certain gaps. Besides these expansion in machine tool production, transport and communication equipments and agricultural machinery is envisaged.

2:2 HISTORY OF MASCHINENFABRIK POLYGRAPH (INDIA) LIMITED,  
KOLHAPUR :

"M/s. Maschinenfabrik Polygraph (India) Limited" a Public limited concern is registered in 1971 with the main objective of manufacture of printing and allied machinery as stipulated in company's memorandum.

A) FACTORY LOCATION AND LAYOUT :

Location of factory is well designed and furnished in the M.I.D.C. industrial area, Kolhapur. There is regular transportation i.e. municipal and state transport corporation. Majority of the employees commute everyday from the nearby villages and Kolhapur City. There is no living accommodation available at the factory premises.

The factory get another special advantage to the particular project about availability of skilled and semi-SKILLED workers. The Industrial training Institute located at Kolhapur, a Government Polytechnic and an Engineering Colleges, Management Institutions provide the necessary engineers, skilled and semi-skilled workers. The company has their head office at Bombay.

The layout of factory is somewhat similar to their collaborator's " M/S. VEB POLYGRAPH G.D.R." A big assembly



shop compared to all other production and service department, use of scientific approach and techniques in all activities, awareness of quality and economy at all levels distinguishes 'M/S. MASCHINEN FABRIK POLYGRAPH (INDIA) LIMITED' is bigger unit than many other units around the Kolhapur.

B) PRODUCTS OF COMPANY :

"Automatic Cylinder Printing Machine 'OM II' which rolled out in 1975 is a widely sought after printing machine, printing rate around 3600 S.P.H. A machine costing around Rs. 2 Lakhs has captured a major Indian market about 350 machines were sold out of that 60 machines exported to developed countries like U.S.S.R. and Germany.

In 1976 second Model "WEB-FED OFFSET PRINTING MACHINE RO 62" rolled out. It is first in India in its kind RO 62 Web-Fed offset machine is manufactured in collaboration with M/s. VEB POLYGRAPH, G.D.R., a renowned name in the printing world. More than 1400 indigeneous units are earning the approval of discerning printers in India, U.S.S.R., West Germany, Holland and African countries. It is helpful and ideal machine for offset and printing. Machine is useful in printing of magazine calenders and text book with speed of 15000 s.p.h.

The Third Model "GRAPHAT AUTOMATIC PLATEN PRESS" is in initiation of famous Caach Machine "GRA PO" M/s. Maschinen Fabrik Polygraph (I) Ltd., have marched a step ahead in their expertise by developing this machine without any assistance from outsider. A Pilot Batch of 5 (Five) Nos. was successfully developed and the product is accepted all over to be of 4500 to 5000 I.P.H. It have heavy demand in India and outside India due to small size, high speed and less cost.

The Fourth Model "A NEW GENERATION PRESS" "PO 36". It is useful for single colour sheetfed offset. It is modern design and highest print quality at 10,000 I.P.H. The company have produced also fifth model "PO 25" Super", it is also useful in single colour sheetfed offset. It is popular due to high capacity heavy duty inker, single level control and it saves maintenance cost. Its maximum speed is 10,000 I.P.H. Recent Model "ZIRKON 66 III" This model is rolled out in 1986. It has manufactured first time in India with the technical collaboration of M/S. VEB POLYGRAPH G.D.R., It is highly automated, high speed commercial web with a proven track record in the world.

"Zircon 66 III" is equipped with :

- |                         |                                       |
|-------------------------|---------------------------------------|
| 1. Unwind unit          | 2. Web Tension unit                   |
| 3. Print unit           | 4. Folder with III <sup>rd</sup> fold |
| 5. Open sheet Delivery. |                                       |

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To enhance productivity and printing quality the machine can be equipped with optional units :

1. Autopaster
2. Electric Dryer with chill Rolls
3. Web Aligner
4. Silicon Applicator.

C) COLLABORATORS OF COMPANY :

A Czech Firm M/S. KOVO are their collaborators for model 'GRAPHART' and M/S. VEB POLYGRAPH, G.D.R, a world-known firm in printing machines, are their collaborators for three models OM II, RO 62 and ZIRCON 66 III, Besides offering the process technology, M/S. VEB POLYGRAPH, G.D.R. have contributed in setting up a model factory by offering their best experts for guidance and training the M.P.L. personnel in G.D.R. and offering 25% of parts in the initial stage of production and M/S. KOVO CZECH for GRAPHART.

D) RESEARCH AND DEVELOPMENT ACTIVITIES :

The company is having a full fledged Research and Development Department named by competent engineers and draughtsmen. The nature and scope of Research and Development activities include :

1. Development of new product with foreign collaboration.



2. Import substitution of critical items in phased manner.
3. Design improvement and additions in original designs.
4. Full indigeneous design and development of new products.
5. Value analysis and cost reduction.

TABLE NO. : 2.1

Table showing Department-wise Distribution of Employees  
As on 31<sup>st</sup> March, 1990.

Name of the Department	Nos. of Employees	Total
<u>ADMINISTRATION :</u>		
Managerial	2	
Supervisory	-	39
Clerical	12	
Workers	25	
<u>ACCOUNTS :</u>		
Managerial	2	
Supervisory	1	26
Clerical	23	
<u>PURCHASE :</u>		
Managerial	1	
Supervisory	4	17
Clerical	12	
<u>SUB-CONTRACT :</u>		
Managerial	1	

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 Name of the Department                      Nos. of Employees                      Total  
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SUB-CONTRACT :

Supervisory	4	
Clerical	16	24
Workers	3	

DEPARTMENT OF STORES :

Managerial	1	
Supervisory	2	
Clerical	29	59
Workers	27	

TECHNOLOGY :

Managerial	2	
Supervisory	12	
Clerical	4	50
Workers	32	

INDUSTRIAL ENGINEERING :

Managerial	1	
Supervisory	6	9
Clerical	2	

Name of the Department	Nos. of <del>Employses</del> Employees	Total
<u>INSPECTION ( QUALITY CONTROL)</u>		
Managerial	1	
Supervisory	5	
Clerical	2	59
Workers	51	
<u>TOOL ROOM :</u>		
Supervisory	3	
Clerical	3	60
Workers	54	
<u>PATTERN SHOPP :</u>		
Supervisory	2	
Workers	7	9
<u>PAINTING :</u>		
Supervisory	1	
Painters	23	24
<u>BLACKING FABRIK :</u>		
Workers	12	12

Name of the Department	Nos. of Employees	Total
<u>MAINTENANCE :</u>		
Managerial	1	
Supervisory	16	72
Workers	55	
<u>ASSEMBLY :</u>		
Managerial	2	
Supervisory	24	
Clerical	5	206
Workers	175	
<u>PRODUCTION :</u>		
Managerial	1	
Supervisory	25	
Clerical	9	416
Workers	371	

This table shows the Department-wise Distribution of Employees as on 31<sup>st</sup> March, 1990.

E) ALLOWANCES AND FACILITIES :

1. OVERTIME :

The workers are entitled to secure the payment for over-time 'Double rate wages' on hourly basis.

2. INCENTIVE :

To increase the production, incentive is paid to the workers. First a standard in terms of number of units to be produced in each week is fixed for each for each department. Incentive is paid on the basis of total performance in terms of total production in Rupees. Before payment of incentive quality of product must checked by inspection department.

3. ANNUAL BONUS :

20% to 25% of basic pay and Dearness allowance, annual bonus is paid workers including exgratia.

4. REWARD :

Organisation have scheme of reward for better work. Those employee shows better work performance or any other special better work.

5. GRADUITY :

Company has introduced "Group Graduity Scheme" under Life Insurance Corporation.

6. STAFF BONUS :

It is a loan sanctioned to an employee for meeting medical expenses, marriage expenses and expenses of children's education. No interest should be charged on this loan and amount of loan is recovered through the monthly salary.

7. EXTRA ALLOWANCE & REWARD FOR EMPLOYEES CHILD :

Company introduced scheme of extra allowance and reward to the employee's child those child get rank or good marks in school and college examination. Rate of reward is different to schools and colleges.

8. CANTEEN :

Tea, cold drinks and meal are made available to the employees in cheap rate. It is run under club system and no profit no loss basis. Every employee get tea on their job at determined tea time.

9. SAFETY AND SECURITY :

Organisation have much more attention on safety. Company provided essential uniform shoes and other equipments. It advised to employee's as "stop accident before they stop you". Theoretical & practical attention has given on safety by the company.

Also on security company have more attention after period of trainee every one get permanent job. Therefore, every workers get security with in year compair to other private organisation. This company have given more weight to safety and security.

10. OTHER WELFARE FACILITIES :

Company have place for rest, big dining hall, cold and clean drinking water, entertainment facility at the place of rest, company have reading library. Every employee get general books, daily newspapers, and also technical workers get their technological book for improving their knowledge and solving the theoretical difficulties relating to job.

For motivating the employees thought company has arrange debating competition & rewarded successful speakers. Company also give necessary material for playing cricket, foot-ball, volley-ball.



In short company have attention on physical, intellectual and spiritual improvement of workers.

2:3 FUTURE PLAN OF ORGANISATION :

Recently company has entered into collaboration agreement with "SOLNA A.B. SEWEDAN" to manufacture a highly sophisticated offset printing machine with world class technology. These machines are computerised control and have demand from the world over market.

It is, in order to produce these machines the company is undertaking expansion programme which is of Rs. 25 crores Plant. The expanded plant will give the company a turnover of Rs. 100 crores every year within coming 2 or 3 years.

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