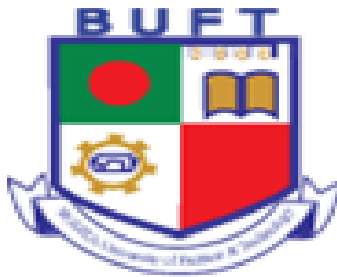


INTERNSHIP REPORT

ON

“Manufacturing process of knit apparel in RMG sector.”



This Internship Report is submitted for the Partial Fulfillment of the Requirement for the Degree of BBA in Apparel Merchandising- 2021

Supervised by
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DHAKA, BANGLADESH

30 January 2022

Declaration

I am **Atia Adiba**, a student of BBA in Apparel Merchandising from 172 batch. ID: 172-026-0-415 at the Department of Business Administration of BGMEA University of Fashion & Technology does hereby declare that the internship report on Manufacturing process of knit apparel in RMG sector is work done under the supervision of Dr. Md. Kamrul Hasan, Associate Professor. Department of Business Administration of BUFT.

I also declare that the report is an original work and no part of this report has been copied from elsewhere. Furthermore, this report has not been published or submitted for being awarded any degree, diploma or recognition earlier.

Atia Adiba

Program: BBA

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Department of Business Administration

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Letter of Approval

This is to certify that Atia Adiba, Program: BBA, Batch: 172, ID: 172-026-0-415 has completed his internship report on **“Manufacturing process of knit apparel in RMG sector.”** under my supervision as a part of partial fulfillment of the requirement for the Degree of Bachelor of Business Administration (BBA) in Apparel Merchandising in the Department of Business Studies of BGMEA University of Fashion & Technology. This report can be accepted for evaluation.

Dr. Md. Kamrul Hasan

Associate professor

Department of Business Administration

BGMEA University of Fashion & Technology (BUFT)

Letter of Transmittal

30 August 2021

To

Dr. Md. Kamrul Hasan
Associate Professor
Department of Business Administration
BGMEA University of Fashion & Technology (BUFT)
Nishatnagar, Turag, Dhaka-1230

Subject: Submission of Internship Report

Dear Sir,

With due respect, as student of Bachelor of Business Administration at BGMEA University of Fashion and Technology, I have prepared my internship report on **“Manufacturing process of knit apparel in RMG sector.”**

I have tried my level best to follow your guidelines in every aspect of planning of this report. I have also collected what I believe to be the most important information to make this report specific and coherent as possible. I enjoyed the challenge of preparing the report as it provided me with an opportunity to enlarge knowledge. I am honestly thankful for your guidance during the preparation of this report. I hope you will appreciate my effort. I have done the study in a complete form and I have tried my level best to conduct this in a professional manner. It is true that, it could have been done in a better way if there were not limitations. I hope you will assess my report considering the limitations of the study.

Atia Adiba
Program: BBA
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Official Certification

This is to certify that Atia Adiba, Program: Bachelor of Business Administration, Batch: 172, ID: 172-026-0-415 has completed his internship report on Merchandising Activities for RMG Sector of Bangladesh under my supervision as a part of,

Partial Fulfillment of the requirements for the Degree of Bachelor of Business Administration (BBA) in the Department of Business Administration of BGMEA University of Fashion & Technology. This report can be accepted for evaluation.

Dr. Md. Kamrul Hasan

Associate professor
Department of Business Administration (DBA)

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Dhaka-1230

Acknowledgment

A warm felicitation goes for me to acknowledge the people, who hold the desirability for encouraging, praising, assisting as well as believing me on the tasks of activities what I have worked through my internship period.

First of all I would like to take the opportunity to thanks our honorable Associate professor Dr. Md. Kamrul Hasan , BGMEA University of Fashion and Technology & my internship supervisor for providing me guidelines, help in assisting my report. He was constantly supporting me with his inspiring personality. I will always be always thankful for his extraordinary reinforcement.

I also acknowledge the loving support of my teachers, parents, and friends. I express my honest and sincerest gratitude to the Divisional Merchandiser, Marketing & Merchandising of Esquire Knit composite limited., **Md. Shakirul Anam Sohan** who assisted me a lot by giving an opportunity for eye opening in this particular sector and extended an all-out support in all respect for writing this report in the most comprehensive manner within the specified time frame.

I will show my gratitude to all the Management & Non-Management Staffs who have helped me during the internship period and the entire persons who somehow have impact on me in completing my whole report.

I was bound in my theoretical knowledge. It is my first experience to acquire knowledge in the practical field. So, it is natural that there might have some mistakes. For these reasons, I am really sorry and I beg pardon.

Finally, numerous thanks and gratitude to the Almighty Allah for paving my way to successfully finish my report making.

Executive Summary

The Readymade Garments (RMG) industry of Bangladesh has arisen as a skillful garments maker in worldwide garments business as of late. This industry has effectively changed Bangladesh into a fare-arranged economy. The RMG business likewise turned into the major unfamiliar cash procuring area with most elevated paces of ingestion of modern work. The Merchandising division is the main piece of the fare-situated business. It builds the chance for business venture improvement in garments area. Accordingly, it assists the jobless individuals with welling the public authority to eliminate joblessness issue and assume a significant part in the financial improvement of the country.

I have worked there a quarter of a year as prerequisite of the Internship period of BBA program under the Department of Business Administration. My theme is "Manufacturing process of knit apparel in RMG sector." This Report is started as a fractional prerequisite of BBA program. To accomplish wonderful marketing, one should think pretty much every one of the exercises including acquisition of textures, sewing, pressing, transport, overhead and so forth and about their expenses, strategies, benefits and danger factors. In the entire technique of trading garments to the retailer of abroad and to speak with them, merchandisers have an incredible impact and duties. At the point when, the request is taken from purchaser the obligation goes to the floor of merchandisers and prior to going creation they do nearly everything to make the business smooth. Subsequently, the work begins with the request taking and making business relationship. At that point test making, arranging, booking of each and every material for tests and getting endorsement are for the most part the critical duties of merchandisers. If there should arise an occurrence of creation, test goes in mass thus, the obligations become immense and it goes to the connection with activity too.

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CHAPTER-1

INTRODUCTION

Ready Made Garments (RMG) sector plays an important role in the total economy of Bangladesh. Now-a-days RMG sector is a multi-billion-dollar earning business and export industry in Bangladesh. Therefore, this sector is number one earner of foreign currency in Bangladesh. The journey of RMG sector in Bangladesh has been started in 1980s since then; this sector did not require for looking back. RMG sector improves our GDP, which makes us new rising countries on the earth. Textiles and clothing account for about 85% of total export earnings of Bangladesh. Out of which, 75% comes from the apparel sector which covers the major products of knit and woven shirts, blouses, trousers, skirts, shorts, jackets, sweaters, sports wears and many more casual and fashion items. The sector currently employs approximately 1.5+ million workers, mostly females from underprivileged social classes. I have completed this report on the basis of all the department of RMG sector such as Merchandising Department, Commercial Department, Production Department, Supply Chain Department, Human Resource Department, Compliance Department, MIS Department, and relevant organization like BGMEA, BKMEA, Export Promotion Buru, Yarn suppliers, Chittagong Port, Insurance Company, Shipping Company. So by completing this report I get overall idea about RMG sector, so its carry more value than any books.

I have made this attachment on TEAM group, which has an export oriented composite knit industry name. For completing this internship course we all internee have tried to go every sector of this group and tried to collect accurate information from this sector.

Objectives:

The objectives of this report are as follows :

- Document for future.
- It contained a lot of RMG related information .
- To know about merchandising related activities in the knit department.
- To know about knitting related products.
- To get comparison between practical knowledge and bookish knowledge.
- To achieve some idea about knit garments manufacturing process.
- Management procedure of Garments industry.
- To identified merchandising and total production system
- To know about the company broadly on which this report has been made.
- To find out some idea about how can be Garments business developed.

Scopes:

Scope represents the boundaries and beneficiaries of the report. The scopes are described –

- Factory
- Trainer
- Discussion
- Internet
- Information from various books and relevant paper related to merchandising activities
- Factory worker.

Limitations:

Limitations means some barriers I faced at the time of preparing this report. Some limitations are given –

- Time limitation
- Merchandiser had not enough time to give information to me broadly cause most of the time they had been busy.
- Factory worker also stayed in busy
- Because of Traffic jam often I reached at the factory in late.
- Lockdown was another barrier for which I could not go in factory for few days.
- Lack of instruction book.
- Short time visit in different work stations

CHAPTER-2

METHODOLOGY

Methodology

In this Report primary and secondary data has been used. The primary data were collected from the officials of esquire knit composite ltd regarding the procedure of operation & production.

For working in operation & production department for about two months gave a clear notion about the activities done in that department. Working with other departments as well as discussion with the staff of those departments provides a lot of primary information. Secondary data were gathered from the annual reports, relevant published books.

In specific sense, the sources of information:

Primary sources:

- Personal observation
- Discussion with the employees
- Work in different departments

Secondary sources:

- Published documents & internet

CHAPTER-3

OVERVIEW OF THE ORGANIZATION

Historical Background

Esquire Group is one of the esteemed business conglomerates of the country. It has been proudly and significantly contributing to the society and national economy through creating remarkable employment opportunities and exporting globally.

THE JOURNEY

1989 Establishment of Esquire Electronics Ltd.- A trading co. in electronic goods

1993 Establishment of 1st automated Yarn dyeing project in Bangladesh

1994 Diversification of Yarn Dyeing

1994 Beginning of Garment manufacturing

1995 Beginning of Circular knitting, Fabric Dyeing & Finishing

2000 Further expansion of the Garment Unit

2003 Declared/Awarded 'Supplier Of The Year' for C&A for the first time

2005 Venture into US market due to abolition of Quota

2006 Expansion project undertaken to double the total capacity

2014 Established of Esquire Testing Services Limited (ETSL)

Esquire Knit Composite Limited (EKCL) is a strategic business unit of Esquire Group was incorporated as a private limited Company on 16 February 2000 under the Companies Act 1994 and converted to public limited company on 22 January 2015.

EKCL is exporting RMG to the EUROPE & AMERICAN chain store, fashion brands and super markets. the major international buyers of the Company such as C&A, Best Seller, Ostin, Espirit, Mascot, Celio, Next, Tchibo, Pull & Bear etc. EKCL is proud member of The Bangladesh Garment Manufacturers and Exporters Association (BGMEA), Bangladesh Knitwear Manufacturers & Exporters Association (BKMEA), Bangladesh -German Chamber of Commerce, Bangladesh -Spain Chamber of Commerce, Bangladesh- France Chamber of Commerce

Esquire Knit Composite Limited has successfully certified to ISO 9001 (quality management system), ISO 14001 (environmental management system), ISO 18001 (occupational health & safety management system) under the scope of UKAS (United Kingdom Accreditation Service), system certification scheme. EKCL is also oeko-tex standard 100 certified Company for usage of environmental friendly dyes stuffs and chemical approved by Hohenstein Textile Testing Institutes, Germany as well as Global Organic Textile Standard (GOTS), Organic Content Standard (OCS-IN) certification.

Esquire has a very sophisticated and most modern testing lab – accredited by National Accreditation Board For Testing And Calibration Laboratories- Nabl, Esprit, C&A & Next. EKCL is fully compliant with frequent random evaluation by world renowned institutes like: Business Social Compliance Initiative (BSCI) , ITS, SGS, BV, UL etc.

Yarn Dyeing

HomeServicesYarn Dyeing

We pay an utmost attention to raise and maintain its quality yarn dyeing standards. Our dyeing professionals have raised the yarn dyeing level virtually to the zero deviation according to our valued customers.

We obtain yarn samples on regular basis, to test them under controlled conditions, through selected dye baths to compare their dye ability variables, resulting in the best test results for the desired accuracy.

We use yarns from a single lot from a selected yarn manufacturers, and from a given production run to ensure we deliver what we promise.

Brothers Fashion Ltd: Their products are Jeans trouser and skirt, woven trouser and skirt – mens , ladies, boys, girls, toddler, baby. From basic to stylish.

Gramtech Knit Dyeing, Finishing & Garments Industries Ltd: Gramtech Knit Dyeing Finishing & Garments Industries Ltd. specializes in the production of all kinds of Knitted Polo Shirts, Tee Shirts, Sweatshirts, Fleece Jackets, Fleece and Terry Trousers and Undergarments. Located in Narayanganj, This factory is completely export oriented and compliant with all regulatory bodies and local laws, ILO, UDHR and BGMEA.

4A yarn dyeing Ltd: 4A Yarn Dyeing Ltd. is a 100% export-oriented outerwear manufacturing company, established in 2009. It specializes in producing all kinds of high-quality outerwear garments.

South End Sweaters Co. Ltd: 100% export oriented sweaters factory.

Mars stitch ltd: Mars Stitch Ltd. has been added to TEAM's family in 2017. They began their journey as a woven factory, eventually diversifying to produce bottoms and jackets across a wide range of materials including denim, twill, canvas, poplin, corduroy, nylon, polyester, or cotton among other materials.

Esquire Group has started its journey as an electronic goods retailing company named Esquire Electronics Ltd. in July 1989. The group went for unrelated diversification as a part of expansion strategy by entering into the textile sector in 1993. Having the industrial knowledge of over a decade from its sister concern companies Namely Esquire Dyeing Industries, Esquire Knitwear Ltd & Synthia Multi Fiber Ltd. Esquire went for the expansion in RMG by establishing a new venture named Esquire Knit Composite Ltd. (EKCL) in 2001. It has expanded gradually to become a conglomerate with Yarn Dyeing, Knitting, Fabric Dyeing and Finishing, Printing, Embroidery, Accessories and Knit garments manufacturing facilities under one roof. Our one stop solution makes thing much convenient for our customers. Using state-of-the-art-technology, focused business polices and maintaining business ethics over the years helped us successfully establish the name as a world-class garment manufacturer in the knit garments arena. The group currently employs over 10,000 people, serving customers in European & American Chain stores, Fashion Brands and Super markets. Our present production capacity goes over 2.0 million pieces of garments per month.

We keep improving the quality of our products and services and looking forward to introduce a wider range of products to our customers to meet their needs. Given the strength of our leading position in the global market, with a comprehensive product portfolio, sound & strong customer

base, our aim is to unveil our position as one of the unique garments manufacturer in the world. We are constantly focusing on strengthening our business substances to ensure a strong podium on which we can rely to explore new business opportunities for the development of our core business, widen our revenue base, upsurge the growth potentials and consequently improve the customer satisfaction.

Profile Of South End Sweater co. Ltd

South End Sweater Co. Ltd. Sweater Company is a manufacturing facility dedicated to the production of flat knit apparel for Men, Women, and Children. Our factory is located in Ashulia, Dhaka, and equipped with modern machinery allowing us to deliver top-notch quality sweaters to our clientele.

Our employees are dedicated to the production of sweaters maintaining global standards and ready for export. South End Sweater factory is certified by different authorities and maintains all global compliance requirements and labor laws ensuring that our employees work in the best environment possible.

We have customers worldwide including in the UK, Germany, Poland, Turkey, Latin America, India, USA, and Italy. Our workforce has allowed us to build trust among our global clients and have sustained us to continuously keep growing.

Mission

Setting up an ethical business standard by providing a safe and rewarding work environment.

Implementing eco friendly technologies through trained and knowledgeable workforce to offer highest level of customer satisfaction.

Ensuring sustainable growth through innovation, talents and operational efficiencies

Vision

To become a reliable global organization that provides excellence and quality through innovation with a forward-looking approach

Values

Ownership

We believe in ownership. We are all owners in the business and think of our employees at the company as a two-way street

Excellence

We go all-out to excel in every aspect of our business and approach every challenge with a determination to succeed

Social Responsibility

We care for the future generation of our beloved country. Environment care is always ensured by green technology and management

Recognition and Reward

Appreciated efforts will increase the self-esteem and satisfaction of our employees. Employees' improved attitude towards their job will lead to excellence

CSR

Esquire Group Corporate Social Responsibility policies and practices that contribute to our social responsibilities.

Few methods that we include for our employees' wellbeing are as follows:

- **Free Friday Clinic-** Our employees and their family are provided with free treatment and medicine.
- **Motivation Bonuses-** We provide our employees with a bonus for their punctuality, efficiency, and loyalty that they possess for the company.
- **Festival Bonuses-** Bonuses are provided in the times of festivities to our employees.
- **Flood Relief-** We understand the effects of floods in our country. In these devastating times, even a little help can make a lot of difference. We distribute dry food to make people's lives easier.
- **Livelihood Aid-** Poor people require help to process and continue their livelihood. For people that require help, we provide them with livestock and financial help.
- **Winter Aid-** During cold and rough winters we distribute warm clothes.

- **Response During Pandemic-** TEAM Group comes forward with Personal Protective Equipment (PPE) for healthcare professionals to tackle COVID19.
- **Recruiting Physically Challenged People-** Physically challenged people are happily working in our several factories.
- **Endorsing Greenery-** We strive to take care of nature through our initiatives inside and adjacent to our establishments like tree plantation, gardening within the factory premises etc.

Environmental sustainability

Esquire Group has gone above and beyond to reduce the negative impact on the environment. Mitigation and adaptation are considered to be an ongoing and continuous process for the betterment of the environment.

Esquire Group has incorporated the following principles for the sustainability of the planet.

- Boiler Economizer has been installed to capture the waste heat from boiler stack gases and transfer it to the boiler feed water. The boiler meets the steam demand of the factory. The capacity of the boiler is 10,000 kg/hr. The economizer saves up to 50% of the steam generated. Economizer is also installed to reduce natural gas.
- Energy-saving LED lights are installed to reduce energy use.
- Power Factor Improvement (FPI) has been installed.
- Solar panels are placed for cutting down pollution produced by power plants to generate electricity.
- Inverter type air compressors are placed.
- Rainwater is preserved in Rainwater Preservation Tanks.
- Push-type water tap is installed.
- A condense recovery system at Dyeing has been installed.
- A division for the reuse of the additional steam has been installed.
- Inverters have been installed at all washing machines to reduce the power consumption dramatically.

- In the sewing section, Servo Meter is installed to reduce energy waste.
- Installed power factor improvement (PFI) to maximize electricity-carrying capacity to improve voltage & equipment and reduce power losses for lower electric bills.

Different Departments South End Sweater co. Ltd

- **Design and Development**
- **Knitting Section:**
 - a) Knitting
 - b) Grey inspection (circular and flat)
 - c) store
- **Dyeing section**
- **Dyeing Finishing section**
- **Lab and quality assurance**
- **Printing**
- **Garment section:**
 - Product development
 - Sample section
 - Spreading and cutting section
 - Sewing section
 - Finishing section
- **Maintenance section:**
 - Electrical
 - Mechanical
- **Supporting Department:**
 - Account, HR & Admin
 - Training & Organizational Development
 - Purchase & Commercial
 - Finance & Accounts

Product of South End Sweater Co. Ltd

- Pullover
- Cardigan
- Polo
- Hoodie
- Dress
- Skirt
- Pants
- Cap
- Muffler
- Shawl

Major Customer

- NEWYORKER
- COLIN'S
- THE VERY GROUP
- N BROWN GROUP PLC
- LPP
- OVS
- WOODLAND

Production capacity : Total Production per Month : 250000 pcs

Number of Floors	: 03
Total floor area	: 53,173
Total Number of Machine	: 200 Jacquard Machine
	12-14 GG: 150 sets
	3-5 Multi GG 25 Sets
	5-7 Multi GG25 sets
Total manpower	: 1300

Design and development: Not only they provide the best sampling but also they provide a cost effective design solution for our valued customers.

CHAPTER-4

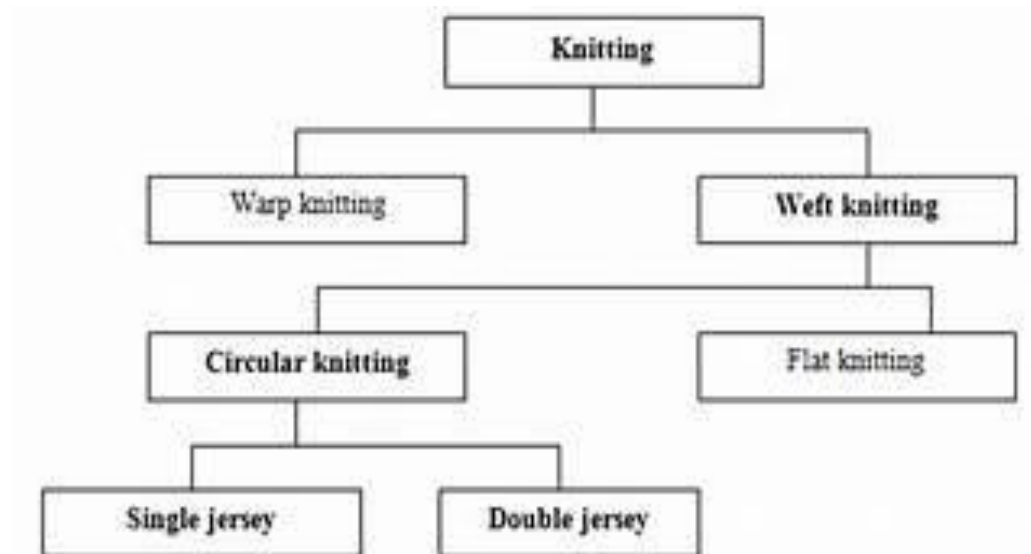
RESULT AND DISCUSSION

Knitting

The process in which fabrics are produced by set of connected loops from a series of yarn in weft or warp direction is called knitting .Knitted fabrics are produced by knitting technology.

Different types of knitted fabrics are produced by the knitting machine.

Classification of Knitting:



Warp knitting: In warp knitted structure each loop in the horizontal direction is made from different thread. Sweater is made by this warp knitting techniques.

Weft knitting : In a weft knitted structure a horizontal row of loops can be made using one thread and the thread runs in the horizontal direction. Most of the knitted fabrics are produced by weft knitting.

Knitting structure:

Course:

- The series of loops those are connected horizontally, continuously are called as course.
- The horizontal row of loops that are made by adjacent needles in the same knitting cycle.

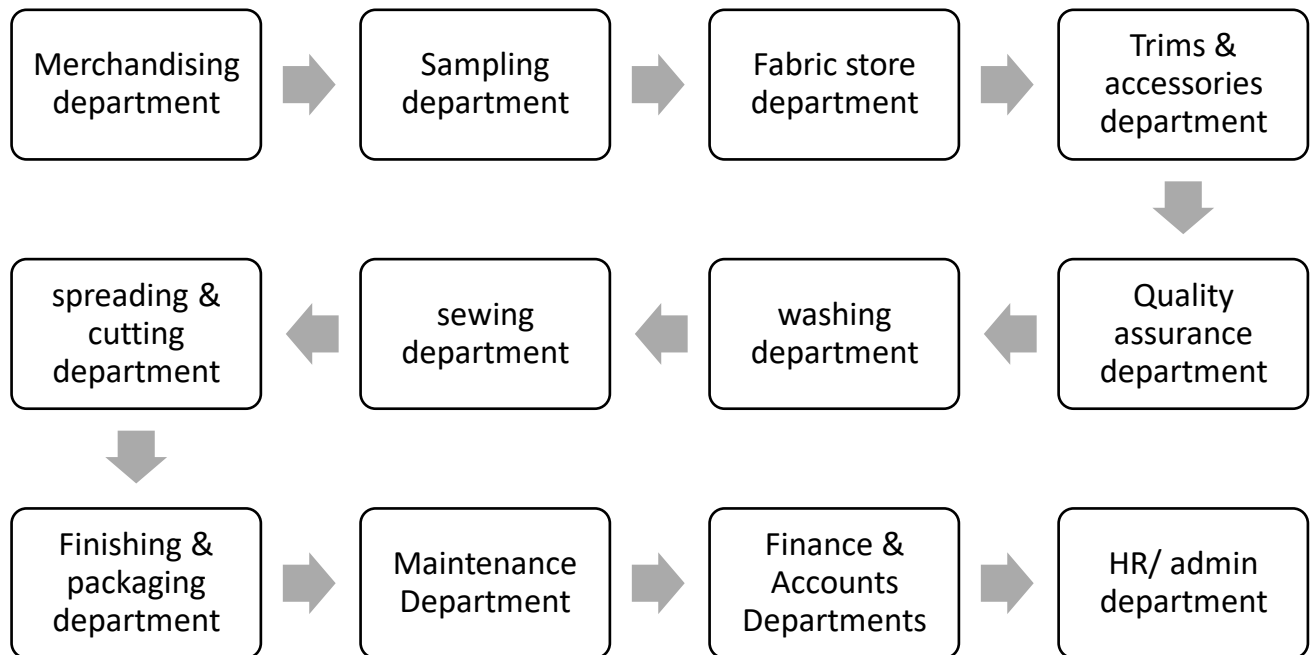
Wales:

- The series of loops that intermeshes vertically are known as wales.
- Vertical column loop that are made from same needle in successive knitting cycle.

Different types of knitted fabric:

1. Jersey knit
2. Elastane
3. Rib knits
4. Double knit
5. Interlock
6. Lace knits
7. Mesh knit
8. Piled knit
9. Sweater knit
10. Purl knit

Manufacturing process of Knit apparels /garments



Merchandising departments

For a garment factory, merchandising Department is the most important department. In garments, there are many departments. Apparel Merchandising department keeps a good relationship with every department. Also, the “Merchandising” is known to the persons especially involved in garments trade. The term merchandising has been derived from the merchandise. Merchandise means goods that are bought & sold. The term “Merchandising” may be defined as Person who merchandises the goods, specifically for export purposes. Garments merchandising means buying raw materials & accessories, producing garments, maintaining the required quality level and exporting the garments within schedule time. From the above definitions, I can say that a person involved in garments merchandising needs a wide range of knowledge & skill to perform his job successfully. The job itself is Technical and general as well.

Functions of Merchandising Departments

At first, the buyer gives a sample or sketch to merchandiser. Merchandising department then work for collecting the fabric consumption, required accessories & trims to make the garments according to buyer sample with the help of the sample department. After completing the sample merchandising department sends it to the buyer for approval. If the sample is ok than merchandiser placed the price to the buyer through e-mail. After settled the price, buyer place the order for production and also the shipment date to the merchandising department.

Getting approval of sample merchandising department make a purchase order and contact with the supplier for all trims that will use on that particular style.

When they get raw materials from suppliers they send it to production. Merchandising department monitoring the garment preparation procedure such as cutting, sewing, washing, finishing and make sure that the shipment will be on time.

After production completed should send it to buying office or buyer for approval. If any problem arises for which the shipment could be the delay, merchandising department make contact with the buyer and try to convince them.

Different Types of Sample with definition:

a) Development Sample: This is the first sample of any design. Actually this is visualizing an idea in three-dimensional form. It made by available fabric & accessories and sends to buyer to collect order is called development sample. Buyers first time give tech patch or PDM to vendors

just for making pattern and samples as per sketch. Sometimes it is called LA sample. Buyers just need to review the style or the design to make changes in this sample where fabric will actual but other trims may not be actual.

b) Proto Sample or Fit sample: These samples are making after getting the new order from buyer and after confirmation of development sample. This sample is made to check the fit of the particular style. This sample can make with available similar fabrics, fiber, nearer GSM and any color, if actual fabric is not available that time. This sample made by the exporter based on the original sample or sketch and specification sheet given by the buyer. Ideally, a proto sample is also sewing by as described below. If you sew in house, the prototype should be used for costing and become the production sew-by. After sending the proto or Fit samples the buyers will conduct discussion over the samples and they will access the content of the sample and give us comment and reviews.

c) Revised Fit Sample : After getting review comments of fit sample, need to make fit sample again which is called revised fit sample. This sample also made to check the fit of the particular style. This sample can make with available similar fabrics, fiber, nearer GSM and any color, if actual fabric is not available that time. It's also send to buyer and they give us comments for next sample.

d) Photo Shoot Sample : Photo Shoot Sample is made for photo shoot. Samples are made to the size of model as it is using for product photography. If you aren't using a model for your look book or e-commerce imagery, it is still recommended that you have smaller size photo samples that can fit into frame of the camera.

e) Salesman Sample/Promotional sample : As a business to business company provide complimentary samples to clients and prospective customers to assist them with evaluating the quality of custom printed promotional products. Ideally, the preproduction sample above can be used for sales and marketing. You would have duplicates of the approved pre-production or production sample made for each party.

f) Size Set Samples: These are full set of sample which size is requiring on measurement chart given by buyer. Sample made to ensure appropriate grading of the style and the fit of each garment. One way to save a bit of money, in fabric and trimming as well as cut and sew costs would be to produce every other size. Buyer check those sample fittings and every single design as size wise printing and others accessories also be changed some time. If there have any comments from buyer on this sample exporter can modify those on Pre production sample

g) Wearing Test Sample: Mainly this sample makes for Sweater item. This sample makes with all actual fabric for wearing test. This is not buyers' main concern as any other sample but sometimes they want. It makes to check that garments are wearable, comfort and pilling can happens or not on surface and so on.

h) Wash Test Sample : This sample should be sent to the suppliers before starting their production. In house wash test is doing by using this sample. By this test actually buyer checks the shrinkage percentage, elongation ratio, pilling, and spirality and so on. This is last and final wash test check by suppliers before production start. If find out any problem on this test, it treatment again before production start.

i) Pre-production sample : After size set approval need to make Pre Production Sample, in short from it is called PP sample. It is the ideal sample for production. This sample has to make with actual production fabric with actual trims. Actually this sample is like mirror of final production. Garments folding, label placement, poly packing needs to check and need to get okay confirmation with this sample otherwise factory cannot start bulk production. After the buyer has inspected the sample, a pre-production meeting is called. In this meeting buyer or his agent, merchandiser, sample manager, all remain present. They decide on how and when to start the production. If the decision Okay, the sample is ready to go for final production

j) Production sample : This set of samples is taken off the line during your first production order. The number of Top of production (TOP) sample you receive is typically a percentage of the full production order in each variation, but this can get expensive.

h) Shipment sample/goal seal sample: The gold seal or shipment sample seems production sample and it is representative of the bulk. Sample is taken from production, complete with labeling and hangers. After approval of this sample supplier can deliver the goods. This sample must be received minimum of 10 days prior to delivery.

GARMENTS PATTERN

Pattern making process: The pattern is exact image of each part of a garment with flat hard board paper. The first step in apparel production is the creation of design and construction of patterns for the components of design. Besides, pattern making process is one of the most important task in **garment manufacturing**. Separate patterns are made for each of the parts of a garment. These patterns are used for drawing all the parts of a garment on fabric or on marker paper before the cutting of the fabric. If lining or interlining is used in the garment, then for that purpose also patterns are made.

There are two types of pattern in garments industry:

a) Block pattern

b) Garment pattern

Block Pattern: Block pattern or basic pattern means the exact pattern which is made according to certain standard body structure except any specific construction for enhancing beautification, design or styles. According to average measurements of young, adults etc block patterns are made. Block patterns are made in two ways as described below:

1. **Flat method:** The pattern of various parts of a garment, especially the body and sleeve are made through technical drawing. In case of technical drawing, the rules and their application procedure of body measurements and their proportionate rates are dependent on pattern maker. This type of patterns may also be made through computer. In case of basic pattern making process through computer, pattern making programs are saved in computer discs. Flat method has been evolved mainly from modeling system and in this system, patterns can be made rapidly

2. Modeling: For garments pattern making process, modeling is the first and actual system and in garments industry it is still widely used system. In this system, a block fitted with the standard body of a model is made, which is called the Toile. This toile is used in the body of the model and it is made maintaining adjustment and balance with the body of the model. Then the toile is removed from the body of the model and each of the parts of the toile is drawn separately on comparatively harder paper or board paper. Patterns made in this system become very accurate but it takes much time

Garments Pattern/Working Pattern:

Block patterns are made in flat method or modeling system and garments patterns or working patterns are made based on basic block. Each block pattern is kept on board paper and its copy is made with the help of pencil. Then with the copy of this block pattern, sewing allowance, **trimming** allowance, center front line, center back line, button hole, button attaching position, dart, pleat, how much the garments will be loose, different or specific design of a particular part (if any) etc. are added. For facilitating the proper attaching of the patterns, “U” or “V” shaped notches are cut along the seam lines. For each part of a garment, separate working pattern or garment pattern is made. In order to show the direction of grain line or the warp yarn of fabrics, each pattern must be marked with arrow line. After finishing the drawing of the pattern, the working pattern or garments pattern will be separated from the board paper by **cutting** with sharp scissors or knife. Each pattern will be marked for size and part’s name. Sample garment is made with working pattern.

MARKER MAKING

Marker making is one of the most important tasks in the **garments manufacturing** industry. Accurate marker making helps to reduce fabric wastage which ultimately reduces the **cost of making the garments**. There are different types of marker making methods used in the **readymade garments sector**, which are explained in this article.

Techniques of marker making

There are two different methods of marker making :

- a) Manual method
- b) Computerized method

The manual method can be done in two ways:

1. Marker planning with a full-size pattern,
2. Marker with the minimized pattern

1. Marker planning with the full-size pattern:

According to the standard measurement, all the patterns are in full dimension here. At first, all the hard patterns are placed on the paper and then those patterns are marked by turning in various directions to reduce the **fabric** usages. Here the tables, on which the markers are placed, arranged in a way so that they do not tilt. The vacuum system is arranged here under the table for suction. This method is suitable for reducing the marker length.

2. Marker with the minimized pattern:

Here, full-sized patterns are reduced 1/5 part by a pantograph, and the patterns are made by hard paper or plastic sheet. Marker is planned here with the small pattern pieces and after making, snaps are taken by using the camera. Planimeter is used here to measure the covered area of the pattern lies in the marker. In the case of this method, **marker efficiency** is determined by calculating the marker area and **fabric** area.

The above two computerized marker making method has discussed in the below:

1. Automatic marker making:

It is the most efficient marker making system. Here, the computer makes the marker itself according to the command given to the computer. Small pattern pieces are displayed on a computer screen but full size in computer memory. Though it is a time-consuming method modern automatic marker-making system overcomes that problem of time and needs only two minutes to make a marker.

2. Interactive method:

The interactive marker making method is a common process where the **operator** plans markers by connecting directly with the system through a computer screen. Here, all the pattern pieces are displayed at the top of the screen in miniature form. Those are dragged and draped to the pre-determined place by a data pen or tablet. It is less efficient and less time required than the automatic marker making system.

The factors which are involved with the marker efficiency are as follows:

a) Marker maker: Marker efficiency mainly depends on the skill, effort, honesty, sincerity, experience and technical knowledge of the marker man. For making a marker, the greater the number of times the marker will be made, the higher the possibility of better marker efficiency.

b) Garment size: During marker making, the greater the number of sizes of garments are included, the higher the possibility of better marker efficiency. But if the sizes are too many then the reverse situation may happen.

c) Marker length: The marker length is involved with various factors. Greater the length of the marker, greater the chances of higher marker efficiency and the production of cutting room will also be increased. But if the marker length is too long, then reversed result may happen.

d) Pattern engineering: Marker efficiency can be increased by changing pattern designs of some of the parts of a garment or by dividing the pattern or by fragmenting any small part of a pattern.

e) Fabric characteristics: There are some fabrics which are seen as same from any side, this is called symmetrical fabric. In case of these fabrics, the greater marker efficiency can be achieved during making of marker. But the fabrics which are not symmetrical, that means which are asymmetrical fabric, there is a chance of getting less marker efficiency. Especially for matching of stripes or checks in fabrics, there is tendency of getting less marker efficiency.

f) Marker making method: Mainly there are two methods for marker making, i.e. 1. Manual marker and 2. Computer aided marker. If the computer aided marker is done, the efficiency

becomes greater than manually done marker, but it takes much time. If the marker is made by experienced marker man, then in less time the greater efficiency of marker can be obtained.

g) Marker width: Generally the marker width depends on the fabric width. It has been found in study that greater the width of a marker, easier for the marker man to plan the marker. As a result there remain chances of getting greater efficiency of a marker. This logic may not be right in case of tubular fabrics.

h) Garment type: The garments where big sizes patterns are greater than small sizes patterns such as slacks of men's and ladies, overcoat, etc. less marker efficiency is obtained. Because, after placing the big sizes patterns, the small patterns are not available for placing at those gaps, so fabric wastages are big. But in the garments where the number of small size patterns are big, comparatively the higher efficiency is obtained during making marker of these garments.

FABRIC SPREADING

Fabric spreading is a method where piles of fabric are spread a specific length and width wise according to the garment marker measurement. A proper fabric spreading process in garments may effect on productivity, quality, and cost of the production. Fabric spreading is very important task to maintain proper shape of fabric before cutting of garments.

Fabric spreading method

There are two methods applied in garment industry for fabric spreading process. They are manual method and mechanical method. The manual method is totally hand spreading method therefore this process is quite slow. On the other hands, mechanical method is two types. They are semi-automatic and full automatic. Before fabric spreading few perpetration is essential both manual and mechanical methods. For smooth and proper spreading process in garments below factors must be considered during fabric spreading-

1. Fabric Length and Weight:

During fabric spreading length and width should equal to marker length and width. This measurement must be uniform before fabric cutting. Otherwise fabric wastage may be increased or defective garment component may be produced.

2. Fabric Tension:

The tension in fabric lay should be uniform. If the tension is higher than small size actual size. On the other hand, if the fabric lay be loose then it may create problem during fabric cutting and larger size of component may be produced than the actual size.

3. Fabric Splicing:

Another important factor of fabric spreading is fabric splicing. Splicing should be accurate during fabric spreading. Excess splicing may increase faulty area and short splicing may produce faulty component. The lay of the fabric should be maintained according to the fabric construction and splicing methods.

4. Static Electricity:

Generally man-made fibers are may increase the charge of electricity, which is the main reason for producing static electricity in the fabric spreading process. Static electricity should be removed by earthing or using special oil between two layers of fabric.

5. Fabric Ply Direction:

The direction of fabric ply should be corrected. Fabric ply direction depends on the type of fabric, Shape of the pattern and construction of fabric. Therefore, ply direction must be checked before laying the ply on cutting table. Otherwise, they may create problem during the sewing section in garments.

6. Ply Number:

Ply number is another important factor for fabric spreading. Ply number should be counted during fabric spreading. The higher ply number may increase vibration between cutting knife and fabric layer and low number of ply may reduce the fabric spreading productivity.

7. Stripe and Check Matching:

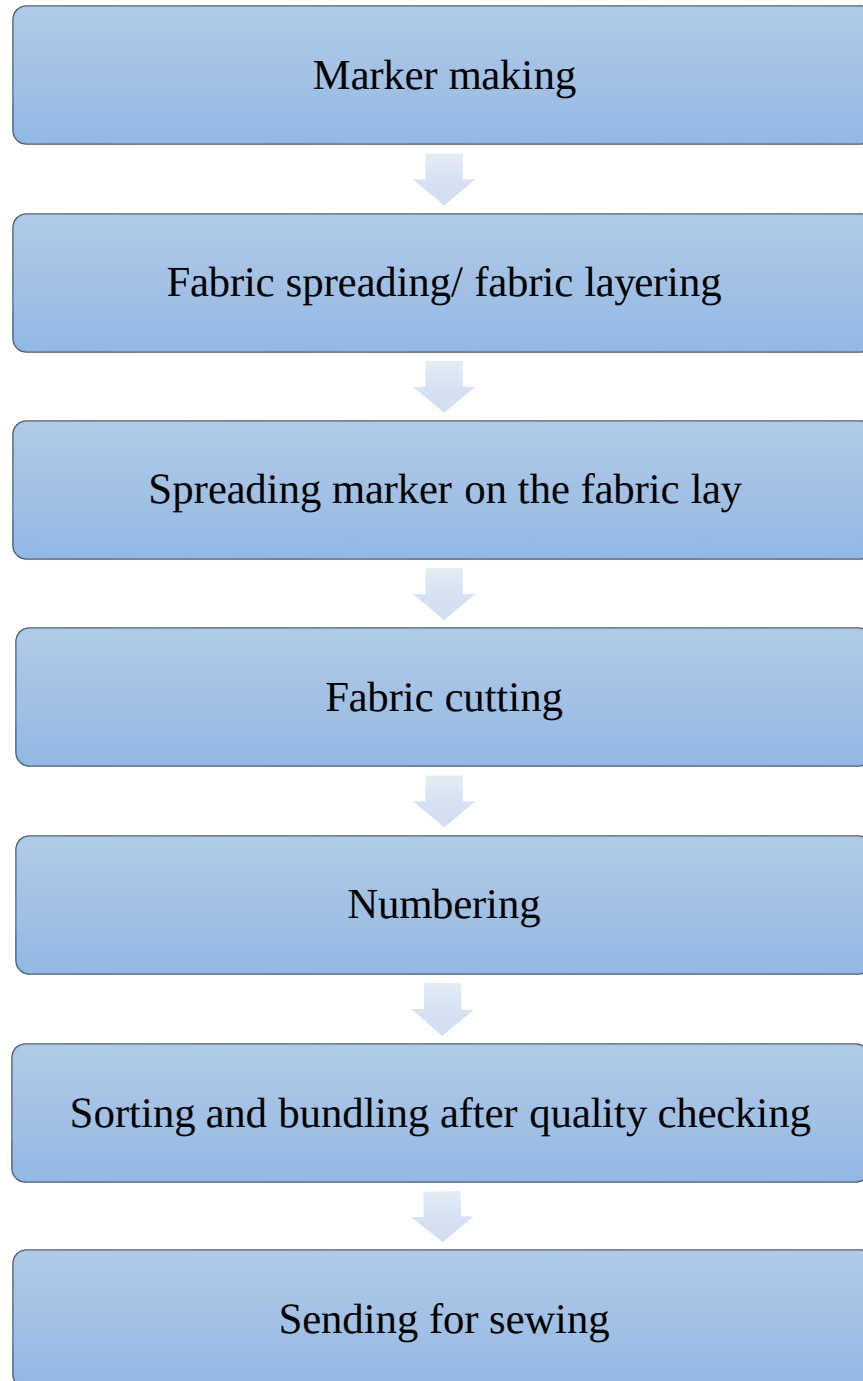
Stripe and check should be matched with every ply of fabric. Therefore stripe and check matching are done very carefully during fabric spreading process in garments. Otherwise that will be created problem during the sewing section in garments.

8. Fabric Faults removing:

There are different types of fabric faults are found in fabric inspection section. They are such as hole, missing end, broken end, thick end, Reedy fabric, broken pattern, double pick, slub, snarl, thick and thin places, temple marks etc. Before fabric spreading those faults must be identified and also remove from fabric.

FABRIC CUTTING

Flow chart of fabric cutting



Methods of Fabric Cutting:

In the garments industry, there are two available cutting methods, are-

1. Manual Method,
2. Computerized Method.

Those are discussed below:

1. Manual Fabric Cutting Method:

Here cutting process is done by using a knife, scissors, drill, etc. The knife is placed in the head of the cutting machine. The manual method is the most used cutting method in the garments industry.

The manual cutting method can be done by using the following equipment:

- Round knife,
- Band Knife,
- Straight Knife,
- Scissor,
- Die-cutting,
- Drill.

Advantage of Manual Cutting Method:

1. Easy process of cutting.
2. Educated manpower is not required.
3. The low-cost knife is enough here to cut the fabric.
4. Low maintenance cost.

The disadvantage of the Manual Cutting Method:

1. Slow process.
2. Not suitable for large scale production.
3. Cutting speed cannot be controlled.
4. The intensity of the accident is very high.
5. Higher labor cost than computerized cutting method.

2. Computerized Fabric Cutting Method:

In the modern clothing manufacturing industry, the computerized cutting method becomes so much popular day by day due to its higher production and less time-consuming efficiency. Here all programs are loaded into the computer and the computer performs all the activities which are loaded.

The computerized Cutting method can be done by using the following equipment:

- Straight knife cutting,
- **Water jet cutting,**
- Laser beam cutting,
- Plasma torch cutting.

Advantage of Computerized Cutting Method:

1. Very much effective cutting by a computer-controlled system.
2. Very fast cutting operation.
3. Suitable for large scale production.
4. Cutting speed can be controlled.
5. The intensity of the accident is very low.
6. No need for any marker.
7. Fabrics can be cut 7-8 times higher than the manual cutting method.
8. Low labor cost.

The disadvantage of the Computerized Cutting Method:

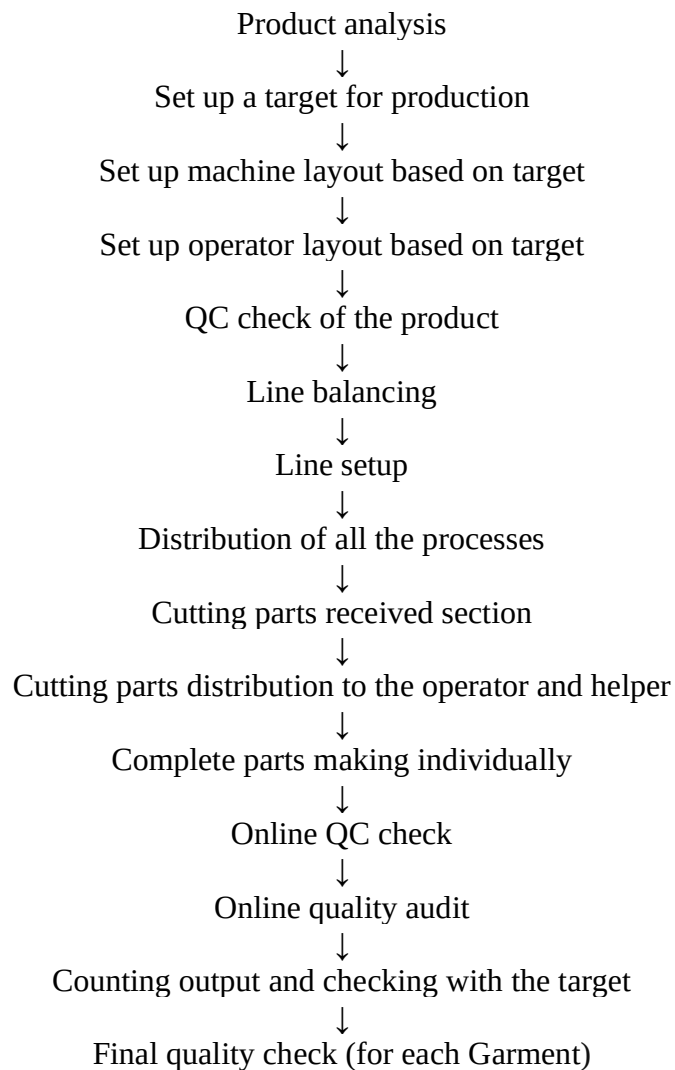
1. Higher maintenance cost.
2. Skilled and educated manpower is required.
3. So much expensive machine.
4. If the correct disc is not loaded in the computer, then an error will be indicated.

SEWING SECTION

SEWING

Sewing is an important department in the **garments manufacturing** industry. All the parts of a garment are joined here by making stitches with the help of a needle and thread. Where the sewing process flow chart helps to make a complete garment easily. By maintaining the sewing process flow chart, an order can be completed in a timely.

Process Flow Chart for Garments Sewing Department:



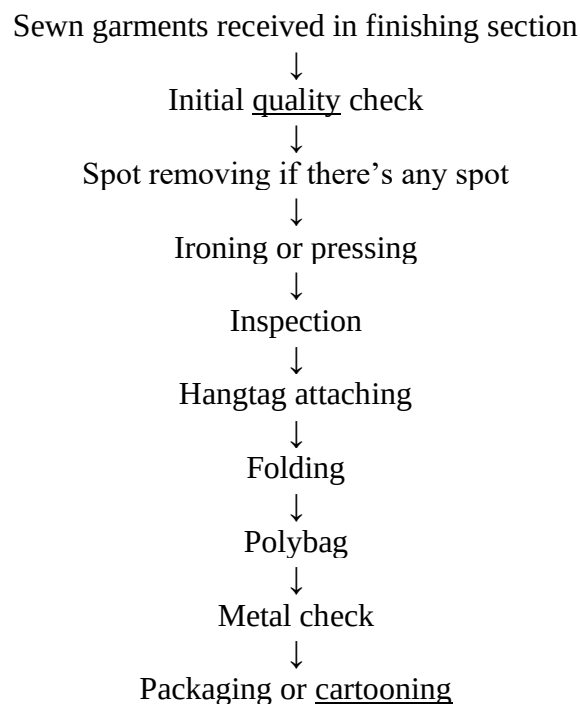
All the process sequence of the garments sewing department are discussed below:

- Product analysis: In which way, a product has to sew, it's decided here.
- Set up a target for production : Have to set a target for production based on the shipping schedule.
- Set up machine layout based on target : Have to prepare a machine setup layout based on daily target quantity.
- Set up operator layout based on target : Prepare operator layout set up based on machine quantity.
- QC check of the product: Each garment must have to fulfil its right quality. So, product checking must be needed by QC.
- Line balancing : Line balancing is a tool used for production line to capacitated the flow line of production.
- Line set up: Line setup must be needed to achieve healthy production
- Distributions of all the processes: All the processes of sewing must be distributed to the right person to avoid the damage of garments.
- Cutting parts distribution to the operator and helper: All the cutting parts should be distributed to the operator and helper after receiving those from the cutting department.
- Complete parts making individually : By joining all the parts, a complete garment has to make here individually.
- Online QC check : During the running of garments sewing, an online QC check must be needed to make fault free garments.
- Online quality audit : An online quality audit must be needed here to show the buyer actual fault free product making process.
- Counting output and checking with the target : Comparing with target quantity, all the output garments should be counted here to make sure achieving the target quantity.
- Final quality check: In this section, all the output garments are checked finally by maintaining one by one method to provide fault free clothing into the finishing department.

Process Sequence of Garments Finishing Section:

Garments finishing is an important section in the **readymade garments sector**. It's the last section of the **garments manufacturing** department. As with all the other sections of garments manufacturing, the garments finishing section has also followed a process flow chart, which has explained here.

Process Flow Chart of Garments Finishing:



All the process have discussed below:

1.Sewn garments received in finishing section: Here, sewn garments are received for finishing the garments.

2. Initial quality check : sewn garments are checked here by the quality controller. If found major sewing problems then garments sent again to the sewing section for rectification.
3. Spot removing if therer's any spot: Sometimes garments contain various types of spots which are removed here carefully.
4. Ironing or pressing: It's one of the important processes in garment finishing .Here garments are ironed by following the measurement chart of those garments.
5. Inspection: After completing ironing or finishing, garments are inspected again here by the quality controller to confirm the correct measurement of the apparel.
6. Hangtag attaching: In this section, the hangtag has to attach to the garments.
7. Folding: After completing all the above processes , garments are folded here.
8. Polybag: Garments are poly-bagged here to keep the garments dust ,dirt adn other impurities free. Send the garments safety to the buyer.
9. Metal check: In this dection. Garments should be passed through a metal detector machine to identify metal lies in the garments.
10. Packaging or cartooning : Finally, all the garments should pack to send the garments safely to the buyer.

SWOT analysis of Knitwear Sector of Bangladesh

Strength of Bangladesh Knit Garments Sector

1. Worldwide demand for good quality & cheaper knitwear products
2. The flexible labor market for continuous improvement& growth
3. Local yarn supplier & own knitting(Textile) sector
4. Separate dyeing, finishing, printing, embroidery industries increases
5. Have export relation of about 153 countries
6. More than 200 composite factories with sufficient ETP facilities
7. There exist strong backward linkage facilities

8. Socially & environmentally compliant factories
9. Adopting of clean & green production mechanism
10. Duty-free & quota-free access to EU, Canada, Australia, Japan, etc.

Weakness of Bangladesh Knit Garments Sector

1. Lack of technology-oriented types of machinery & production system
2. Can't go with the flow of product diversification & short lead time
3. Lack of forecasting & hypothetical analysis of order taking
4. Dependency on some specific buyer order leads to the low FOB price
5. Higher bank interest & insurance policy
6. Lack of variety of knit fabric producing capability
7. In-house design & development team are not strong enough
8. Recent salary increments of garments worker
9. Cost of utility & natural gas increases
10. Not go with the flow of market & product diversity

Opportunities of Bangladesh Knit Garments Sector

1. Buyer attention on the Asian subcontinent market
2. Open costing facility of many international buyers
3. Research & education on these helps to flourish knowledge
4. Government & non-government skill improvement programs
5. Buyer own initiatives to productivity improvements projects
6. Competitors are moving in other business trends
7. Green revolution attracts buyers to expand business
8. Presence of economic zone & infrastructure facility attracts a buyer
9. Business expansion in the African subcontinent
10. International Expo, textile fairs attracts global markets

Threats of Bangladesh Knit Garments Sector

1. E-shop & variety of on-demand shops worldwide
2. Internal competition of knit factories to grab an order
3. Shorter lead time & product diversity accepted cordially by China
4. High making cost & freight on board cost
5. Gendered diversion of the workforce makes shields for improvements
6. Political & environmental crisis
7. Competitors producing trendier & fancy items
8. Global retailer lower price offer because of grading product systems
9. Safety issue, longer working hour, subcontracting leads buyer wrath
10. Competitions producing more complex fabric as well as products

Vision of Knitwear industry

Vision of Bangladesh Knitwear Industry

Followed by BKMEA forecasting, there is a bright vision for Bangladesh knitwear Industry. Though at first it was not leading sector but with times it has almost equal impact over economy, social and so on. Below forecasting show the vision for our knitwear sector:

Fact	Vision 2021	Vision 2050
Knitwear export	\$21.08 Billion	\$32.62 Billion
Growth of knit	20.9	32.1
Share in Apparel export (%)	52.3	69.4
Share in National Export(%)	41.7	53.2
Share in GDP(%)	7.2	12.12
Employment Generation	2.8 million	4.9 million
Female Empowerment(%)	52	67
Enhancement of Woman savings(%)	13.69	29.2
Poverty reduction(%)	7.5	9.1

Banking & Insurance	BDT 187 Billion	BDT 201 Billion
Shipping & Logistics Industry	\$84 Million	\$91 Million
Forward & Backward Linkage Industry	BDT 221 Million	BDT 254 Million
Engineering Sector	\$14.1 Million	\$19.4 Million

CHAPTER-5

CONCLUSIONS AND RECOMENDATIONS

Conclusions

In conclusion I will say that this internship report will be very essential for every student of Business studies to get idea about manufacturing process of knit apparel in RMG industry. In this report I tried to include about producing process of knit apparel shortly. By completing this report I have also got an idea about RMG sector activities and also some merchandising related activities.

I want to Thank my advisor for helping me at time of making of this report by giving some information. This internship program will help me in the further challenges of life. I have tried to include a lot of important information in this report.

TEAM group is really a good experience for me cause every person of this group was so much helpful and they also tried to give some knowledge at their busy time.

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