



## **An Internship Report**

**On**

An Evaluation of Internal Quality assurance procedure Of Global Outerwear ltd.  
(washing unit)

**Submitted To**

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## LETTER OF TRANSMITTAL

20<sup>th</sup> July 2019  
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Senior Lecturer  
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**Subject: Submission of internship Report.**

Dear Sir,

With due respect that I, would love to inform you that right here is the record on that turned into assigned to me publish under the internship program. It turned into amazing pleasure for me to do the assigned record. I've conducted my internship program in internal quality assurance procedures of global. Together with your kind supervision. I accept as true with that the expertise and experience I accumulated during the internship period, will be useful in my destiny professional existence.

I made each undertaking to prepare this file correct, shiny and complete and attempted my degree great to accumulate applicable and insightful data in the scheduled time and restricted resources. Any brief coming on this record is truly my fault.

It will be a remarkable achievement for me if you kindly go through the record to check the fruitfulness of it. It'll be a distinguished triumph for me if the document meets up your proper expectation.

**Sincerely Yours,**

.....  
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## **SUPERVISOR'S DECLARATION**

It gives me giant pride to verify that the projected report identify has been finished by, scholar of BBA software, Internal quality assurance procedures of global my supervision and steerage. As a way as I recognize, that is an authentic work, which has not been published in any magazine or submitted to any institution for any degree.

I do hereby accept it a fully recommend Internship report for evaluation.

.....  
Md. Alamgir Hossan  
Senior Lecturer  
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## **STUDENT'S DECLARATION**

I do hereby claim that the paintings supplied on this Internship document has been performed by me and has now not been previously submitted to internal quality assurance procedures of global. The paintings I have offered does no longer breach any current rights and no part of this document is derivative from any work carried out in advance for degree or otherwise.

I similarly undertake to assure the branch beside any loss or harm arise from contravene of the above responsibilities.

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# **Chapter: 01**

## **Introduction**

## **Introduction**

Quality denotes to how decent amazing is compare to other related things. In new words, its degree of quality. The ISO 8402-1986 standard defines quality as: “The totality of features and characteristics of a product or service that bears its ability to satisfy stated or implied needs. Quality assurance sees to it that the result of the manufacturing process is a high-quality, reliable finished product. It is made up of all the planned and systematic operations which are put in place to produce a product that successfully satisfies the given requirements of the brand and customers. Without quality assurance methods, a level of consistency and unity won’t be maintain all through the a variety of stage soft position developed. It’s importance mention to quality assurance also quality organize regularly get puzzled by one or anymore. Quality control be an characteristic of quality assurance also occur from the source step of raw matter correctly during to the final stage of manufacture. It is produce listening carefully while quality assurance is development focused. It involve a locate of activities organism plant into place which focuses going on identifying with correcting any defect in the real final products organism produced before they be released. as a result, quality assurance is a positive quality process which is planned to avoid any defects by trying and improving the procedure of design, producing, evaluate and assessing goods to ensure that the preferred level of quality is meet.

## **Background**

In this competition era in the business there are no enough room for making error and efficiency where production is playing a very significant part. For gaining advantage there are two thing needed which are passion and efficiency in everything which is the key to survive in business and increase in growth. For doing trade, a proverb can be said that human can make differences in the most effective way. Human resource management plays a vital role in the ready-made garments sector in Bangladesh. In this study, I shared my knowledge and experiences after working with a renowned washing company named global outerwear limited, Savar, Dhaka. In my study, the project that I worked for is Quality sector. I have worked in the Quality department of global outerwear limited and therefore I have conducted a survey which is on “internal quality assurance procedures of global outerwear ltd”.In my report, I tried hard from my ability to find out the outcomes on how the internal quality assurance procedures are making significant impact for both increasing and decreasing organizational concert.

## **Report’s Origin**

In this modern era, merely academic education is not enough to compose a student perfect and competitive in the world. Therefore, Internship is a be required to and obvious for a student to gain practical design, knowledge, skills, and practice.

Daffodil International University is one of the most famous and renowned private university in Bangladesh and recently it has become QS Asia ranking top university. The faculty of business and entrepreneurship has designed different curriculum and BBA (Bachelor of Business Administration) is one of those in which courses are designed in a way by making it international standard where business graduates can be made. Therefore, I have completed my 123 credit and as per the course design I as a student need to go for my rest 3 credit by which I can do my internship program in an organization.

This report is an end result of an Internship attachment with one of the top graded 100% Export Oriented Buying House in Garments Industry in Bangladesh. It will obviously try to improve the organizational concerts of export-oriented garments industries in Bangladesh, especially for global outerwear ltd.

## **Scope of study**

during this project I include try to current particulars on the internal quality assurance process of global outerweare limited (washing unit) and the feedback that I have collected. The scope of Internal quality assurance process can be explain by the help of following point -

- ✓ Accurate concert of apparel product during their feedback
- ✓ Maintained how to follow the quality chart.

## **Objectives of the Study**

The fundamental aim of internal quality assurance process is to be of assistance the company achieve its plan by adding value to its key resource – the people it employs. The relaxed objectives of quality assurance are to: operate from this recognized quality assurance policy and related procedures which are always reviewed where required in accordance with standard quality control arrangements.

- ✓ Ensure an effective stimulation is provided for all members of the consideration and quality assurance teams, as essential.
- ✓ Ensure equality also diversity is implanted throughout the internal quality assurance and assessment activities.
- ✓ Maintain accurate and present records of internal quality assurance.
- ✓ Standardize all components of the consideration where appropriate.
- ✓ Carry out continuous development activities to ensure all curative actions and best practice guidelines requested by awarding organizations and their moderation staff's (including external quality assurers) are complied.

## **Broad objective:**

- ✓ organize Environment. Integrity and fair Values.
- ✓ threat Assessment. Company-wide in Objectives.
- ✓ Control actions.
- ✓ Information and Communication.
- ✓ Monitor.

## **Specific objectives:**

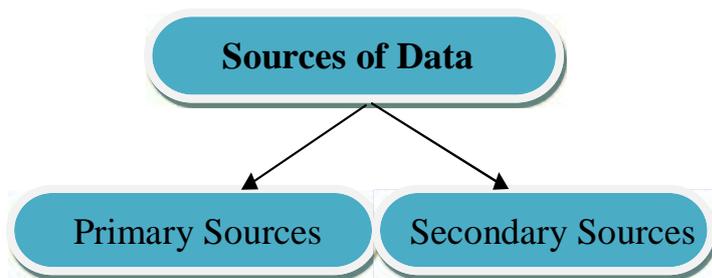
- ✓ To ensure the successful organization of assessment.
- ✓ To ensure the consistency and validity of internal quality assurance processes.
- ✓ To ensure the effective support for consideration and quality assurance recruits.
- ✓ To ensure the quality declaration of the outcomes of assessment in-line with giving Organization and local requirements.

## **Methodology**

Methodology include a collection of theory, concepts or dreams as they communicate to a relaxed discipline or field of inquiry: Methodology refers to other than a simple set of methods rather it refers to the motivation and the realistic assumption that underlie a particular study relative to the systematic method. This is why scholarly literature often includes a section on the methodology of the researchers. This section does more than outline the researchers' smethod might explain what the researchers' ontology or epistemology views are.

## **Data Collection**

Methodology of this study includes my project report working experience, face to face discussion with officer's study of files, other reports, and practical work.



### **Primary data**

- Face to face
- Observation Secondary data was collected through
- Different annuals, circulars, files and documents and annual report of GOL
- My project instructor
- Manager of the GOL
- Different text books of human resource management

### **Secondary Data**

For collecting secondary data I have collected information from different journals as well as organizations HR policy book. Though the organization provide that much information and have web page for collecting the information from internet. I was able to find some secondary sources of data.

### **Limitations of the Study**

Limitations are all over so does there. Internal Quality assurance procedures is one the most necessary and confidential section in every organization. Although I face several obstacle and barriers in the technique of my works, but I am highly glad and grateful that I got a big opportunity and I have learn and understood the practical knowledge and work. At the time of my job I had faced some limitations which are as following.

- ✓ One of my major limitation is I was not permitted to know and collect some Internal Quality assurance procedures which are currently implementing as well as some are not implementing.
- ✓ My research work is confined to just one company.
- ✓ Shortage of time: In this short period of time I could not perform all the activities regarding my report also.
- ✓ Shortage of secondary data sources: Publication and articles of this field are not available enough and some information remained unknown to Managers and executives.
- ✓ Lack of technical expertise.
- ✓ Most of the workers have lack of knowledge and that's why they didn't answer properly
- ✓ Due to some barriers some aspects could not be disclosed and discussed in the report.
- ✓ Lack of my experience and efficiency to prepare a standard report.

Chapter: 02  
Literature Review

## Literature Review

This paper focuses on the outcomes of quality assurance schemes for higher education institutions. Based on a literature review, it intends to stretch out the main outcomes of external quality assurance schemes, and tries to explore the factors determining these outcomes. The previous impact studies in various national contexts are reviewed here, and based on which, the question of whether external quality assurance can really affect the inner life of universities is answered and the reasons behind it are explored (Black, P., & Wiliam, D. -2005). This review provides an important reference for the future impact studies. Service quality becomes the crucial issue for hospitality industry and the theory of service quality has evolved over long period of time through testing and trials in service sector. The demanding customers and increased sense of customer satisfaction led to the use of the new service parameters making hoteliers to implement quality management as an effective aid (Sigala, Marianna-2006). During the last few decades there is phenomenal change experienced in the hospitality industry and the reason being is Service Quality. Knowing that both service quality and value is difficult to measure, hospitality companies heavily rely on guest's quality observation and expectations. It might be achieved by ask guest's questions related to expectations and their perceptions of the service quality through carefully designed surveys. Various studies have been carried out to consolidate the dimensions of service quality and servable has been accepted as well constructed instrument to measure service quality. The empirical research in development of service quality theory suggests that improved service quality plays important role in overall customer satisfaction. Study would focus on various studies on Service Quality conducted by earlier researchers in an array of industries. Thus, present study is unique in the sense that it is new to Indian hotel industry. The paper explores the development of service quality theory and alternate scales of measuring service quality, its role in customer satisfaction and importance of servqual to rment. Internal quality assurance measures learner achievements, assessor judgments, assessor knowledge and the standard of processes and procedures within a provider. This is in order to ensure learners can achieve qualifications, assessors are making the correct assessment judgments and a provider is offering a high quality service. IQA activities also ensure staffs working within a provider are qualified and competent(Vlăsceanu, L., Grünberg, L., & Pârlea, D. -2004).IQA includes monitoring the training and assessment activities and the quality of evidence learners produce. Internal quality assurance helps to ensure that assessments and IQA activities are valid, authentic, sufficient, fair and reliable. Internal quality assurance measures the quality, delivery, processes, procedures and learner achievements. Internal quality assurance principles include; ensuring standardization activities take place, assessment decisions embrace inclusion, equality is promoted with learners and the diversity of learners is valued by all staff. IQA ensures fairness is apparent in all assessment judgments and that clear and auditable records are held securely within a provider. Other principles of IQA include maintaining health and safety practices, ensuring all centre employees have access to training and CPD activities. IQA must also ensure assessors and staff members are motivated and that clear communication between all provider employees takes place regularly. Internal quality assurance principles include; ensuring standardization activities take place, assessment decisions embrace inclusion, equality is promoted with learners and the diversity of learners is valued by all staff. IQA ensures fairness is apparent in all assessment judgments and that clear and auditable records are held securely within a provider. Other principles of IQA include maintaining health and safety practices, ensuring all centre employees

have access to training activities. IQA must also ensure assessors and staff members are motivated and that clear communication between all provider employees takes place regularly. Often seen as an extension of the Awarding Organization's monitoring team, the Internal Quality Assurer (IQA) has a vital role. They maintain and monitor the delivery also certification process and is the major contact among the centre and giving Organization .A strong and experienced IQA should lead to a delivery and certification system that maintains the integrity of the qualification, provides a quality learning experience to the learner and continually looks at methods to improved delivery and share best practice. Often when issues are found within the delivery and experience of qualifications inside a centre, regardless of whether at learner or Assessor level, it can be traced back to a quality assurance system that does not have sufficient planning, oversight and impartiality to carry out its function. increase and follow internal policy, measures and records for the carrying elsewhere and conservation of quality's stem in procession with warding Organization supplies. Ensure all appraise or should an destroy the required qualifications and working expertise to deliver the experience and units they have been assign to give support to Assessors in relation to actions and policies for the delivery of the qualifications and units they are assign to recognize training needs and provide constant training to assessor to continually recover the standard of qualification and unit capture co-ordinate the appropriate registration and certification claim for learner. Maintain suitable records of quality assurance, consideration, registration and qualifications activities in line with giving Organization requirements. (John Wiley & Sons; 2017 Apr 3). make sure variety plans take into account the fraction of learners per assistant per qualification to gather the quality assurance requirements to cover all unit deliver within12-month period .make easy standardization activities to support the constant improvement of qualification and component delivery. make sure all assessment records, maintained by Assessors, is complete, up-to-date and comprehensible. Ensure conflicts of interest are identified and address, including not allow the quality assurance of own assessment work or cross quality assurance where two people quality assure each other's work. Conduct explanation of assessor conducting the review process. Perform expert interview stems on it or and analyze the quality of the consideration process and expert journey. Provide the optional information to the Awarding Organization to aid and impede monitoring activities as optional. Impart in sequence and feedback consequential from monitor actions and make sure all actions are address by the indicate timescales.

Chapter: 03  
Overview of Global Outerwear Limited

## **Overview of global outerwear limited**

Azim Group is deeply rooted in the garment industry. We have been involved in this sector since its inception in Bangladesh in the early 1980s. Our Founder, Mohammad FazlulAzim, brought Azim Group into existence in 1975. Azim Group has 13 garment manufacturing units and four backward linkage factories, located in the cities of Dhaka and Chittagong, with over 26,000 people on its payroll. We have well-trained, experienced and vigilante management teams operating from our various offices in Dhaka, Chittagong, Hong Kong and New York. We are active in other sectors too - Engineering, Steel and Agro. Bangladesh manufacturing and Petroleum Services (BEPS), a sister concern of Azim Group, is an engineering consultancy that provides solutions to the gas and energy fields. In 2018, Azim Group started operations on its new steel manufacturing firm - *Global Steel and Engineering Ltd (GSEL)*. The necessity of more energy and electricity across Bangladesh inspired us to start our steel project, *GSEL*, in order to meet the rising demand for electrical towers used in electricity transmission, telecom and electrical line hardware. We hope to form successful partnerships and create at least 1000 new jobs. Azim Group has an annual revenue of over \$200m. What started as a one-man-band has now become an ever-growing organization maintaining smooth business activities and constantly exploring new opportunities. We take great pride in our strengths, which are - honesty, sincerity and dedication.



## **Mission & Vision**

Global (GOL) Ltd was founded with the goal of creating a positive impact on a struggling Bangladeshi economy in the 1970s. We desired to add value to our economy by creating jobs and earning foreign currency income through the ready-made garments sector.

### **Mission Statement**

To produce quality products and provide seamless service at competitive prices, while creating mutually beneficial outcomes for all stakeholders.

### **Vision**

our vision is to be a global industry benchmark for quality products and services, alongside being a role model for sustainable behavior towards the environment and community. We hope to make significant contributions towards the advancement of society. The future is indeed green and sustainable.

### **Values**

Core values drive the company towards its goal of achieving positive business and social results. The five core values at Azim Group are:

### **Leadership**

We will strive to lead by example and deliver the highest quality of products and services to our clients. We will serve our industry and nation with dedication, while upholding best practices and providing welfare to all our employees.

### **Integrity**

As a leader within our industry for decades, we have earned immense respect within our communities and society in Bangladesh for our strong moral principles of honesty and sincerity. We will continue to conduct all our business dealings with fairness, transparency and honesty.

### **Excellence**

We are committed to delivering products and services of the highest standards. We strive to always under promise but over deliver, ensuring customer satisfaction to the fullest. We will continue to learn, innovate and improve with the goal of reaching unprecedented benchmarks.

### **Accountability**

We take accountability for our actions and results, while upholding commitments to all our stakeholders and communities. We will actively engage in discussion and focus on finding creative solutions to achieve desired outcomes.

### **Responsibility**

We will always integrate social and environmental principles in our businesses, while creating opportunities and positive outcomes for our communities. We will continue to give back to our people and make sustainable contributions to the development of our nation.

### **Objective of the GLOBAL OUTERWEAR LIMITED**

- ✓ To determine capacity of all garment manufacturing department and to plan scientifically to meet sales requirements.
- ✓ To find ways through which product manufacturing necessities such as materials, machines and so on are available in right quality and quantity at the right time.
- ✓ To co-ordinate a number of different departmental groups so that fines balance of actions may be maintained.
- ✓ To minimize the employment of production facilities with the general use in view of minimizing operating costs and meeting delivery schedules.
- ✓ To ensure that a number of jobs are erect which have already been precise in the light or the production requirements.
- ✓ To prepare management later for tacking any difficulty arising in the way achieving production targets.
- ✓ To reap a practical project prescribed beforehand.
- ✓ To increase awareness on modern production techniques and supervision on the firemen and supervisors to achieve excellent result (such as manufacturing products of high quality and quantity) at the right time and at the most economic cost, this may win the consumers.
- ✓ To promote minimum utilization of plants.
- ✓ To assist labor towards right and superior earnings.
- ✓ To maintain progress records to show authentic against planned production and take necessary action to correct deviation and advice the sales department accordingly.
- ✓ Answer enquires form customers as to the progress of their orders, remembering that good delivery, and the honoring of delivery promise is an important part of company's reputation with developed plan.
- ✓ To maintain perfect record of all material and facet stock and activities in and out of story in such a method so as to expect future requirements and always to have objects available for manufacture to consumer's requirements.
- ✓ Re-train staff in the helpful concert of their duties.
- ✓ Remain to company's personnel policy and make sure that subordinate achieved.

- ✓ Keep abreast with developments in modern manufacture planning technique.

## **Functions of Production Planning and Control in Azim group**

### **1. Materials:**

Raw materials, refined parts and bought out workings should be made available in required quantity and at required time to make sure the accurate start and end for each operation consequential in uninterrupted production. The functions include the requirement of materials (quality and quantity), delivery date, variety decline, procurement and create or buy decisions.

### **2. Methods:**

The reason of this function is to analyze all the method of garment developed and to select the best method according to the particular set of circumstances and services. It determines the succession of operations and the distribution of product into assembly and sub-assemblies, modified by the restriction of existing arrangement and work flow.

### **3. Main and manpower :**

Methods of garment manufacturing contain to be related to the available production facilities separate with labor and a element study of equipment substitute police . Maintenance police, procedure and program are also functions related with managerial liability.

### **4. Routing:**

The flow of succession of operation and process to be follow in manufacturing a lot is direction-finding. Routing determines what work will be completed on the product or parts and as soon as, wherever it will be done. It estimate the garment operation, their path, sequence, correct, class of machines and recruits.

### **5. Estimating:**

The particular method and sequence of operations are fixed process pane for each operation is available, then the operation times are projected. Apparel assessment is carried out using extensive analysis of operations beside with methods and routing and establishing a average time for operation using work capacity techniques.

### **6. Loading and scheduling :**

The schedule is a inclusive plan for an immediate and reasonably short time period. It need greater importance in developed. Technology include to be loaded according to their competence and concert.

### **7. Dispatching:**

It involves assignment of work to different technology or work places to release the order. It is an important step because it translates production procedure into reality or physical work.

### **8. Inspection:**

It involves the activities that make sure the quality of goods.

### **9. Expediting:**

It involves following positive the parameters which control the progress of materials and parts during the production process.

### **10. Evaluation:**

A comprehensive analysis of all the factor influencing the production planning and control

helps to recognize the weak spots. However, the corrective achievement necessary to overcome the inconsistency will be affected by a feedback.

### **Apparel Product Development Process:**

From the above discussion we have learn that the main reason of product development process is to ensure customer satisfaction and minimize customer takings. With the increase in competition, the apparel industry's focus on actions to observe the process has improved. These procedures can be used to benchmark with competitor or to adopt best practices. In apparel industry the product development sector is a window for new buyers in term of pricing, sampling and in order collection. Product development in garment industry is very simple and lengthy process. In this object try to give all process with shortly. Now we will talk about a more general apparel product development process considering the function from designer's plan or the initial design conception to make the product organized for final production. Developing products, it is significant to know the business model (such as wholesale brand, private label, store brand, customized product, etc.) and if the product is a new design or knock-off, so that the functions in these stages can be tailored to the business model's product situation. Product development strategy and processes for apparel industries conform as much as the number of companies in this field, as well as the complexities and simplicities; values and visions; market share and access of each company, but for the purpose of this essay, I will review these processes into the basic steps that are essential for the actualization and success of any product development Endeavour within the industry in focus.

### **Here we will discuss the product development process considering six stages:**

1. Line planning and research,
2. Design concepts: line concept through research,
3. Design development: line development,
4. Line presentation and marketing,
5. Production planning: pre-production and
6. Line optimization.

#### **1.Line planning and research**

The product development process is a team exertion by a number of people involved from a number of departments in an apparel organization. The primary step of this process is planning a line of products for a particular season or particular time period, depending on the company's advertising seasons. The PD team is usually comprise of several people starting design, merchandising, research and development (R&D) and raw material development, technical design or product manufacturing, sales and marketing, finance, graphic design, source, operations, planning, and reassurance. The PD team uses the information from research on trend, colors, materials, previous success or failure, past sales records, experience from before lines, and mark-down information, etc. thought a plan for the new line. The information from this effort will assist the designers and the PD team to formulate a plan for the new line with a positive (brand) reflection to influence the consumer section that the company is targeting for its sales.

#### **2.Design concepts: line concept during research**

After planning, the PD process begin with the design, which is a significant component in the development of style products. The design process begins with a line concept, which explains the mood, idea, and other key element that contribute to the identity of the line. To develop the line concept, the designers achieve their inspirations for designs by conducting research. This involves promote research and fashion research, from which they interpret findings interested in styles considering the brand and the target consumer. The market research provide information

that help the company to understand consumer demands. This is done by investigate the target consumers and their activities, their preferred product designs and characteristics, and the general market trend. The fashion research provide trend for the period as silhouette, design details, colors, fabrics, and trims. Designers play a important role in bringing the textile design ideas. Textile designers get their inspiration from mood boards from the design team, stage reports, print suppliers, and observing other fashion manufacturer or retailer.

The companies that the development research evaluate what has occur in the past and project what may ensue in the next season, tracking economic trends, social and cultural trends, technological advances, and political influences, which may all have an impact on the product design as well as on consumer behavior and spending. collaborate with the designer, the merchandiser will review the trend, analyze previous sales, think about the budget allocated and projected sales for the department or account, and come up among the line plan. With the product designs for the line finalize, the design-development process begins.

### **3. Design development: line development**

At this step the designers take the research findings and translate the line concepts into styles considering the sales potential, correctness for the brand, target consumer, and product line. The activities involved raw material development, testing and approval, color testing and approval, acquisition of sample yardage, pattern-making and fit approval, style evaluation and approval, wear testing, and preliminary price, leading to finalizing sample specifications and translating the line from sketches to actual product line. Merchandising, marketing, and PD teams will review samples to make decisions on final line approval. Merchandising team identifies the assortment, makes volume decisions, and establishes pricing and gross margins.

### **4. Line presentation and marketing**

The styles to be adopt in the line are review in the line review meeting attended by decision-makers from sales, sourcing, finance, operations, planning, and manufacturing. PD team will order raw materials for more duplicate. Production planning and control division will take out detailed costing and develop product specs. Marketing and merchandising teams resolve develop promotional materials for sales reps. Line is presented at markets to sell channel using sales samples by marketing team. Marketing and merchandising teams will review retail orders, compare with sales forecast, and add/drop styles, colors, and size to come up with the final customized line.

### **5. Production planning: pre-production**

During the production planning stage of the PD process, source decision are made to recognize which production facility will produce the approved styles in the line. The functions at this stage of the PD process will depend on what type of supplier will be used for production of the styles. Translating the decided prototype and first pattern into complete size range for final production. PD team will finalize quality, production, and process standards for manufacturing. Production planning and organize division will manage grade, marker making, planning, and sourcing of both material and production. Quality, material, and manufacturing specifications will be finalized by merchandising and production planning and control separation.

### **6. Line optimization:**

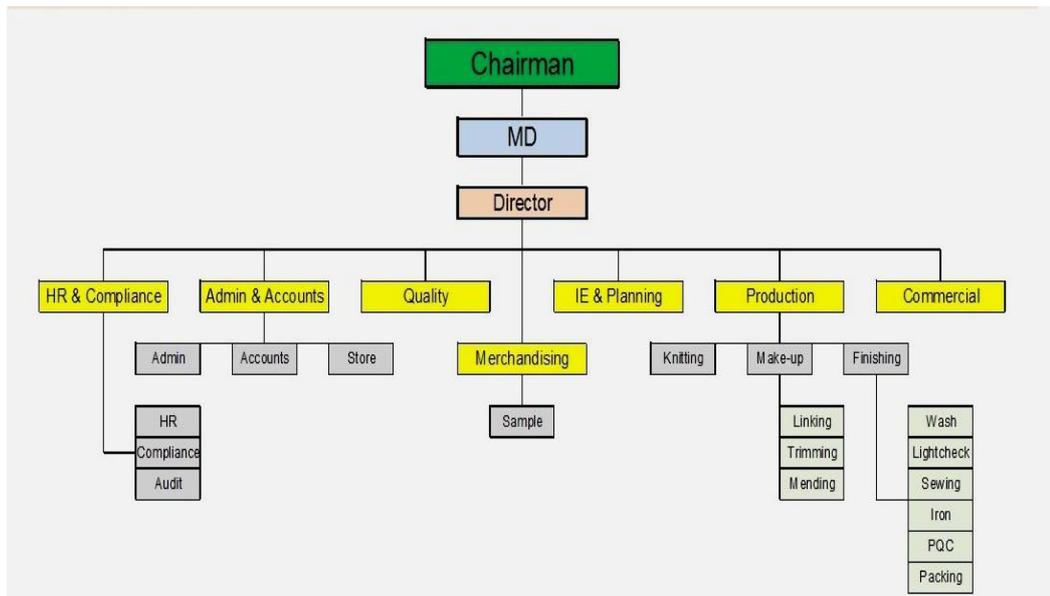
Merchandising team will assessment the final line against orders, drop styles with insufficient orders, and replace with new styles, colors, and sizes to optimize the line for productivity. If changes are made, the model will direct to previous phase as proper. This phase will continue while production in development.

**A standard quality management protocol of Azim group:**

- ✓ Maintaining a strict check and balance on all incoming, in-process and finished and final products that plants their premise.
- ✓ Running thorough checks on all patterns and pattern grading.
- ✓ Monitoring and ensuring effectiveness of marker making methods.
- ✓ Monitoring quality checks on garments and raw materials coming in from the suppliers Using sophisticated equipment such as Martindale Abrasion Tester and Air Permeability Tester.
- ✓ Monitoring all processes such as spreading, cutting, knitting, dying, etc. using equipment such as Wringer and IR Lab Dyeing Machine
- ✓ Making sure that knitting looms are given their due relaxation.
- ✓ Installation of inline inspection systems in sewing lines
- ✓ Install necessary systems such as Traffic Light Chart systems or other relevant systems to be able to monitor quality in production lines.
- ✓ Making sure that all goods that come out of sewing lines are inspected thoroughly and 100% for quality,
- ✓ Using arithmetical Techniques to inspect the table quality inspection for in line passed garments.
- ✓ Ensuring control and sorting of rejected pieces and making sure that they do not mix with those that have been passed the quality checks.
- ✓ Ensuring control of goods that are repairable or washable so that they can be reassessed for quality.
- ✓ Making sure that all quality assessments are done using the right machines, equipment, tools, and techniques and under right conditions so that the results are accurate.
- ✓ Inspect all pieces for the right techniques of ironing, pressing and folding.
- ✓ Making sure that all finished goods are rechecked for quality before poly-bagging.
- ✓ Making sure all packaging material and poly-bags are up to the required quality standard.
- ✓ Making sure that all packaging measurements packaging procedures are in line with the customer's requirements.
- ✓ Ensuring one final round of inspection at the manufacturer's end before dispatching the goods.
- ✓ Ensuring that all quality assurance staff has undergone updated training programs that enable them to identify defects and understand the causes of defects.
- ✓ Making sure that all quality assurance personnel are provided with necessary training related to using statistical methods.
- ✓ Researching room for continuous improvements and plan and implement them.

When it comes to the apparel industry, quality standards need to be calculated regarding the quality of fiber, stitching, dying, durability, fastness, designs and final finished goods. This is extremely important a seemingly perfect finished good may turn out poor after use at the customer's end because of a flaw in yarn or dying process, regardless of how physically appealing the final good was when packaged. This can hit the brand hard and can turn away the customer from repurchasing. Therefore, it is important to employ Total Quality Management Systems so that quality can be precisely measured at every level and defected pieces can be separated instantaneously. It is important to understand that new technology and tools result in continuous improvements in quality management systems and therefore apparel industries should ensure that all its inspection systems are up to date so that firms remain competitive. This is because the quality is one of the key factors that influence customer buying decisions.

## Company Management Structure:



**Company Profile Photo:-**



Company washing machine & dyer, products pictures.



Chapter: 04  
Internal Quality assurance procedures Of  
Global Outerwear Ltd. (GOL)

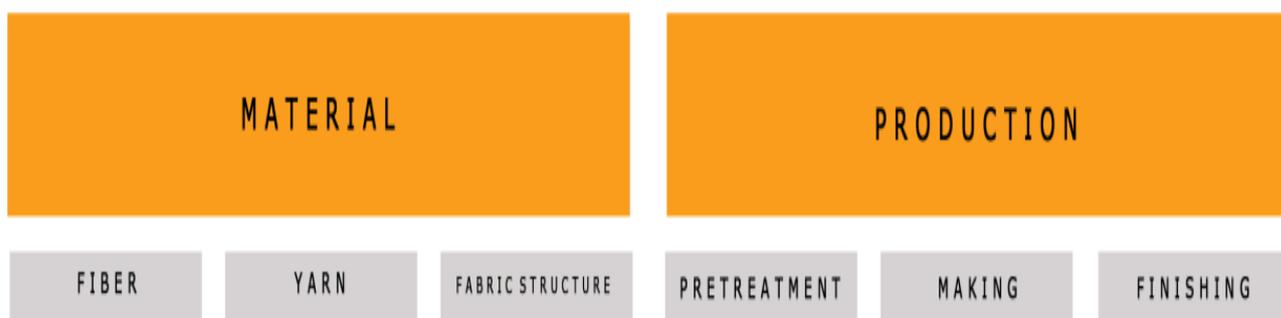
The standard ISO 9004-2, quality is the essential nature of impressive, an essential or usual characteristic or property, advantage, excellence, or perceived level of value. Exact distinctiveness proficient as quality features vary between people. Each person has their own reference of quality, some people find good constancy and functionality as good quality, for others, attractive design and product status is good quality. Costumers rely on a large variety of aspect to decide if the products meet their quality reference. The quality distinctiveness of a product have to be included so that the customers need and will to purchase the item for consumption can be cost-effective broad concept of quality can be divided into three subcategories:

- Essential
- Extrinsic
- apparent

Intrinsic quality is produced during product development and production and is depending on materials, methods and processes. Extrinsic quality is not a part of the vague product; it is everything around the product like brand, shop, price, merchandising, marketing and reply of retailer. Supposed quality is the essential and extrinsic quality collectively.

### **(GOL) QUALITY**

The intrinsic qualities of(GOL) are affected by two main groups; material and production. By dividing into these two groups when research quality, it will be easier to analyses possible improvement. The material type holds fiber, yarn and fabric structure whilst production consists of the production period with pre-treatment, making (cutting, sewing, trimming) and finishing. Several different finishes or washes can be applied to(GOL) to complete different looks. Many of the wash aim to give the(GOL)a worn and torn stare. Fibre, fabric and garment property are tested with the purpose to make sure both high durability and quality. permanence property can be tested in laboratories, but test results from the laboratories do not always perfectly expect how the garment will perform when used by consumers. The test results will only indicate how the fabric may perform; it is also possible to notice fabrics or fashion that do not stand the quality tests.



### **Fibers and Fabric Structure**

To identify the properties, concert also the permanence of a(GOL)fabric, it is necessary to identify with the fibres inside the fabric the anecdote, the fabric work, and what process and behavior that have been used to produce and finish the fabric. Fibers give to fabric concert and authority product visual, comfort, durability, emergence release and care. Fibre property are determined by their physical organization, chemical work and molecular conformity. The type of string and its structure control hand and concert. The processes that are used also influence hand, concert, materialization and the concert of the fabric during use and care.

## **GOL Dyes**

Indigo is usually used to dye (GOL). There are different types of indigo dye, both accepted and artificial. The synthetic indigo dye is usually used in the textile industry. Indigo is demanding to dye because it is not soluble in water. To be dissolved, the indigo must go through a reduction. Usually the indigo has a poor staining to the cotton fibre, which could cause dry- and wet fade and color loss. When dyeing dark, especially black (GOL), sulphur dye is used. Like the indigo dye, the sulphur dye is insoluble in water and a reduction has to be made to make it attach to the fibre. Fibres, anecdote, fabric and garment can be dyed. For (GOL), it is normal to dye the level before weaving and keep the weft dyed. Sometimes additional dyeing are made on the garment, this is called garment dyeing. Dyes itself occasionally cause damage on the fibres and negative affect the durability of the (GOL). The poor color fastness to cotton can sometime be a quandary

## **GOL fabrics**

In (GOL) fabrics the woven structure called twill is commonly used. In twill straighten yarn floats on the outside of the fabric. The twill weave have a technical face and back, the technical face is the side of the fabric with most marked wale. The technical face is usually more durable than the technical back. High count woven fabric. High amount of interlacing, gives a strong, compact, stable and Dura fabric. Low count fabric. fewer amount interlaces, gives a flexible and soft fabric that easily shrinks. To resist big dimensional changes it is important with a good balance between straighten and weft.

## **Dimensional stability**

Dimensional stability is the ability to resist growth or stretching. As mentioned earlier, fibre content has influence on properties of the fabric.

Three factors that could cause dimensional changes are:

- Tension
- Swelling
- (Felting, cool)

Tension, and the degree of tension, is one important aspect that influences the dimensional stability. Tensions generally occur during construction when yarns are held stretched. When the fabric later on is exposed to wetness, this can result in dimensional changes. The degree of dimensional change at relaxation depends on weave type, both in straighten, weft and on total shrinkage. Extremely compact fabrics or high thread counts are more stable. Woven fabrics usually have a tolerance of  $\pm 3\%$  growth. Studies show that for good dimensional permanence, woven fabrics must have a good number of interlacing in both weft and straighten direction. It is not enough to have good interlacing numbers in one direction, since woven fabrics must have a stable structure. Also, studies show that fabrics with low crimp values have good dimensional stability because it restricts growth, even at low number of interlacing. Swelling occurs when fibres are exposed to moisture and the fiber expands. Because of hydrophilic property, fibres like cotton, flax, silk and ramie have great abilities to swell. When fibers swell, their “way to walk” gets longer which will lead to growth. Due to friction, dimensional changes will retain after drying. Swelling can also result in expansion, so called growth. To minimize the risk of having large dimensional changes, finishes can be done to prevent this. Depending on type of dimensional change you want to fix, finishing process is preferred

### **Tear strength**

The tear strength possession of a fabric is its ability to accept a tearing force. Tear strength is an essential property for the strength of a pair of (GOL). Since the tear strength indicate of the strength of the yarn, this will therefore affect the (GOL) strength.

## **(GOL) MAKING & PROCESSES**

### **Pre - treatment**

The first step in the(GOL)production procession is the pre-treatment. A variety of garments, particularly (GOL), are pre-washed. Pre treatment minimize the risk of unwanted growth and color loss when it is in the hands of the buyer. Pre treatment also removes stains appeared during the management of fabrics. Because of the confiscation of size, this process is also called desiring. During weaving, size is used to make stronger the yarn and after weaving this has to be removed from the fabric. Sizes can be removed with different methods: washing with high acidic agent, all line agent or oxidative chemicals. This can reason damage on the fibres and is associated with many drawback and confines. By using Alfa amylase, some drawback can be vetoed. This process does not damage the fibres and is effortless to control.

### **Making**

There are several factors that affect the important quality of(GOL)during manufacturing. The spreading and cutting of fabric can be done in similar ways. The important thing is that there is as little tension as possible in the fabric when it is spread and that the pattern maker is placed in line with the selvedge when the pattern pieces are cut. Otherwise the finished garment may wind and shrink due to fabric recreation. Garment pieces must not be cut too big or too small. At the assemble point, there are more factors that affect the essential quality of a garment. The sewing skill of the operator will impact the final form of the (GOL). Not staying within the seam allowance will make the garment also larger or smaller than it is supposed to be. This is by all means a critical aspect of quality. Uneven feeding when sewing the fell seam on the inseam can result in unbalance between front and back pieces, crocked seams may make the trouser leg appear to be straightened.

### **Finishing processes**

Today, washing plays an important role in the(GOL)value procession. Lot of customers do not want to carry and destroy their(GOL)themselves, but want the manufacturer to do it for them. To achieve this worn look, a lot of different treatment can be made and different kind of processes and machinery can be used. Some processes are easy and some are intricate and needs to be carefully controlled. Due to reduced wet and dry rubbing fastness of the indigo dye, every step in the(GOL)washing process can make a big difference. There are two types of processes, dry and wet, that can be used on(GOL)fabrics and garments. It is common to start with one or several wet process and to finish off with dry process. By combining different processes, a variety of effects can be achieve. Every process will have some kind of authority on permanence of the (GOL).

### **(GOL) Wet Process**

#### **Stone wash**

Stone wash is a established washing process where volcanic rocks or pumice stone are added to the garments during wash as a brad ants. Stone washed products will have a wear look, and are generally a bit smooth at the seams. Usually, stone washing is made on indigo dyed garments that easily loses color during scrape. Often ring- dyed yarns are used, which means that only fibres on the surface have been dyed and that the core vestiges uncolored. Stone washing are made with

natural and reproduction stones. The artificial stones can be altered according to the wanted effect and can be made of energy or earthenware. Stone wash causes scratch to fibres, the degree of damage depends on type of stones used and for how long the garment is stone washed.

### **Enzyme wash**

Enzyme wash is a process when garments are washed in a cellulose-based liquid as an alternative of being washed with stones. The cellulose enzymes are abrade the surface of the cotton fibre. During strict control, damage on the fibres' strength and things to see on seam can be resisted. The same hand can be achieved with enzyme washing as with stone washing, but in a microscopic level, this process is more merciful towards the fibres.

There are four kinds of enzymes for washing:

- Amylase
- Cellulase
- Laccase
- Catalase

Cellulose enzymes are a mix of enzymes that deploy many fiber into glucose and other lower molecular. In fabric made of fibres, the cellulose enzymes are by hydrolyze remove the fibres of the outside, even the ones who holds dye. The neutral enzymes gives less back staining and works best with pH value between 6,0- 8,0 and shows best activity at 55° C. Acid cellulose enzymes works best in the pH- range of 4,5-5,5 and have optimum activity at 50° C. Enzymes will attack a specific molecular group. For(GOL)washing, mainly three types of enzymes are being used. That is neutral, acid and bio polish enzymes. The process has to be strictly controlled because of the enzymes warmth to temperature, time and pH. These three parameter highly affect the result and too big variation can cause damage on the fabric .After finishing an enzyme wash, a washing process that rinses the garment has to be done, to make sure there is no enzyme excess left. This process can be made in different ways and it will also give the garment a better manifestation.

### **Heavy stone wash**

Heavy stone wash is a arrangement of stone washing and enzyme washing. The benefit of heavy stone wash is a shorter dispensation time and that almost 50 % less stones and enzymes are needed. The abrading effect of heavy stone wash depends on the type of stones, the enzyme type and the period of the process.

### **Acid washed**

Acid washed garments are pre treated with stones that have been convex in an oxidant. This method reduces the physical damage on the garment and reduces the time of washing. The oxidant will make the indigo molecules oxidize, which will destroy their ability to reflect blue wavelength. This process is also called dry bleaching. The size of the stones and the oxidation effect can be used to demands. By neutralization, the process can be stopped. Acid washing often gives light parts a light brown shade.

### **Bleaching**

Bleaching can be done in numerous ways, with several bleaching agents:

- Hydrogen peroxide
- Potassium permanganate
- Sodium hypochlorite
- Calcium hypochlorite

Sodium- and calcium hypochlorite are commonly used for medium to vintage(GOL)looks and potassium permanganate is used for super vintage and light shade looks. Hydrogen peroxide can be

used when a light bleach effect is required or if the or if fabric is sulphur dyed. Bleaching can cause damage to fibres.

### **Tinting and dying**

Tinting and dying are being done to change hue, cast or tone of indigo. Tinting is when only parts of the garment are dyed and dying when the whole garment is dyed. Generally tinting is used to give(GOL)a worn and vintage look.

### **Softening Process**

Softening process selecting softeners there are some aspects that must be considered. Softeners may react with contaminants in high temperatures; this can cause fabric to start yellowing. Some colors, especially blue and red, are very sensitive towards softeners, and can after softening change shade. The softeners should be compatible with wetting agents, dispersing agents and other auxiliaries. Some softeners can have a solvent effect on certain dyestuffs.

### **Dry processes**

There are both mechanical and chemical dry processes. Scraping and grinding are two examples of mechanical processes. With scrape, color is removed by using sand paper. Grinding, also called destroyed effect, is a method that destroys or tears the fabric apart. This method is usually used at the bottom hem. Both methods cause damage on the fibres and on fabric surface and have negative effect on the durability. The spraying process is made to achieve different effects on the fabric by spraying on chemicals or pigment. This method saves water, energy and time.

### **Methods for quality testing**

(GOL) fabrics were green taking into consideration five strength aspect: scrape surrender, tear strength, colorfastness to rubbing, colorfastness to washing and element constancy. The tests resulted in quantify data that was put collectively and analyzed. On four out of five tests; abrasion opposition, colorfastness to rubbing, colorfastness to washing and measurement stability the result are subjective judge by the author. Quality test for declaration demand

### **Washing procedure**

The launder also drying formula were made according to isolation course of action. A familial washing instrument were used to make the washing process also the garment were washed among average curriculum at 40° C, the program duration was approximately 1,5 hours. Garments were dry in a domestic climb dryer at normal temperature for approximately 50 min, until the garment no longer was damp. A rare detergent for home launderings, Via responsive Color, was used. In accordance with company policy, garments were locate through three cycle of launder and drying after being tested.

### **Tear strength**

Tear strength was green with the correct method, the ISO 13937-1, Tear property of fabric purpose of tear force by means of ballistic pendulum method. Specimen were at random taken from the garment and torn in the easy equipment. The mean tear force across straighten and weft were calculated. Test consignment was used during the tests

### **Abrasion resistance**

Abrasion surrender tests were performed according to ISO 12947-2, purpose of scrape confrontation of fabrics by the Martindale process –purpose of specimen fail, and judge according to the company's quality requirements. After the end of each series the sampling was evaluated to determine if it yet had reached its breakdown limit. The color change and appearance of the specimens was also evaluated. The test load was used to press the specimens down. The evaluations were made at 3000, 5000, 10000, 12000, 14000, 16000 and 17,000 revolutions. 17,000 revolutions is the limit of the company's scratch requirement. The

shade change was assessed after every test interval.

#### **Color fastness to rubbing**

The color fastness to rubbing was evaluated according to ISO 105-X12, Tests for color fastness to rubbing. Two specimens, of each straight and weft direction measuring a minimum of 50 mm x 140 mm, were incised from the testing sample. The tests were made with both wet and dry rubbing cloths.

#### **Dimensional stability**

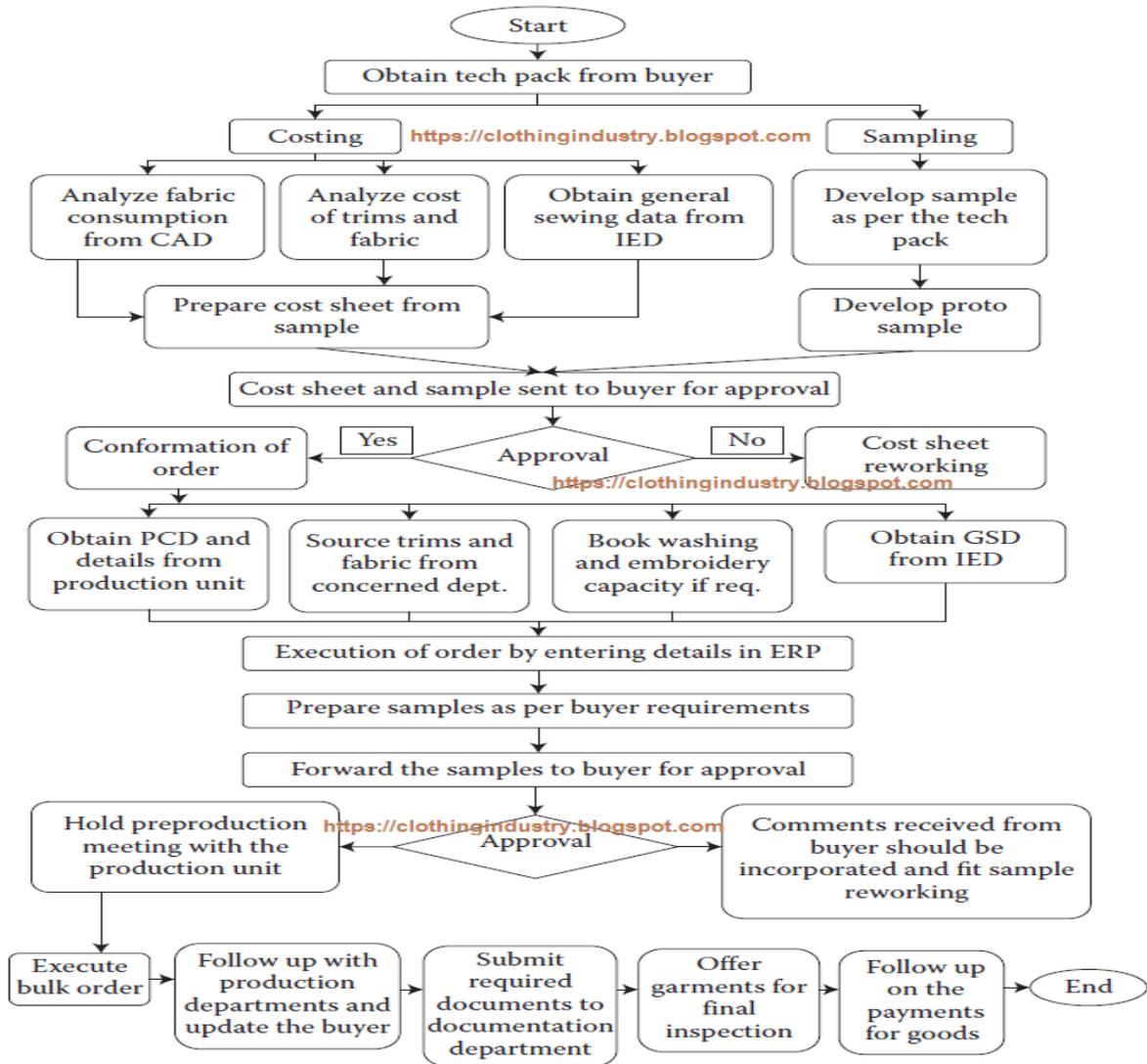
The dimensional stability was tested according to two standards, ISO 3759, training, marking and measuring of fabric specimens and garments in tests for determination of dimensional change, considering the fabric and ISO 5077, Determination of dimensional change in washing and drying, taking into consideration the garment.

#### **Quality audit & measurement estimation**

According to company values the measurements of garments were complete on waist, thigh, knees, bottom hem, and inseam, abut rise and support rise. Deviations since the measurement list were well-known. The results were compiling and deviations over the control precincts were marked.

#### **Conceptual Framework**

Based on the literature review of my study, I have developed a framework. Recruitment and selection is internal quality assurance procedures. After recruiting an employee, he or she has been given different training programs which are described in the training part. Internal quality assurance procedures are connected with the concert of the employees because training and development makes the employee perform better. By giving training properly, an employee can make his or her all sites development which will bring his or her compensation and different benefits as well as if the employee can perform better than others then the employee will be recognized and will be able to achieve different rewards based on the employee's concert.

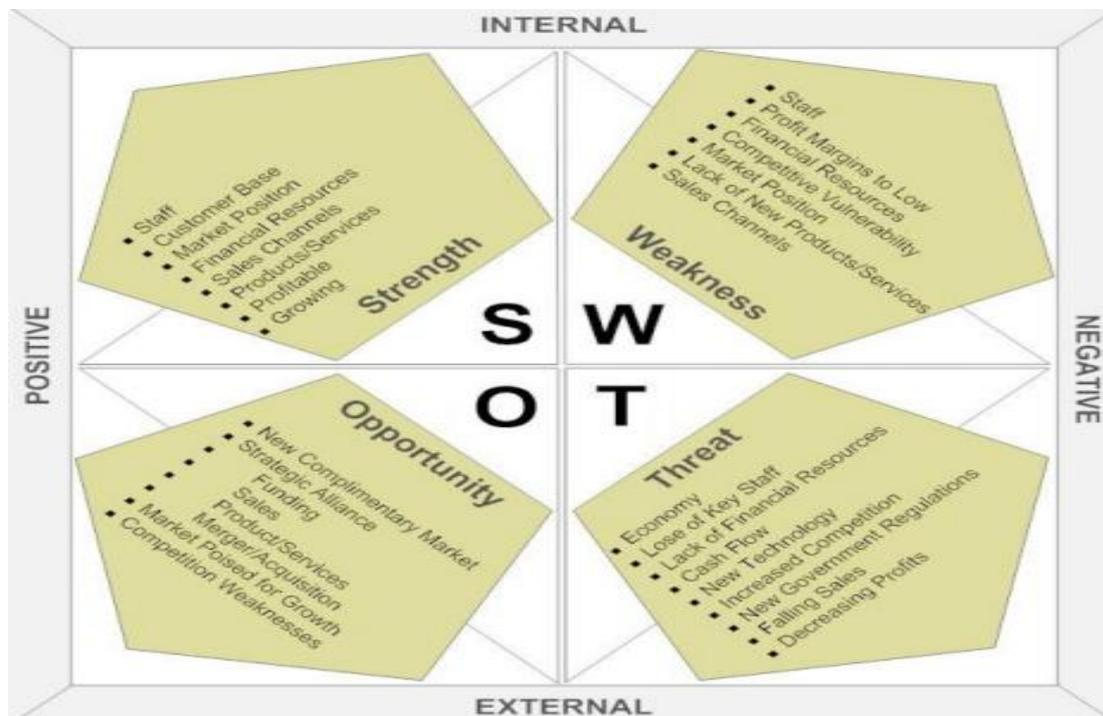


# **Chapter:05**

## **Findings & Analysis**

## SWOT(GOL)

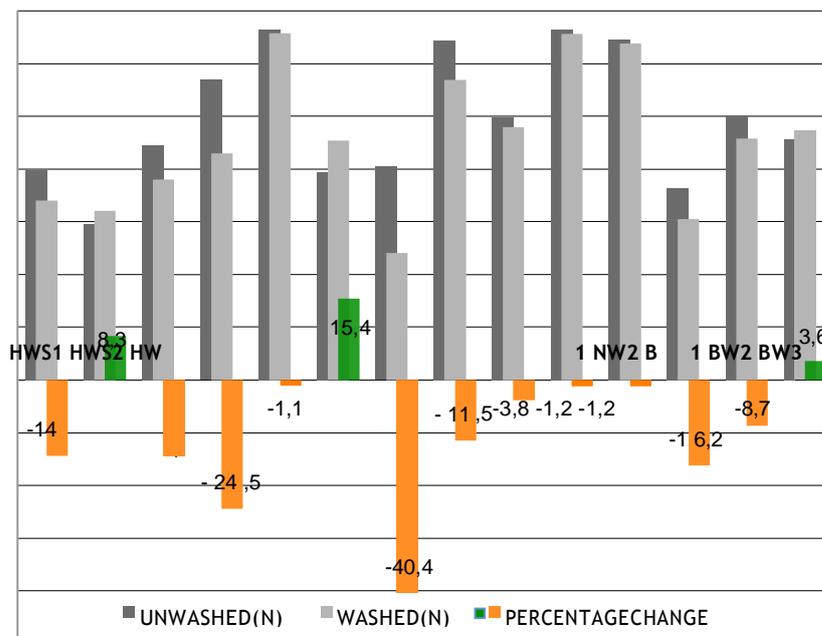
SWOT is foundations for developing a strategy to establish an organizational operating plan.



## Finding Results

### Tear Strength Results

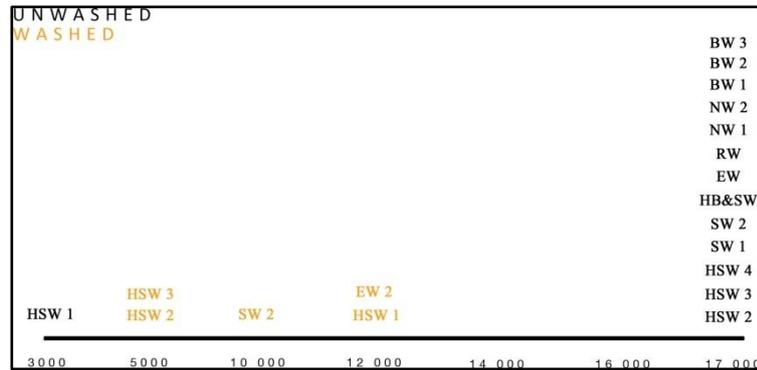
All unwashed and washed fabrics passed the test. Significant changes in strength before and after wash were noticed within some of the fabrics.



### Results of abrasion resistance

One of the unwashed styles did not pass the test when broke at 3000 revolutions. After three washes, five out of 14 styles did not pass the recommendation of 17 000 revolutions. Three of the styles broke at early stage, after 5000 revolutions, one broke at 10 000 revolutions and two after

12 000 revolutions.



### Results of color fastness to rubbing

According to quality standard, two tests of each style should be performed, one dry and one wet. The color fastness to rubbing should be at least level 3-4 for dry rubbing and at least level 3 for wet rubbing. All tested styles passed the quality requirements for dry fade. Two out of three stonewashed fabrics and none of the raw fabrics did pass the test when wet. Heavy bleach and stone washed, enzyme washed, rinse washed and bleach washed fabrics passed.

### Results of color fastness to washing

After three washes, all(GOL) maintained good color and passed the test.

### Dimension stability results

The enzyme washed fabric shrank in both straighten and weft direction and did not pass the quality requirements. Shrinkage over the recommendation was noticed for the unwashed (raw) fabrics in straighten direction. shrank in both straighten and weft direction and did not stand the recommendations. Even though there was a difference in dimensional change between straighten and weft, the difference was not significant.

### Results of determining spiraled after laundering

For all of the washed (GOL), no twist or accepted twists were noticed after the first and second wash. After the third wash, the twist was gone for all of the garments.

### Results for dimensional stability of garment

Three washes without dimensional changes larger than  $\pm 3$  %. All other styles had one or more measurements that exceeded the quality recommendations. only exceeded the recommendation at one point, the back rise.

### Quality audits

Measurements made on nine of the company's styles show that all nine have one or more deviation above the company's usual charity values. No similar deviation are to be found in former reclaim, such as reclaims regarding too much back rise or too small thigh. conversely, the result detects one aspect that must to be inspected. The deviations were found at critical, as well as with a reduction of critical measurements. Some of them differed a few millimeters from the charity values, whilst others differed some centimeters. The measuring of twisted leg/ bad folding showed that 87 % were well folded and showed no suggestion of twisted leg. 6, 2 % were shoddily folded but had no indication of twisted leg. 6, 6 % had twisted leg but were well folded and one item was poorly folded and had twisted leg. All twisted leg cases were found within the

technique tight style for women. The smaller sizes (25 and 26) were over-represented among the twisted leg cases, but also the larger sizes (30 and 33) had that problem. All in all, out of (GOL)poorly fold which, according to this examination, is not a vast issue since it is only 5,7 %. On the other hand, when looking at the 6,2 % that seemed to be twisted but was badly folded, it is a problem and a risk of reclaims. However, this problem should not be expensive or particularly hard to solve.

GOOD FOLDING & NO TWISTED LEG	GOOD FOLDING & TWISTED LEG
87 %	6,6 %
6,2 %	0,2 %
BAD FOLDING & NO TWISTED LEG	BAD FOLDING & TWISTED LEG

### Test result – analyze

Tear Strength- adjust Strength following Three wash Eight styles have less than 10 % in strength decline. Three of them decrease more than 10 % in weft direction. Half of the styles were in 100 % cotton and the other half were in 98 % cotton and 2 % eglantine. Out of eight styles that passed the test, three of them did not lose potency, but increased its strength after three washes. Six styles lost more than 10 % strength after three wash. Two of them were in 98 % cotton and 2 % eglantine. Except one style, the test show that styles with great decline in straighten way also lost strength in weft direction. But the lost in straighten way was lower in relation to weft direction. Eight styles lost more than 10 % in weft direction Heavy Stone Wash showed an important change in strength before and after washing in three of the fabrics. With the forth fabric the influence increased. The Stone Wash fabric was mostly unchanged by the washing. The Enzyme Washed fabric decrease in strength in straighten but not in weft. But the tear strength was still after three washes very high, this probably due to that enzymes are more gracious to the fabric compared to other wet processes. The Rinse Washed model decreased in straighten as well as in weft although the decrease in weft was larger. The corrosion in weft meant that it after three washes reach the lower limit for what it should withstand. The straighten in this case is stronger than the weft and mainly that is the crucial point with an (GOL)fabric, however a fabric is not stronger than its ‘weakest link. Probably the rinse wash is the reason of why the fabric decreases in tear strength. The unwashed fabrics was not pretentious by the washing in a evident way, both

of the fabrics were strong before and after washing. One of the fabrics, display a decrease of strength in weft, however the decrease will most likely not affect the fabric as a partial since it is still far above the received requirements. The Bleach Washed fabrics decreased a lot in both pervers and weft. This was not surprising since bleaching leads to declining of the cotton fiber, and particularly the eglantine fiber. Both of the two bleached fabrics were a combine of cotton and eglantine. Strength decreased severely, whilst the decrease with was acceptable. The Heavy Bleach and Stone Washed fabric was the one with the most decrease, both in make straight and in weft. Earlier heavy treatment are exactly certainly the reason of such great decrease. The test results varied a lot and no evident connection between washes and tear strength could be notice. No obvious connection between eglantine and better or decreased tear strength was either not noticed. Fabrics with eglantine both increased and decreased in tear strength.

### **Abrasion test**

Except one, all sample conceded the abrasion test. Was the one that did not pass and bust at 3000 revolutions. The fact that was insignificant treated is in all probability the cause why it broke at such early stage. But chemical excess in the fabric could also be a reason, especially when the washed sample broke at 12 000 revolutions. If there were any chemical excess, they were probably rinsed during the laundering. That differs from the other heavy stone washed sample could also specify that the test result for is just random. Eight out of washed samples passed the test. Abrasion, cause by finishes as well as washing, is almost indeed the reason why the remaining six samples did not make 17 000 revolutions. Both (GOL)with and without eglantine broke before 17 000 revolutions, and therefore the effect from the eglantine cannot be verified on the abrasion confrontation. It is likely that the bleaching cause damage fibers and weaker fabrics, but this could not be seen in this abrasion test.

### **Color fastness to rubbing**

Loss of color when rubbing is normal for raw (GOL)fabrics. This is due to the hydrophobic wealth of the Indigo dye. Therefore, some dry fading is something that has to be accepted when it comes to (GOL). on the other hand, too much dry fading means a risk of discontented customers.

### **Color fastness to washing**

follow three washes, all(GOL)maintain high-quality color and passed the test.

### **Dimension stability**

The one motivation for the dimensional change, shrinkage, for all of the fabrics is hard to tell. The result could indicate the authority of(GOL)finishing on dimensional constancy, but it could also be chance given result. As mentioned in, Dimensional constancy, fiber and fabric structure plays an important role intended for dimensional strength. Dimensional stability or dimensional changes can be caused by dissimilar reason. In this case, when all fabrics shrank, is potential that the change is cause by tension. Fabrics with no insignificant difference between straighten and weft, strain might be caused by different processes after weaving. Fabrics with greater shrinkage in straighten, tension probably been mainly caused from weaving. But also from different (GOL) process, due to shrinkage even in weft. To reduce the difference in dimensional change in pervers and weft, one solution could be some kind of relaxing process of fabric after weaving. This would probably make the growth due to(GOL)process more equal between pervers and weft. Equal shrinkage can be preferable, because even if the garment shrinks, it will maintain good scope. Shrinkage in straighten direction is more critical than shrinkage in weft direction when it comes to (GOL), particularly (GOL)of cotton and eglantine. Shrinkage in weft direction, easier returns to original measurements during use. Shrinkage in weft direction could in some cases be

appreciated, when this helps to maintain fit. The shrinkage in straighten direction is more critical due to it do not returns to its original extent during use like the weft does. But, to minimize the risk of shrinkage, the garment can be expanded when wet. Because of the increased strength of the cotton fiber, stretching do not weaken the fiber or affect the durability of the (GOL).

#### **Spiraled after laundering**

The fact that all earlier noticed twisting after the third washes were gone was attractive. This speaks for tension within fabrics takes time to overcome. Repeated laundering are needed for consecutive reduce of tension. As mentioned, tension can be caused several reasons. In this case, it really hard to tell whether it is caused by weave or manufacture. The will could also be the reason of twisting. As mentioned earlier, the twill weave is disturbed which cause movements in the(GOL)fabric. These kinds of movements are characteristic and are hard to avoid.

#### **Garment dimensional stability**

The stone washed fabrics were distinguishing with most changes over 3%. Except all other fabrics were attractive equal to each other. The lack of variation between finishes, specify that fabric structure rather than (GOL) finishing cause dimensional changes

#### **Twisting vs. bad folding**

Only a few pair of(GOL)had a "real" twisted leg. twisted leg caused by dimensional changes in the fabric or tension caused during stitching. The (GOL) witha" false" twist, was probably bad folding, which made the leg look twisted. With better downfall, it would not be any problem.

# **Chapter :06**

## **Recommendations and Conclusion**

### **Recommendations:**

Quality is a biased idea, which means that what individual personality considers to be high quality, is not necessarily the same for everyone. Because of this it is hard to delineate accurately what low quality (GOL) are. However, the author does consider the facility to maintain properties such as color, muscular and durability to be amazing that make a distinction between high quality (GOL) and low quality (GOL) with trying and washing. Maintaining properties are not characteristic for (GOL) but is something that most communities need other garments as well. But since many (GOL) are processed to get a worn seem, this issue becomes a significant quality facet.

1. All parts can be viewed as “critical” and of importance to be there able to create high quality (GOL).
2. It’s important for a (GOL) brand to be nit-picking from the beginning and also set high demands on material and manufacturing.
3. From this study it could be established that if you are careful from the beginning and choosing high quality fibers etc., the finishing is the most critical aspect of the manufacturing process of (GOL). The wear finishes not only give a worn look, but also deteriorates the (GOL) ability to maintain its properties.
4. It has been very difficult to find detailed information about different (GOL) processes as well as the chemicals used in the processes, which in its turn has made it difficult to see what the cause of the injuries in the different processes may be and what might be needed to change.
5. (GOL) becomes weaker when washing, without wild speculations. The authors, however, can establish that the finishes, and especially washing, are very demanding on the (GOL) and affect their physical quality.
6. It only gives an indication and not a totally correct result.
7. The wearing phase is incredibly difficult to emulate and tests after washing only give a hint. But, you can possibly detect (GOL) that, for example, decreases too much in tear strength, by comparing test results before and after a number of washes.
8. In this study all (GOL) were washed in the same washing machine, with the same washing program and with the same laundry detergent. In spite of accuracy, the amount of laundry detergent may have varied which might have affected the results.
9. The colorfastness has also been subject to some tests in this study. Overall, the samples displayed good results and the authors can only establish that they, in this case, were not a problem.
10. In contrast to this study’s test outcome, the colorfastness is a frequent problem, mainly when it comes to yarn (GOL) colored with indigo.
11. As mentioned earlier, near ensure short quality (GOL) company must to be careful since the beginning and set low weight on fabric and developed.
12. Quality tests also inspection of both fabric and first products.
13. Despite every this, (GOL) brands will in all probability never be able to avoid satisfied customers and reclaim.
14. This in malice of how elevated the quality is. as a result, getting reclaims is not automatically a sign of privileged quality.
15. The brand might probably not reduce the quantity of reclaim by mounting their quality demands.
16. The results of this study state that absent are no stern problems concerning the green products, the quality ratios are usually reached. deviation from supplies were the majority frequent in the

quality audit perform.

17. The measurement deviation is one of the important aspect of quality. It might be individual of the main reason why customers recover their (GOL), particularly not for customers make an effort the garment on in the store after buying.

18. In the salvage statistics it must in a more patent way become visible if(GOL)are usual out of concern, and before an additional basis such as “broken fabric”.

19. Today a concern claim could be recognized with “broken fabric” as a basis, which outcome in confusing statistics and as a result the statistics is intricate to make use of in the quality management.

20. As well as each in receipt of an education in come again is traditional claims and what should be off the record as concern.

## **CONCLUSION:**

Finishes that provide (GOL)a wear and torn seem to be not no more than affect their strength, but as well the (GOL)’ ability to destroy its property. By being careless and select fabric such since low quality fibres and yarn as well as make sure a skillfully manufacturing process, (GOL)company can manufacture and sell low quality (GOL). on the other hand, finished(GOL)with a worn look will almost certainly not at all have as excellent durability, and acquire the same ability to preserve property as raw (GOL). To some area the finishing will be open and the wear finish can be made with “contemplation” so that avoidable have on is avoided. although the information that (GOL)’ durability is deteriorated when processed makes the finishing a critical aspect. In the end this forces you to put the design against the durability aspect and decide which one is the most important. The worn look is a different type of quality aspect and mainly determines if the customer will choose to buy a pair of(GOL)or not. As a(GOL)company, you can probably never avoid to make(GOL)that does not brake and thereby avoid reclaims to 100 %. This is since people wear and tear their(GOL)very differently. Therefore, reclaims is not necessarily a sign of poor quality and the solution does not need to be to increase the quality demands. The complexity of problems is rather the wearing phase and the facts that(GOL)have become a garment that is heavily used and sometimes worn without any consideration.

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### **List of Abbreviation:**

GOL=Global Outerwear ltd.

IQA=Internal Quality Assurer

CPD=Company Planning & Development

ph = power of hydrogen

BEPS= Bangladesh Engineering and Petroleum Services

GSEL= Global Steel and Engineering Ltd

R&D=research and development

PD=product development

ISO =International Organization For standardization

## APPENDIX I

### TEAR STRENGTH

#### TEST METHOD ISO 13937-1

#### HEAVY STONE WASH

STYLE	STRAIGHTEN		WEFT		% STRAIGHTEN	% WEFT
	UNWASHED	WASHED	UNWASHED	WASHED		
	(N)	(N)	(N)	(N)		
HWS 1	39,83	34,10	43,26	27,79	-14,39	-35,76
HWS 2	29,60	32,07	27,15	29,22	8,34	7,62
HWS 3	44,43	38,02	25,86	17,10	-14,43	-33,87
HSW 4	56,97	43,04	54,93	45,62	-24,45	-16,95

#### STONE WASH

STYLE	STRAIGHTEN		WEFT		% STRAIGHTEN	% WEFT
	UNWASHED	WASHED	UNWASHED	WASHED		
	(N)	(N)	(N)	(N)		
SW 1	66,52	43,88	65,77	44,29	-1,13	0,93
SW 2	39,18	26,88	45,46	29,20	16,03	8,63

#### HEAVY BLEACH WASH & HEAVY STONE WASH

STYLE	STRAIGHTEN		WEFT		% STRAIGHTEN	% WEFT
	UNWASHED	WASHED	UNWASHED	WASHED		
	(N)	(N)	(N)	(N)		
HB&SW	40,46	24,10	51,28	31,10	-40,43	-39,35

#### ENZYME WASH

STYLE	STRAIGHTEN		WEFT		% STRAIGHTEN	% WEFT
	UNWASHED	WASHED	UNWASHED	WASHED		
	(N)	(N)	(N)	(N)		
EW	64,40	56,97	45,32	44,30	-11,54	-2,25

#### RINSE WASH

STYLE	STRAIGHTEN		WEFT		% STRAIGHTEN	% WEFT
	UNWASHED	WASHED	UNWASHED	WASHED		
	(N)	(N)	(N)	(N)		
RW	49,93	48,02	42,67	36,55	-3,83	-14,34

#### NO WASH

STYLE	STRAIGHTEN		WEFT		% STRAIGHTEN	% WEFT
	UNWASHED	WASHED	UNWASHED	WASHED		
	(N)	(N)	(N)	(N)		
NW 1	66,48	65,65	38,20	37,59	-1,25	-1,60
NW 2	64,60	63,85	59,82	53,70	-1,16	-10,23

#### BLEACH WASH

STYLE	STRAIGHTEN		WEFT		% STRAIGHTEN	% WEFT
	UNWASHED	WASHED	UNWASHED	WASHED		
	(N)	(N)	(N)	(N)		
BW 1	36,46	30,55	26,70	19,11	-16,21	-28,43
BW 2	50,15	45,78	49,02	42,87	-8,71	-12,55
BW 3	45,62	47,26	51,12	56,03	3,59	9,60

## APPENDIX I I

### ABRASION RESISTANCE

TEST METHOD ISO 12947-2

#### HEAVY STONE WASH

STYLE	UNWASHED	WASHED	REVOLUTIONS COLOR
	RAW	RAW	
HSW 1	3000	12000	2/3
	2/3	2/3	
HSW 2	17000	5000	3/4
	4	3/4	
HSW 3	17000	5000	2/3
	2/3	2/3	
HSW 4	17000	17000	3
	3	3	

#### STONE WASH

STYLE	UNWASHED	WASHED	REVOLUTIONS COLOR
	RAW	RAW	
SW 1	17000	17000	2/3
	2/3	2/3	
SW 2	17000	10000	3/4
	4	3/4	

#### HEAVY BLEACH WASH & HEAVY STONE WASH

STYLE	UNWASHED	WASHED	REVOLUTIONS COLOR
	RAW	RAW	
HB&SW	17000	17000	3/4
	4/5	3/4	

#### ENZYME WASH

STYLE	UNWASHED	WASHED	REVOLUTIONS COLOR
	RAW	RAW	
EW	17000	12000	1
	4/5	1	

#### RINSE WASH

STYLE	UNWASHED	WASHED	REVOLUTIONS COLOR
	RAW	RAW	
RW	17000	17000	4/5
	4/5	4/5	

#### NO WASH

STYLE	UNWASHED	WASHED	REVOLUTIONS COLOR
	RAW	RAW	
NW 1	17000	5000	4
	4/5	4	
NW 2	17000	17000	3/4
	3/4	3/4	

#### BLEACH WASH

STYLE	UNWASHED	WASHED	REVOLUTIONS COLOR
	RAW	RAW	
BW 1	17000	17000	4/5
	4/5	4/5	
BW 2	17000	17000	5
	3/4	5	
BW 3	17000	17000	4/5
	4	4/5	