

Quality Control Management on Apparel Order Process: A Case Study in Bangladesh Garment Industry

A. K. M. Shafiqur Rahman

Assistant Professor

Abstract: *The garment industry is an important business sector in Bangladesh. For this reason, companies operating within this industry must be able to apply the quality control strategies that would help to remain competitive. Every product must feature functional characteristics as well as some other aspects related to its shape, size, design. The product must satisfy the consumer in terms of beauty, attractiveness, taste, shape, design & longevity etc. depending on the type of product. A product devoid of quality has no demand among consumers and as such has no salability. Excellent quality characteristics enhances salability of the goods & are the keys to profitability for the manufacturer or the seller. Most importantly, some criteria of consumer satisfaction are negotiable but quality is such a factor that it is not at all burgainable. Analysis shows apparel manufacturers are striving for sustainable business growth by ensuring quality production. This means that applying quality process during manufacturing operations as well as final quality inspection procedures for finished merchandise by reducing number of defects in future production.*

Keywords: Quality, Competitive, Functional, Profitability, Burgainable, Merchandise, Striving, Sustainable, Inspection

1. Introduction

Like any other product, maintenance of high standard of quality of garments is very important. In this case quality issue is all the more sensitive. No one is interested to purchase defective and unsmart apparel. Human dignity and life style are clearly exhibited by the apparel he/she wears.

Apparel buyers around the globe demand product as they want it, when they want it, and the best possible quality. In today's highly competitive global marketplace they are placing greater value on quality and delivery time. Manufacturers similarly have begun to place more value on quality and delivery time and companies are trying to gain a competitive edge and improve profitability through increasing quality. In competitive industries, continuous improvement of quality will differentiate a company from its competitors, leading to increase sales (Chariest J. Murgiano, CPIM). Ensuring quality is one of the main competitive factors among companies. The ability to produce right quality of products influences export, sales and thereby revenue.

It is a long standing trading of any organization to offer the customers first quality merchandise. The purpose of this quality control program is to assist manufacturers in meeting the high standards. In addition, company's quality control program can also help the supplier with their operation. Quality control program not only help spot and reject defective items, but more importantly they pinpoint production operations that need special attention, thereby reducing the number of defects in future production. This type of quality control provides basis for management decision in the manufacturer's plant. For the purpose of this manual, the defect refers to a condition that renders merchandise of second quality and or unacceptable because the defect is one or more of the followings :

- It is conspicuous
- It will affect salability of the product

- It will affect the serviceability of the product

Quality control management is the aspect of the overall management function that determines and implements the quality policy. Quality assurance covers all the process within a company that contributes to the production of quality products. The inspection is carried out by representatives of the current production and the results are recorded on control chart. The aim of garment inspection is to visually inspect articles at random from a delivery in order to verify their general conformity and appearance with instruction/description and/ or sample received.

2. Objective of the Study

The main objective quality control is to ensure that goods are produced to the first customer (direct order) and hopefully to the second customer (alter order/new order) as well. If both customers can be satisfied then the products are more likely to continue in demand.

In such a context, the main objective of the study is to examine, evaluate, and analyze the quality, quality control process of ensuring the conformity to the designed requirements of product or service, the operational techniques and activities are used to fulfill the requirements of quality.

2.1 Aim of the research

The overall aim of the research is to consider the total quality control management approaches used in the textiles and apparel sector. This is addressed through case studies of companies at different points of the apparel chain, ranging from fiber producers downstream in the chain to manufacturers and foreigners. The main objective is to earn customers' loyalty through quality and service. Through Total Quality Management (TQM) how is it possible to

ensure manufacturing quality product and to remain competitive under this current competitive situation.

2.2 Research methodology

The data has been collected on primary as well as on secondary basis. The secondary data were used in the study. Those were collected from various publications, books, Bangladesh Economic review and the annual reports, audit reports, interview of key persons of the garment industries, foreign buyers. In this research qualitative method has been used. In qualitative method we can find out how people feel or what they think about a particular problem, which are relevant in this research. Mainly the descriptive research approach has been used. But in the exploratory phase of the research, in-depth interviews have been conducted with the suppliers/manufacturers (owners) and the relevant bodies and association.

3. Literature Review

Quality is never an accident, it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives. Quality control is a process, a set of activities designed and regulate the effectiveness of production to achieve service. The apparel industry stands out as one of the most globalized industries in the world and it is quality control management which is being applied right from fibers to yarn, to fabrics, to accessories, to garments, to trading and to marketing. Moreover, in today's competitive environment, markets are becoming more international, dynamic, and customer-driven and customers are demanding more variety, better quality of garments including both reliability and faster delivery.

In the apparel sector, all the Bangladeshi garment companies are subcontractor and producing at the low end of the market. Basically they are performing cutting, making, and trimming (CMT) activities (Kabir, 2007; Siddiqi, 2007; Rashid, 2006; Abdullah and Yusuf, 2008). The RMG industry is highly dependent on imported raw material. About 90% of woven fabrics and 60% of knit fabrics are imported to make garments for export (Rashid, 2006; Rahman and Anwar, 2006). That's why this sector needs to maintain quality control in every step of process an order. Due to the growing intensity of competition in both local and global business sectors, several companies and service providers have realized the need to develop the quality control approaches to execute an order more effectively and efficiently. At the same time, retailers as well wholesalers had integrated their quality control management as well so as to achieve competitive advantage.

Customer satisfaction is very important in garment business. Customers are happy when the quality of the garment is good. For the sake of ensuring standard quality following points are to be considered :

- 1) Understanding the customers' requirements
- 2) Organizing and training quality control department
- 3) Ensuring proper flow of quality requirements to the QC department

- 4) Ensuring proper flow of quality requirements to the production department
- 5) Establishing quality plans, parameters, inspection systems, frequency, sampling techniques etc.
- 6) Inspection, testing, measurements as per plan
- 7) Record deviations
- 8) Feedback to production department

The quality control department includes monitoring operations, inspecting finished goods, recording results, and taking corrective action. Most of the world class apparel companies are emphasizing on quality which is the major enabler in achieving a responsive and flexible apparel chain as the Total Quality Management (TQM) is contributing greatly to the improvement of demand forecasting accuracy.

4. Overview of Quality Management System (QMS)

Quality management system is a set of interrelated techniques, measures and management system designed to prevent defects from occurring or if they occur at all, countermeasures are adopted immediately so that they do not recur. QMS takes recourse to preventive as well as remedial measures. A number of systems, measures and techniques are used so that only quality goods are produced at the first place and defects do not originate at all. If they occur at all, there must be corrective action so that they are eliminated in the preliminary stage and would not reappear.

Inspection is a major tool of quality management. It usually means checking goods by visual observation in contrast to tests. Inspection means checking goods on properly designed and well-lit table to sort out any defect in the goods and services produced by any organization. If there is no defect or if the defects are within the tolerable limit, the goods are passed for sale or for shipment. In case, during inspection defects are detected on the goods, the goods are rejected. Inspection is one of the main tools of quality assurance. In order to ensure quality, inspection is conducted in following ways:

- In-line inspection
- Table inspection
- Pre-final or lot-pass
- Final or pre-shipment inspection

Some factories conduct pre-final inspection on the table passed sewn goods to strengthen inspection procedure. This inspection is conducted by random selection of goods as per predetermined procedure specified statistical quality control technique. Three types of materials are generally exposed to inspection:

- All incoming goods
- All in-process goods
- All finished goods

5. Some Aspects of Quality Management System

Traffic light chart system of in-line inspection

This is a dependable modern system of in-line process inspection that can demonstrate line quality visually. This

system allows identifying defect at the earliest stage of production and thus can offset increasing defect beyond limit. In this system, every operator is provided with a traffic light chart in front of the operator. This results in early identification of defects. As less rejects are produced in this method, so the company can make profit from this system. The operators are also benefitted as they have to rework less and produce more.

Statistical quality control or SQC

100% inspection of all manufactured merchandise to ensure quality had remained a long standing practice. SQC is easy, quick, simple but highly reliable if right procedures are adopted. In this system, an inspector draws sample on random basis from a full consignment of goods. Goods from where sample has drawn to be inspected. The number of goods rejected by the inspector is compared with the reject garments. If quantity of goods rejected exceeds allowable reject number given in the chart, the whole lot or consignment is rejected and must undergo recheck. This system of inspecting goods on random basis is known statistical quality control. This is also a good system of ensuring quality.

Quality circle

Quality circle is a technique of utilizing worker's creativity and talent at workplace so that by taking part in decision-making process performance of the company can be substantially increased. It is obvious that quality circle ensures utilizing creativity and talent of thousands of people of an enterprise, which eventually add to its performance. It increases creativity of an organization by a thousand fold.

Total quality management (TQM)

This is one of the latest concepts of management that can ensure the highest standard of quality and productivity ensuring good for all of the workers, management and society. In this system, quality of management and actions are ensured by assuring quality at all stages from vision, planning, purchase, store, cutting, sewing, inspection, packing, administration, welfare, personnel motivation etc. TQM envisages high work standard, work-environment, managerial standard, motivation standard etc. Thus comes the concept of production system with minimal or "zero defect."

AQL

AQL means accepted quality level which is designed as the maximum average defective items in a lot. This AQL standard will be used for inspection is dependent on the price and quality of the product. Normally, lower figure AQL standard such as AQL 1% is used for higher price garments and lower figure AQL standard such as 10% is used for lower quality and lower price garments. For example, AQL 2.5% means, maximum average defective item is 2.5%, which is acceptable in the inspection system.

It is the supplier's responsibility to ensure that the product is manufactured based on the AQL standard. The supplier must have an internal audit system in all stages of production. Actually, standard garments factory work on AQL 2.5 for major defects and AQL 4.0 for minor. For critical defects,

they adopt a zero acceptance level. For deliveries that fail the AQL, a 100% inspection must be completed.

0 Defect / 0 Tolerance

To ensure 100% quality product company can operate pilot project named "0 Defect". The project runs under the direct supervision of managing director. To achieve defect free garments worker motivation, training, technical tactics are essential. The machine which is producing defect free garments are marked with green smile sticker. Yellow smile used for machines that are producing fewer defects. Red is used for machines that are producing defective products. Then machine is stopped and necessary steps are taken to solve this.

Zero Defect Statistics

| Month | Inspected Worker | Zero Defect % |
|-----------|------------------|---------------|
| September | 1680 | 35% |
| August | 1680 | 34% |
| July | 1680 | 56% |
| June | 840 | 65% |
| May | 840 | 39% |
| April | 840 | 7% |

6. Findings and Analysis

Bangladesh has progressed considerably in the export of garments. Three fourths of our export comes from this sector. Though Bangladesh has gone very deep in terms of quantity but it still produces goods for lower end of the market. Due to variety of reasons Bangladesh-made apparels cannot attain high quality standards, the main reasons being lack of training of personnel, absence of right quality assurance system, etc. It is now essential to install right systems and processes so that only quality goods shall be produced.

The challenge of globalization will turn into a boon provided right steps are taken to make the industry competitive in respect of quality, productivity, competitive prices, timely delivery, and short lead time. Among all these factors, quality is the foremost player forestall any impending danger. Under the onslaught of globalization just on the nose, preparation on war footing is not visible. Vast and tremendous activities regarding training of personnel on quality, productivity, social compliance must shake our society. Otherwise, our apparel sector may collapse and social fabric may be torn jeopardizing the whole economy. Tremendous and desperate activities should be taken recourse to, to quickly improve quality of goods, quality of management, quality of activities in the company. Such attitude only can result in substantial progress in attainment of quality.

The other most important aspect of improving quality is motivated manpower. Consistent and substantial improvement of quality cannot be achieved without motivating workforce.

In the garment industry quality control is practiced right from the initial stage of sourcing raw materials to the stage of final finished garment. For textile and apparel industry product quality is calculated in terms of quality and standard

of fibers, yarns, fabric construction, color fastness, surface designs and final finished garment products. However, quality expectations for export are related to the type of customer segments and the retail outlets.

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