

# Embracing Manpower for Productivity in Apparel Industry

S. Shanmugasundaram and N. Panchanatham

**Abstract**—The Present paper discusses the Embracing Manpower for productivity in Apparel Industry. Today, India's Apparel export is the single largest foreign exchange earner for the country. It contributes towards 6 per cent of the Gross Domestic Product (GDP) of the country and earns 18 per cent of the foreign exchange, through the export of all commodities. Approximately, 21 per cent is through India's exports of Apparel stem from Tamil Nadu. The Paper analyses what are the Manpower related export problems disturbing the export performance in Madras Export processing Zone, Special Economic Zone and Export oriented units with the help of administering Questioner. The study is diagnosing factors of labour productivity in the Apparel Manufacturing Export Units. The paper Suggest, Labour productivity can be improved by imparting knowledge and skills to the workforce by arranging training programmes with experts both from India and abroad.

**Index Terms**—Apparels industry in tamil nadu, labour productivity, factors affecting labour, productivity, suggestion and recozendation for increasing labour productivity.

## I. INTRODUCTION

The textile and apparel industry is one of the leading segments of the Indian economy and the largest source of foreign exchange earnings for India. This industry accounts for 4 percent of the gross domestic product (GDP), 20 percent of industrial output, and slightly more than 30 percent of export earnings. The textile and apparel industry employs about 38 million people, making it the largest source of industrial employment in India.

In the 1800's the Textile Industry in England flourished and the country became a major industrial and economic power worldwide. Likewise, in the last 1800's and early 1900's, the textile and apparel industry fueled by the industrial revolution, put the United States in an unprecedented place in the developed world. After the World War II, Japan used its textile and apparel industry to rebuild its economy and became one of the largest exporters of textile products in the world. Hong Kong and Taiwan followed suit and used low cost labour to their advantage as they began to dominate into the western hemisphere.

It is well documented fact that the textile and apparel industries have been the driving force for all developed countries. Today, such countries as China, Korea, Vietnam, India, Pakistan, Bangladesh, Sri Lanka, Poland, Turkey, Mexico, Guatemala, Honduras, Costa Rica, Brazil, the Dominican Republic, Haiti and Africa have targeted the

apparel industry as a means to provide jobs, raise their standard of living and create economic wealth. Each is at a different stage of development but all view the industry as a critical part of their social and economic health.

There are two primary reasons that the apparel industry continues to be the industry that is used to lead developing countries to the promise of a better tomorrow. Apparel manufacturing continues to be extremely labour intensive and the barriers to entry are relatively low. It is amazing how majority of the apparel factories still really on one primary ingredient for success. That ingredient is people. Because of the complexity and diversity of sewn products and the variation in hand of the raw materials, no one has yet been able to replace the dexterity required by human hands to assemble woven products.

India's share in the global trade is only 2.5 percent, whereas its main competitors Hong Kong, South Korea, Taiwan and China are amongst the top seven world leaders, together covering nearly 32 percent of the world trade in garments. The major importers from India are the U.S.A., Germany, United Kingdom and other European countries and leading non-quota countries like Japan, Australia, Sweden and Switzerland.

## II. TEXTILE AND APPARELS IN TAMIL NADU

Tamil Nadu has etched a name for itself in the manufacture of cotton textiles and its leading position in this area is well known not only in India but world over. The state contributes to more than 25 per cent of the country's exports of cotton yarn and fabrics. The exports of cotton textiles in 1993 was RS 3,000 crores and it is estimated that it will reach RS 4,000 crores by the end of 1995. USA, UK, France and Germany are among the principal buyers of cotton textiles from Tamil Nadu. Approximately, 21 per cent of India's exports of ready-made garments stem from Tamil Nadu. In actual terms, it translates to around RS 2,000 crores of garments being exported from the state, the two main centers being Madras and Tirupur. In fact, Tirupur has emerged strongly as a major industrial township. As a consequence, several important 'spin-off' industries have emerged in neighboring regions-the textile machinery industry is one such offshoot.

## III. RELEVANT REVIEWS

**A World Bank Study (2003)**, says that Indian labour costs are amongst the lowest in the world. India has ready and cheaper access to basic raw material. The technological standard in the Indian spinning industry are fairly modern, almost comparable to China. Bangladesh and Sri Lanka do not have either spinning or weaving industries and hence have to import the fabric.

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**Sudhir Dhingra (2003)**, President of Orient craft, Noida, garment manufacturing in India is fraught with labour trouble. Labour strikes work at the slightest provocation. He also points out there is a lack of trained manpower in India.

**Atul Chaturvedi (2003)**, Joint Secretary, Ministry of Textiles, Government of India identifies key reasons leading to fall in productivity level are India's eroding cost competitiveness across products, extremely fragmented nature of the industry, technological obsolescence. He also asserts that since textiles, especially garments is a labour intensive activity there is a crying need to reform labour laws for achieving high productivity and to improve tight delivery schedules.

**Jchanna M.Lessiager (2002)**, Department of Anthropology, Barnard College, Columbia University, NY, USA in her study conducted among garment industry in Chennai says that low wages, long working hours, oppressive facts, socio-economic conditions are primarily the reason for low labour productivity level for the industry.

**Ravee Raman Malhotra (1999)**, CMD of Isex Fashions Ltd., Chennai reports that automation and manufacturing efficiency was the key to success in the western countries when the labour content in the garment industry became very high and changed from per piece basis to an hourly basis. The garment industry still continues to be a labour intensive skilled industry throughout the world. Hence shifting of production and manufacturing centre every three to five years to places where labour cost is lower is observed. Higher productivity, high throughput and lower costs are based on efficient control and time saving methods (75 percent of the time in the manufacturing process is taken away in the handling). For achieving productivity, the manufacturing culture has to change from one based on aphorism to analyse the preparation and proper technical input. We need to identify the weakest links and bottlenecks in the production, which usually are not machine based or technically based, but are policy and culture based.

#### IV. OBJECTIVES OF THE STUDY

The current study had been undertaken with the following specific objectives.

- 1) To identify the problems faced by the MEPZ, SEZ and EOU apparels manufacturers in the changed global business scenario and their probable reasons and impacts on future growth.
- 2) To aim at diagnosing factors that contributes and hinders the labour productivity level of apparel industry.
- 3) To generate suggestions and needs that are required for the progress of the industry to cope with the growing demands.

#### V. METHODOLOGY

The study had made use of both primary and secondary data to address the issues taken up for research. Journals, reports, books, trade publications, articles, research papers and the records of export promotion organizations like Apparel Export promotion council, Apparel and Handloom Exports Association, Handicrafts and Handloom Export Corporation and so on were referred to for collecting

secondary data for the study. The primary data would be obtained from sampled apparels units in EPZ, EOU and SEZ by administered questionnaire. There are 144 EPZ, EOU and SEZ in Tamil Nadu as per the Directory of MEPZ SEZ / EOUs as its member out of which 25 per cent of sample (one fourth) selected for this study. So the Researcher selected 36 units by using simple random method.

#### VI. HYPOTHESES TESTED

The following hypotheses were formulated and tested in the study.

- 1) There is a significant relationship in the labour productivity level of Apparel manufacturers and their nature of operations.
- 2) There is a relationship between the size of the units and the mean level of labour productivity in the Apparel units.

#### VII. LABOUR PRODUCTIVITY

The factors affecting the labour productivity of the Apparel industry were studied. The ranking study of the various factors was done by the weighted method, where weight age was given to each factor according to its importance as perceived by the respondents and then assigned as point. Total points for each factor were added to decide the ranking position of all factors. This was done separately for Manufacturing Export Units and the analysis are discussed in the following sections.

##### A. Ranking of factors influencing Labour Productivity in the Manufacturing Export Units.

TABLE 1.1 RANKING OF FACTORS INFLUENCING LABOUR PRODUCTIVITY IN THE MANUFACTURING EXPORT UNITS.

Factors	Weighted Mean	Rank
Absenteeism of the employees	3.67	1
Working conditions of the units	3.39	2
Training facilities for the employees	2.86	8
Operator to Helper ratio in the shop floor	2.94	7
Poor quality of raw materials and accessories	3.25	4
Frequent changes of styles	3.17	5
Technological changes in the field	2.58	10
Change from high volume to low volume orders	3.33	3
Usage of modern machines	2.81	9
Deviation from standard time in manufacturing	3.11	6

Absenteeism was the main chronic problem that affected productivity in majority of the units. Labour turn-over and socio-economic background of the employees also affected labour productivity. Working conditions in the units were

not upto the expectation. Shift from high volume to low volume orders also did not allow the labour productivity level to be maintained. Procurement of accessories, price fluctuation and poor quality of raw materials was a major problem for the manufacturers were not in a position to quote the correct price for their orders and also found it difficult to fulfill the commitments they had already made.

Frequent changes of styles, deviation from the standard time, operator to helper ratio also affected labour productivity in the units. Most of the manufacturers felt that training facilities for the employees could be arranged through leading training institutions to enhance their productivity level. Labour productivity level was also affected due to prevailing labour laws, low wages, inadequate welfare schemes. Better labour retention policies were also not available in the units. The systematic checking of the production processes was average.

From the above analysis, the following main factors affected labour productivity levels are being highlighted:

- Absenteeism of the employees
- Working conditions of the units
- Change from high volume to low volume orders.

**B. Labour Productivity in the Manufacturing Export Units Vs Mean Rank**

H<sub>0</sub>: There is no significant relationship between the Mean Rank towards the factors effecting labour productivity in the Manufacturing Export Units.

TABLE 1.2 LABOUR PRODUCTIVITY IN THE MANUFACTURING EXPORT UNITS VS MEAN RANK

Factors affecting Labour Productivity	Mean Rank	Chi-square value	P-Value
Absenteeism of the employee	7.22	34.6106	0.001*
Working conditions of the units	6.46		
Training facilities for the employees	4.76		
Operator to helper ratio in the shop floor	4.61		
Poor quality of raw materials and accessories	5.92		
Frequent changes of styles	5.76		
Technological changes in the field	3.97		
Change from high volume to low volume orders	6.15		
Usage of modern machines	4.74		
Deviation from standard time in manufacturing	5.40		

Since the p-value is less than 0.01, the null hypothesis is rejected at 1% level of significance. Hence there is significant relationship between the Mean Rank towards the factors affecting labour productivity in the Manufacturing Export Units. Absenteeism of the employees, working conditions of the units and frequent changes of styles were the major factors identified to the reasons for low level of labour productivity in the sample respondent units. Technological changes and operator to helper ratio did not

seem to affect the labour productivity to a large extent.

**C. Manpower Vs Labour Productivity of Garments**

TABLE 1.3 MANPOWER VS LABOUR PRODUCTIVITY OF GARMENTS

Manpower Details		Labour Productivity
Supervisors	Male	0.2467
	Female	0.332
Skilled operators	Male	0.228
	Female	0.239
Semi-skilled Operators	Male	0.240
	Female	0.062
Unskilled Operators	Male	0.015
	Female	0.215

Table 1.3 Labour productivity could be improved by both male and female supervisors, male and female skilled operators, male semi-skilled operators and female unskilled operators.

**D. Dimensions of Factors Affecting the Manufacturing Export Units Vs Payment System**

H<sub>0</sub>: There is no significant relationship between the Payment System available in the Manufacturing Export Units with respect to the dimensions of factors affecting the Manufacturing Export Units.

TABLE 1.4 DIMENSIONS OF FACTORS AFFECTING THE MANUFACTURING EXPORT UNITS VS PAYMENT SYSTEM

Dimensions of factors affecting the Manufacturing Export Units	Chi-square value	P-Value	Payment System		
			Consolidated	Piece Rate	Basic Salary & Incentive
					Mean Rank
Labour Productivity	0.7293	0.6922	19.62	15.13	17.59

Since p-value is more than 0.05, there is no significant between payment system with regard to labour productivity

**E. Dimensions of Factors Affecting the Manufacturing Export Units Vs Average Earning of the Operator Per month**

H<sub>0</sub>: There is no significant relationship between the

average earning of the operator per month in the Manufacturing Export Units with respect to the dimensions of factors affecting the Manufacturing Export Units.

TABLE 1.5 DIMENSIONS OF FACTORS AFFECTING THE MANUFACTURING EXPORT UNITS VS AVERAGE EARNING OF THE OPERATOR PER MONTH.

Dimensions of factors affecting the Manufacturing Export Units	Chi-square value	P-Value	Average earning of the operator		
			<=Rs.2000	Rs.2001 - Rs.3000	>Rs.3000
			Mean Rank	Mean Rank	Mean Rank
Labour Productivity	1.7665	0.4102	15.50	19.24	21.86

Since p-value is greater than 0.05, there is no significant relationship between the average earning of the operator per month with regard to labour productivity.

*F. Dimensions of factors affecting the Manufacturing Export Units Vs Operator Training*

H<sub>0</sub>: There is no significant difference between the Operator training in the Export Units with respect to the dimensions of factors affecting the Manufacturing Export Units.

TABLE 1.6 DIMENSIONS OF FACTORS AFFECTING THE MANUFACTURING EXPORT UNITS VS OPERATOR TRAINING

Dimensions of factors affecting the Manufacturing Export Units	Operator Training				T-Value	P-Value
	Yes		No			
	Mean	SD	Mean	SD		
Labour Productivity	32.273	5.202	29.286	5.717	1.62	0.115

Note : Different alphabet between groups denotes significant at 55 level.

Since the p-value is more than 0.05, there is no significant difference between operator training with regard to labour productivity.

*G. Dimensions of factors affecting Manufacturing Export Units Vs Average Monthly Labour Turnover*

H<sub>0</sub>: There is no significant difference between the average monthly labour turnover in the Manufacturing Export Units with respect to the dimensions of factors affecting the Manufacturing Export Units.

TABLE 1.7 DIMENSIONS OF FACTORS AFFECTING MANUFACTURING EXPORT UNITS VS AVERAGE MONTHLY LABOUR TURNOVER

Dimensions of factors affecting the Manufacturing Export Units	F-Value	P-Value	Average Monthly Labour Turnover		
			<=5%	6% - 20%	>20%
			Mean	Mean	Mean
Labour Productivity	1.4437	0.2506	30.857	29.933	34.143

Since the p-value is greater than 0.05, there is no significant difference between average monthly labour productivity.

*H. Dimensions of factors affecting Manufacturing Export Units Vs Average Monthly Absenteeism of Labour*

H<sub>0</sub>: There is no Significant difference between the Average monthly absenteeism of labour with respect to the dimensions Of factors affecting the Manufacturing Export Units.

TABLE 1.8 DIMENSIONS OF FACTORS AFFECTING MANUFACTURING EXPORT UNITS VS AVERAGE MONTHLY ABSENTEEISM OF LABOUR.

Dimensions of factors affecting the Manufacturing Export Units	F-Value	P-Value	Average Monthly Absenteeism		
			<=5%	6% - 10%	>10%
			Mean	Mean	Mean
Labour Productivity	0.2227	0.8015	30.500	31.077	32.111

Note : (1) \*\* denotes significance at 1% level

Since the p-value is greater than 0.05, there is no significant difference between average monthly absenteeism of labour with regard to labour productivity.

(2) \* denotes significance at 5% level

(3) Different alphabet between groups denotes significance at 5% level

*I. Dimensions of factors affecting Manufacturing Export Units Vs Quality Checker to Sewing Machine Operator Ratio*

H<sub>0</sub>: There is no significant difference between the Quality checker to Sewing Machine Operator ratio with respect to the dimensions of factors affecting Manufacturing Export Units.

TABLE 1.9 DIMENSIONS OF FACTORS AFFECTING MANUFACTURING EXPORT UNITS VS QUALITY CHECKER TO SEWING MACHINE OPERATOR RATIO.

Dimensions of factors affecting the Manufacturing Export Units	F-value	P-Value	Quality checker/Sewing machine operator ratio		
			1:5	1:10	1:>10
			Labour Productivity	0.2981	0.7442

Since the p-value is greater than 0.05, there is no significant difference between the Quality checker to Sewing machine operator ratio with regard to labour productivity of garments.

VIII. SUMMARY AND CONCLUSION

The Apparel Industry in Chennai city, Tamil Nadu had grown enormously in the past decade, catalysed mainly by export demand. The industry would not have been in a position to cater to the needs of world market, if they did not strive for excellence in all their spectrum of activities. There was a shift in management orientation towards perfection, right from managing the functioning of the Apparel industry to satisfying the foreign buyer, both in meeting the delivery date and quality requirements.

Low level of labour productivity, higher rejection rate of garments and delayed delivery of garments were common universal business problems among the Apparel industry in

all countries including India. Hence Apparel industry in Chennai city was selected as the area of study to analyse and find out various causes for these issues. Though Apparel industry had many other problems, labour was one of the important input to the production in the industry. Labour productivity in Apparel industry affected the business performance, which in turn affected quality of garments and timely delivery of garments.

Growth of Apparel industry in Chennai was mostly due to the spinning and weaving mills in and around it and availability of specialised skilled workers for this labour intensive industry. Problems like outdated technology and fragmentation of operations, which were more prevalent in most of the Apparel industry in Chennai, led to low level of labour Productivity. The Apparels industry in Chennai found it difficult to retain the best workers and hence the cost of retention went up. There was no proper planning to cater to the needs of this fast growing industry leading to water pollution and congestion. Intermittent power supply, water scarcity, infrastructural problems and other bottlenecks affected the business performance and labour productivity level.

#### IX. SUGGESTION AND RECOMMENDATION

To increase the labour productivity in Apparel units in Chennai city, an appropriate recruitment procedure should be created after job analysis. Workers should be counseled for reduction in production output, poor quality of garments and so on. To achieve positive results motivation tools such as training, appropriate wage structure and incentive along with annual productivity linked bonus can be provided, some of the available unskilled labour force can be converted into suitable skilled labour force. Suitable wage system for male workers with night shift allowance and also with minimum production targets can help the Apparel manufacturers to increase the productivity. The industry should increase its managerial personnel and go for two or three shift system. Audio-Visual training can be provided in the factories daily one hour before or after working hours and also during Sundays and during off-season of the business. The work environment must be changed so that workers will feel it a pleasant one to work.

Labour productivity can be improved by imparting knowledge and skills to the workforce by arranging training programmes with experts both from India and abroad. With the advent of latest trends in the production process garments, the Apparel units should establish collaborative arrangements with similar industries in India and abroad. The Apparel manufacturers should follow modern management practices, adopt flexible manufacturing, quick response techniques and productivity improvement techniques. Organisations like National Institute of Fashion Technology, National productivity Council, Central Board for Workers Education in India should come forward. Attracting more ventures in this sector is a must and in special in technology and overseas distribution.

Inducting state-of-the-art machinery and setting up of modern competitive manufacturing units are the needs of the hour to increase labour productivity. The manufacturers should advocate the increasing use of modern technology

which will create avenues to improve and upgrade technical skills resulting in enhancing productivity levels amongst the workforce. Joint efforts should be made by Government and Apparel Manufacturers for opening up of more training and design centers which will facilitate proper recruitment of qualified persons in the industry. The industry should also make sizeable investments to garner global opportunities.

To conclude, if Indian Apparel manufacturers are to grow in the years to come, a lot more need to be done, production of garments in huge quantity with strict specification and standards adopting modern production practices and supplying in time, developing dedicated personnel and establishing wider network with international buyers will be the most essential elements of Apparel exporter to succeed. However, the competitive supplier countries in the world apparel markets can be left if the Indian Apparel manufacturers formulate, implement and evaluate production and marketing technologies periodically.

#### X. SUGGESTION FOR FUTURE RESEARCH STUDIES

A number of areas for future paper study are suggested from the observation made in the course of this paper. These areas are

- 1) A study on the Export Knitwear units outside Tirupur in Tamil Nadu.
- 2) Absenteeism/Labour turnover studies-Causes, Extent and cure.
- 3) Export of Tamil Nadu-Problems and Prospects,
- 4) Labour disturbances in Textile Industry in Tamil Nadu and in India.

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