Productivity Enhancement in Apparel Unit by Reducing Rework

By

Ahmad Imtiaz	**091420040**
Abdul Hannan	**091420060**
Hafiz AdeelurRehman	**091420127**
Muhammad Ans	**091420324**
AkramYaqoob	**101611056**

SCHOOL OF TEXTILE AND DESIGN

University of Management and Technology

Lahore 2013

Abstract

In garment industry there is lot of burdenon production to be complete within lead time. For this purpose the operators and supervisors just try to concentrate on production irrespective of the quality they produce in garments. In the end it cause them problems and increase their rework. We did our project on increasing the productivity by reducing rework. We observed the production lines and find the main problem is in, in-line inspection and operator's less dedication towards quality and his job. Improving inspection at needle point and supervisors should be true to their jobs are necessary to increase productivity and reducing rework.

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1 Introduction

1.1 History of Pakistan Textile Industry:

Like other living organisms humans are also classified among the class mammals. Humans share or have in common many things with animals like human do breath as animals, humans have skeleton as do animals, humans posses nervous system and animals too, intelligence is another common quality in both animals and humans. Intelligence is complex quality but it can prove its existence by another ability i.e. learning. Its example is very common; today a cat can cross the road in heavy traffic like the human beings do. She does it because she learns it which shows intelligence in animals. Primates and cerebrum are considered highly intelligent animals. (Basiliskt, 2010)

What makes the humans superior to other mammalians? The answer is "wisdom of knowledge" hunger of mind made humans feel the need of clothing. Maria Mitchell says
"We have a hunger of the mind which asks for knowledge of all around us, and the more we gain, the more is our desire; the more we see, the more we are capable of seeing."History of textile begins in the ancient times back in the era of Adam. When nakedness revealed to them upon eating forbidden fruit. After knowing those people started to cover their bodies by sewing the fig leaves together which helps them in covering their bodies or hide the nakedness. And today its requisite has become the major economic sector in the states like Pakistan. Before having detailed look on Pakistan's textile industry it is imperative to know its meaning. The word textile is a noun means a fabric made by weaving, knitting, etc or cloth. Textile industry includes cotton yarn, cotton cloth, garments, bed wear, raw cotton, knitwear and other textile materials. (Basiliskt, 2010)

The textile sector is major and most important sector in Pakistan's economy. It plays a serious role in Pakistan's economic market. In Asia, Pakistan is the 8^{th} largest exporter of textile products. Its contribution is 8.5% in total GDP. It is a source of giving employment to the Pakistani unemployed people as more as 15 million people get benefit from textile sector which is 30% of the total workforce of the country out of 49 million workforces. (Ahmed, 2010)

The annual volume of total world textile trade is US$18 trillion which is growing at 2.5 percent. Out of it, Pakistan's share is less than one percent. The development of the Manufacturing Sector has been given the highest priority since Pakistan's founding with major

stress on Agro-Based Industries. For Pakistan which was one of the leading producers of cotton in the world, the development of a Textile Industry making full use of its abundant resources of cotton has been a priority area towards industrialization. At present, there are 1,221 ginning units, 442 spinning units, 124 large spinning units and 425 small units which produce textile products. The industry consists of large-scale organized sector and a highly fragmented cottage /small-scale sector. The various sectors that are a part of the textile value chain are:

Spinning

Most of the spinning mills in Pakistan operate with in-house facilities of weaving, dyeing and finishing which give them moreprofit.

Weaving

Comprises of small and medium sized entities.

Processing

Sector, comprising dyeing, printing and finishing sub-sectors, only a part of this sector is operating in an organized state, able to process large quantities while the rest of the units operate as small and medium sized units.

Printing

Segment dominates the overall processing industry followed by textile dyeing and fabric bleaching.

Garments

Manufacturing segment generates the highest employment within the textile value chain. Over 75% of the units comprise small sized units. The knitwear industry mostly consists of factories operating as integrated units (knitting + processing+ making up facilities). The clothing sectors both woven and knits are mainly clustering in Karachi– Lahore and Faisalabad where sufficient ladies labor is available.

Pakistan is the world's 4th largest producer and 3rd largest consumer of cotton. It has been the main factor for raising the country's economy in last 50 years or so in terms of foreign currency earnings. (Ahmed, 2010)

Increase in the production field of cotton and textile industry's expansion is remarkable since 1947 in Pakistan. Cotton – bales increase from 1.1 million bales in 1947 to 10 million bales by 2000. Number of mills increased from 3 to 600 and spindles from about 177,000 to 805 million similarly looms and finishing units increased but not in the same proportion. Pakistan's

textile industry experts feel that Pakistan has fairly large size textile industry and 60-70% of machines need replacement for the economic and quality production of products for a highly competitive market. But there is one backward step in the progress of industry is that Pakistan doesn't have the facility of making the machines used in their textile industry. So we need to think about joint ventures for the production of complete spinning units with china, Italy and production of shuttle less looms with Korea, Taiwan and Italy. (khalique, 2008)

But still textile industry will be the important engine for further growth and progress in the economy because there is no other industry or sector present in Pakistan which can compete textile and give that sort of stability which textile gives. Pakistan's Textile Industry had proved its strength in global market during the last four decades. It has proved its strength even in post quota era by not only sustaining its position but, also showing growth during 2005 to 2007, but declined to $11.1 billion in 2008 due to financial and economic meltdown globally. The Garment Sector & especially the Knit Garment Sector need special focus in future policies.

1.2 Export of Textile and Clothing (Us $ millions)

	1990	2000	2004	2005	2006	2007	2008
World Textile	104,354	157,295	195,541	202,657	220,367	240,364	250,198
World Clothing	108,129	197,722	260,560	276,802	309,142	354,830	361,888
Total	212,483	355,017	456,110	479,479	529,509	586,194	613,086
Pakistan Textile	2,663	4,532	6,125	7,087	7,469	7,371	7,186
Pakistan Clothing	1,014	2,144	3,026	3,604	3,907	3,806	3,906
Total	3,677	6,676	9,151	10,691	11,376	11,177	11,092
% Age of World Trade	1.73 %	1.88 %	2.01 %	2.23 %	2.15 %	1.91 %	1.81 %

(Ahmed, 2010)

Pakistan's textile industry contributes significantly to country GDP, exports and employment as well. It has proved to be the backbone of Pakistan's economy. (Fibre2fashion)

1.3 Established capacity

The textile industry of Pakistan has a total established spinning capacity of 1550 million kg'sof yarn, weaving capacity of 4368 million square meters of fabric and finishing capacity of 4000 million square meters. The industry has a production capacity of 670 million units of garments, 400 million units of knitwear and 53 million kg are of towels. The industry has a total of 1221 units engaged in ginning and 442 units engaged in spinning. There are around 124 large units that undertake weaving and 425 small units. There are Around 20600 powers looms in operation in the industry. The industry also houses around 10large finishing units and 625 small units. (Fibre2fashion)

1.4 Contribution to exports

According to some recent surveys or research results it is concluded that textile industry contributes 60% to total exports which amounts equals to 5.2 billion us dollars. Also it contributes around 46% to the total output produced in the country. As a result Pakistan is the 8th largest exporter of textile products in Asia. (Fibre2fashion)

Contribution to GDP and employment

The contribution of this industry to the total GDP is 8.5%. It provides employment to 38% of the work force in the country, which amounts to a figure of 15 million. However, the proportion of skilled labor is very less as compared to that of unskilled labor.

1.5 Importance of textile Industry

According to the [3]ECONOMIST´ intelligence report of August 2003 for Pakistan the following observations have been made: Despite Government efforts to diversify exports and widen the industrial base, the industrial sector remains dominated by the Textile sector. Textile Sector still represents 46% of total manufacturing and provides 68% of Pakistan's Export receipts.The strong performance stemmed from two factors:

A: Increase in import quotas especially by U.S.A, EU and TURKEY.

B: Textile industry has invested over US$1.5 billion in new technologies and modernizationin the last 3 years. (Fibre2fashion)

1.6 GARMENT INDUSTRY HISTORY

The garment industry in the United States during the last **130** years of has undergone several cyclic changes in its production systems. The needs of the War Between the States brought the factory system to the industry. Uniforms were mass produced in an organized manner in plants comparable in size to today's average size garment factory. However, due to the vast influx of immigrants during the last part of the 19th century and the beginning of this century, labor was both plentiful and cheap. As a result, garment production plants degenerated to the now infamous "sweatshops". This period also witnessed the beginning of the home workshops where the production of garments became a family affair. These hoe workshops were really the forerunners of what are now modular production teams. The demands of World War I brought larger factory organizations into prominence and they have remained the dominant force within the industry ever since. The overall needs created by World War I substantially reduced the garment producers' available labor pool and in order to cope they had to reorganize their facilities and systems. This reorganization brought the progressive bundle system to the apparel industry and along with it came the piece-work incentive system. Since then the bundle system, in a variety of versions, has been and most likely will continue to be in the years to come, an integral part of the sewn products industry. During the 1920's and 1930's, dress and coat manufacturers distributed small bundles of garments to their workers and each operator made the whole garment. Such companies had very few special machines, usually only a blind stitch machine, buttonhole, and perhaps a button sewing machine. All other sewing was done on single needle lockstitches. This approach to production reflected the industry's reaction to the economic conditions of the period and could also be thought of as an early version of Quick Response. The demands of World War II also placed a huge burden on the garment industry. Due to the war-induced labor shortage companies had to become more efficient in order to meet their production requirements. Therefore, it was during this period that we saw an influx of early mechanized equipment. Cam-guided automatic profile stitches and thread-break detectors were some of the devices that gained wide acceptance. But, in spite of the obvious need to improve the methods and systems of production, the various segments of the apparel industry stayed with whole and semi-section garment construction until the latter part of the 1950's.