

CHAPTER 2

2. OBJECTIVES AND METHODOLOGY

2.1 Objectives

The objective of this dissertation is to find out how the fabric behaves against the patterns and designs with its uncertainty and how the cutting room operations are carried out with the avoidable and unavoidable barriers and with insufficient resources, in terms of meeting dead lines and avoiding all types of wastages, in the aim of high fabric utilization. As to support the objective some questions and some topics are listed below.

- Why customer requirements are important in the cutting room?
- Why supplier specifications are important in the cutting room?
- How does the fabric GSM help the cutting room?
- What is the importance of fabric width?
- Dealing with inconsistent and narrow widths
- Is the fabric weight important for cutting room?
- Is it necessary to know the fabric length of a roll?
- The effect of the fabric colour and quality for cutting room operations
- Importance of fabric shrinkage
- The importance of Chemical and physical properties
- The importance of fabric types and structure in cutting room
- Does the fabric fault make a significant damage to the cutting room?
- How to go ahead with fabrics with high fault rate?
- Calculation of the amount of fabric waste by fabric fault
- The role of shortage at cutting room
- The role of the pattern engineering for “higher fabric utilization”
- Does the marker making play a vital role in fabric saving?
- What are the advantages and disadvantages of cost marker methods?
- The type of external reasons, which will disturb the cutting room process
- Way of reducing fabric and overall cost through pattern and marker making process
- How to deal with excess and shortage fabrics at lay planning?
- What is the best ratio marker?
- How to select the fabric for marker making and cutting operations?
- How to achieve higher fabric utilization through spreading?
- The main cutting errors and how to overcome them
- The methods that can be used to store cut panels securely before stitching
- Method to utilize the existing resources by overcoming the day to-day problems
- The avoidable wastages

The above objective questionnaires were formed to achieve the object, by looking at the whole process in the cutting room. Aiming the objective questionnaires, by doing experiments without harming the cutting operations, has carried out the evaluations.

Moving towards the topic, high fabric utilization through cutting room management, the author likes to discuss on following points to study on how it support the high fabric utilization.

- Customer requirements,
- Supplier specification,
- Chemical & physical properties of fabric,
- Fabric types and structures,
- Fabric faults,
- Pattern engineering,
- Marker types,
- Cost methods,
- External process,
- Internal process,
- Resource utilization,
- Reducing wastage,

All the above points have direct or indirect impact on fabric utilization. That knowledge will help us to reduce the total cost in Cutting Room.

2.2 Methodology

The facts and data used in this dissertation are derived from multiple case studies conducted in the Cutting Room at Hirdaramani Mercury (Pvt) Ltd., at Katunayake.

To prepare this dissertation, the author had to carry out lot of experimental work while working in a cutting room to collect some data from inbound and out sourcing entities.

An extra support has been taken from the other cutting departments of the Hirdaramani group such as Hirdaramani factories at Seethawake, Maharagama, and the fabric suppliers such as M/s Ocean Lanka (Pvt) Ltd., Biyagama and Hayleys MGT Knitting mills at Horana.

Deeply studied the requirements of customers through e-mails and went through some of the Buyer's manuals and also the audit reports on Product safety.

Lot of pattern drawings were done to collect data, and lot of experimental amendments such as changing number of plies, ply lengths, method of spreading and cutting, were done without disturbing the day today processes at cutting room, also the author experiencing on day today operations, identified the difficulties of some processes.

Past records on garments' cutting processes were studied, and got known the instructions given by buyers and the feedback received from them.

Also used the knowledge gained from relevant seminars conducted by external entities.

Further dealt with suppliers to study fabric details and made factory visits to collect more details from other factories.

The author had to dealt with high range of various GSM's, widths, etc. therefore had to keep close connections with Merchandisers, Laboratory personals etc.

While working the author could get experience on fabric shortages, spreading errors, cutting errors, storing errors and other damages. It has been given a clear idea on theoretical and practical differences especially on shrinkage percentage.

The author did experimental reduction of fabric by fault and waste management. There were lot of opportunities to make pattern amendments resulting both good and bad feed back.

The author did the time study work by him self for certain activities. As well as he had to work lot with out side entities to over come process delays. The author had to interfere with other departments greatly to solve day today errors that would occur and to take decisions on fabric selecting, marker preparing, cut order planning, spreading, cutting and storing.

The data analysis includes bench marking with internal and external data.



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