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APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

Participant Handbook

Sector
Apparel

Sub-Sector
Apparel

Occupation
Inventory Management

Reference ID: **AMH/Q0503, Version 1.0**
NSQF level: 5

Apparel Inventory Data Analyst

Published by

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> Skill development of the new generation is a national need and is the foundation of Aatmnirbhar Bharat

Shri Narendra Modi
Prime Minister of India

Certificate

COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

APPAREL, MADE-UPS & HOME FURNISHING SECTOR SKILL COUNCIL

for

SKILLING CONTENT: PARTICIPANT HANDBOOK

Complying to National Occupational Standards of

Job Role/ Qualification Pack: **'Apparel Inventory Data Analyst'**

QP No. **'AMH/Q0503, NSQF Level 5'**

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(Apparel, Made-Ups & Home Furnishing Sector Skill Council)

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The preparation of this handbook would not have been possible without the Fashion Industry's support. Industry feedback has been extremely encouraging from inception to conclusion and it is with their input that we have tried to bridge the skill gaps existing today in the industry.

This participant handbook is dedicated to the aspiring youth who desire to achieve special skills which will be a lifelong asset for their future endeavours.

About this book

Welcome to the "Apparel Inventory Data Analyst" training programme. This PHB is designed to provide participants with comprehensive knowledge about the principles and practices of maintaining security, ensuring vigilance, and safeguarding premises. It also focuses on planning, executing, and managing routine security tasks, conducting inspections, and verifying the integrity of individuals and documents as part of field operations.

This Participant Handbook is designed based on the Qualification Pack (QP) under the National Skill Qualification framework (NSQF) and it comprises of the following National Occupational Standards (NOS)/ topics and additional topics.

1. AMH/N0510: Understand and Analyze Merchandise Concepts and Mix Planning in Domestic Apparel Retail
2. AMH/N0511: Analyze Merchandise Data to Forecast Apparel Trends
3. AMH/N0512: Analyze Pricing and Sale Strategies to Develop Merchandise Plans in Apparel Retail
4. AMH/N0513: Coordinate with cross-functional teams to ensure timely product availability and managing merchandising documents.
5. AMH/N0620: Promote and sustain safety, health, and security in workplace, while fostering Gender and Persons with Disabilities (PwD) Sensitization
6. AMH/N0621: Adhere to industry, regulatory, and organizational standards and embrace environmentally sustainable practices
7. DGT/VSQ/N0102:Employability Skills (60 Hours)

Symbols Used


Key Learning Outcomes


Unit Objectives


Exercise


Tips


Notes


Summary

Table of Contents

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

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1. Introduction and Orientation to Apparel Inventory Data Analyst

Unit 1.1 - Introduction to the Apparel Industry and the Role of an Apparel Inventory Data Analyst

Unit 1.2 - Employability Skills and Workplace Readiness

Bridge Module

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Describe the Apparel industry in India
2. Analyse various employment opportunities for an 'Apparel Inventory Analyst' in the apparel industry.
3. Identify the apparel production process and the role that the 'Apparel Inventory Analyst' plays in the process.

UNIT 1.1: Introduction to the Apparel Industry and the Role of an Apparel Inventory Data Analyst

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the apparel industry's size, scope, and structure.
2. Explain the roles and responsibilities of an Apparel Inventory Data Analyst.
3. Identify career opportunities within the apparel industry.
4. Explain the apparel production process and analyse the role of an Apparel Inventory Data Analyst throughout the production cycle.

1.1.1 Overview of the Apparel Industry

The apparel manufacturing sector in India is one of the biggest industries in the country. It includes making clothes like shirts, pants, dresses, uniforms, and traditional wear. It also includes items we use at home, such as bed sheets, towels, curtains, cushion covers, and tablecloths. Many factories and small units across India manufacture these garments for both domestic consumption and export to other countries.

This sector employs millions of people, particularly women and workers in rural areas. It includes many types of work such as stitching, cutting, embroidery, ironing, checking, and packing. India is renowned for its skilled workers and exquisite designs, which is why clothing made in India is in high demand worldwide.

The apparel industry in India is growing every year. With an increasing number of people purchasing clothes in India and other countries, there is a growing need for more workers and enhanced skills. New machines, better training, and government support are helping this sector grow fast. It is a strong part of India's economy and offers good job opportunities for skilled workers.

Market Size and Growth:

- **Current Value:** The Indian apparel market size was valued at USD 115.70 billion in 2024. The broader Indian textile and apparel market was valued at USD 222.08 billion in 2024.
- **Projected Growth:** The Indian apparel market is projected to grow to USD 171.60 billion by 2034, exhibiting a compound annual growth rate (CAGR) of 4% from 2025 to 2034.

Source: textileinsights.in

Fig. 1.1.1: Apparel manufacturing unit

India is known around the world for its beautiful embroidery, traditional designs, and skilled work. Because of this, there is a high demand for Indian-made clothes and home products in many countries.

The work in this sector is done by hand and by machines. It requires workers who are careful, skilled, and hard-working. Jobs like those of embroidery machine operators are crucial in maintaining the quality and design of products.

This sector helps many families earn a living and plays an important role in the country's growth.

Key Strengths and Growth Drivers of India's Apparel Industry

India's garment and textile industry is strong and growing fast. Here are the main reasons why:

1. **Plenty of Raw Material**

   India grows a lot of cotton, the highest in the world and is also the top producer of jute and jute products. India is also the second-largest producer of silk. India also produces and exports various types of blended and synthetic yarns.

Fig. 1.1.2: Cotton tree and pre-processed jute plant

2. **Large Domestic Market**

   India has a big population that buys clothes. People in India now have more money to spend and like to wear new styles. It means there is always high demand for new garments in the local market.

3. **Government Support**

   The government is giving help through special schemes like PLI and PM MITRA Parks. These programs help build better factories, support workers, and attract more companies to invest in India.

4. **Strong Export Business**

   India exports clothes and textiles to many countries, including the USA and those in Europe, making it the sixth-largest exporter of textiles and garments in the world.

5. **Use of New Technology**

   Modern machines and computers are now used in many factories. It makes the work faster, better, and more accurate.

Fig. 1.1.3: Advanced garment manufacturing technology

6. **Focus on Sustainability**

   Many companies are now using eco-friendly methods. They are making clothes from organic cotton and trying to reduce waste. It is good for the environment and future generations.

Apparel, Made-Ups and Home Furnishing Sector Skill Council (AMHSSC)

The Apparel, Made-Ups, and Home Furnishing Sector Skill Council (AMHSSC) is an organisation that helps people acquire the necessary skills to work in the clothing and home furnishing industry.

AMHSSC (Apparel, Made-Ups and Home Furnishing Sector Skill Council) plays an important role in helping people learn and grow in the garment and home furnishing industry. It creates special training courses for different jobs such as embroidery machine operators, tailors, pressmen, fashion designers, etc. These courses teach workers how to do their jobs in a safe, fast, and correct way.

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Fig. 1.1.4: AMHSSC logo

AMHSSC also works with factories and companies to understand what kind of workers are needed. It helps ensure that the training aligns with what the industry is looking for. Trained workers can get jobs in factories, export houses, or even start their own small businesses. By learning the right skills, workers can make better-quality products, feel more confident, and earn more money. In this way, AMHSSC connects skilled workers with good job opportunities and supports their future growth.

1.1.2 Role of an Apparel Inventory Data Analyst

The apparel industry is highly dynamic, with changing fashion trends, seasonal demand, and varying customer preferences. To ensure the right products are available at the right time and in the right quantity, apparel companies rely on inventory data to make informed decisions. An Apparel Inventory Data Analyst plays a vital role in collecting, analysing, and interpreting inventory-related data to support efficient stock management, merchandising, and business operations.

Who is an Apparel Inventory Data Analyst?

An Apparel Inventory Data Analyst is a professional responsible for collecting, organising, analysing, and interpreting inventory-related data to ensure the efficient management of apparel products across the supply chain. The analyst monitors stock availability, tracks inventory movement, identifies inventory trends, and provides data-driven insights to support merchandising, production, procurement, and retail operations.

Fig. 1.1.5: Apparel Inventory Data Analyst

An Apparel Inventory Data Analyst performs the following key roles within an apparel organisation:

1. **Inventory Monitoring:** Monitor inventory levels and stock movement across warehouses, production units, and retail outlets to ensure optimum product availability.
2. **Data Analysis and Decision Support:** Analyse inventory-related data and provide insights that support merchandising, production, procurement, and inventory planning decisions.
3. **Inventory Planning Support:** Assist in maintaining appropriate inventory levels by supporting demand forecasting, stock replenishment, and inventory optimisation.
4. **Supply Chain Coordination:** Coordinate with cross-functional teams to facilitate the smooth flow of inventory throughout the apparel supply chain.
5. **Inventory Performance Management:** Monitor inventory performance and identify opportunities to improve operational efficiency and reduce inventory-related losses.
6. **Inventory Information Management:** Maintain accurate inventory records and generate reports to support operational and strategic decision-making.

Fig. 1.1.6: Inventory Data Analyst Monitoring

Responsibilities of an Apparel Inventory Data Analyst

- An Apparel Inventory Data Analyst is responsible for the following key activities:
- Maintain accurate inventory records by collecting, validating, and updating inventory data.
- Monitor inventory levels to identify stock shortages, excess inventory, and stock movement.
- Prepare inventory reports to support inventory planning and business decision-making.
- Support demand forecasting and replenishment planning by providing accurate inventory data.
- Coordinate with cross-functional teams to ensure timely product availability across the supply chain.
- Verify inventory accuracy by identifying discrepancies and supporting stock reconciliation activities.
- Track inventory performance using key inventory metrics to improve operational efficiency.
- Use inventory management systems to record, analyse, and manage inventory information.
- Ensure compliance with organisational procedures by maintaining accurate inventory documentation and data confidentiality.

1.1.3 Career Opportunities in the Apparel Industry

The apparel industry offers a wide range of career opportunities for professionals skilled in inventory management and data analysis. As apparel businesses increasingly adopt digital inventory systems and data-driven decision-making, the demand for Apparel Inventory Data Analysts continues to grow. These professionals can work across manufacturing, retail, sourcing, and supply chain operations to ensure efficient inventory management and product availability.

Employment Sector	Role of the Apparel Inventory Data Analyst
Apparel Manufacturing Companies	Manage inventory of raw materials and finished goods.
Garment Export Houses	Track inventory for export orders.
Fashion Retail Brands	Monitor stock across stores and warehouses.
E-commerce Companies	Ensure inventory availability for online orders.
Buying Houses & Sourcing Agencies	Support inventory planning and coordination.
Warehousing & Distribution Centres	Manage stock movement and inventory records.
Textile & Apparel Supply Chain Companies	Monitor inventory flow across the supply chain.

Table 1.1.1: Employment Opportunities for Inventory Data Analyst

After acquiring the required skills and experience, an individual may work in roles such as:

- Apparel Inventory Data Analyst
- Inventory Analyst/Executive
- Merchandise Planning Executive
- Inventory Planning Executive
- Warehouse Inventory Coordinator
- Supply Chain Executive
- Retail Inventory Executive

The career path shown below illustrates the typical progression from entry-level inventory positions to the role of Apparel Inventory Data Analyst. Each stage requires enhanced technical skills, greater analytical capabilities, and increased responsibility in managing inventory operations and supporting business decisions. This progression enables professionals to build a successful career in the apparel industry's inventory and supply chain domain.

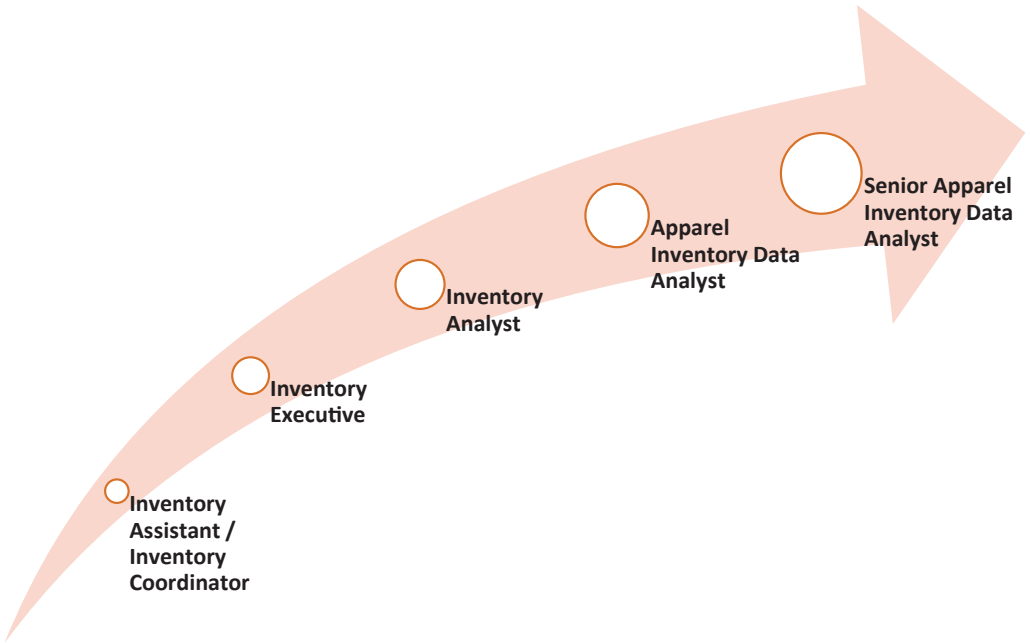

Fig. 1.1.7: Career Progression of an Apparel Inventory Data Analyst

1.1.4 Apparel Production Process and Inventory Management

The apparel production process consists of several stages, from design to dispatch. An Apparel Inventory Data Analyst supports each stage by monitoring inventory, maintaining accurate stock records, and ensuring the availability of materials and finished goods. Their role helps minimise stock shortages, improve inventory accuracy, and ensure smooth production and supply chain operations.

Step 1. Designing: Verifies the availability of fabrics, trims, and accessories required for the proposed garment design.

Step 2. Fabric Selection and Sourcing: Monitors raw material inventory and provides stock information to support procurement.

Step 3. Fabric Inspection: Updates inventory records based on the acceptance, rejection, or return of received materials.

Step 4. Fabric Spreading: Records the issue of fabrics from the warehouse for production.

Step 5. Cutting: Tracks fabric consumption and updates inventory records after cutting.

Step 6. Production (Stitching/Embroidery/Printing): Monitors the movement of work-in-progress (WIP) inventory between production departments.

Step 7. Quality Control: Records approved, repaired, and rejected garments in the inventory management system.

Step 6. Finishing: Updates finished goods inventory after garments are pressed, labelled, and prepared for packing.

Step 7. Packing: Verifies packed quantities and updates inventory records accordingly.

Step 10. Dispatch: Tracks dispatched inventory, updates stock movement records, and prepares inventory reports for distribution.

The Apparel Inventory Data Analyst plays a critical role throughout the production cycle by ensuring accurate inventory information, supporting inventory planning, and enabling the timely availability of materials and finished garments. Their work contributes to efficient production, effective stock management, and seamless supply chain operations.

UNIT 1.2: Employability Skills and Workplace Readiness

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the importance of effective communication and professional conduct in the workplace.
2. Demonstrate effective communication while interacting with colleagues and stakeholders.
3. Apply organisational procedures, personal hygiene, and time management practices to enhance workplace performance.
4. Prepare a professional resume and demonstrate appropriate interview skills for employment opportunities.

1.2.1 Effective Communication in the Workplace

Introduction to Communication

Communication is the process of exchanging information, ideas, instructions, and feedback among individuals to achieve a common objective. In the apparel industry, effective communication enables the smooth flow of inventory information across different departments, ensuring that production, warehousing, merchandising, procurement, and dispatch activities are carried out efficiently.

An Apparel Inventory Data Analyst communicates regularly with merchandising teams, warehouse personnel, procurement executives, production supervisors, logistics teams, and management. Clear and timely communication helps maintain inventory accuracy, prevents stock shortages, supports production planning, and ensures products are available when required.

Fig. 1.2.1: Effective Verbal Communication among team

Type of Communication	Description	Example
Verbal Communication	Exchange of information through spoken conversations, meetings, or phone calls.	Discussing stock shortages with the warehouse team.

Type of Communication	Description	Example
Written Communication	Sharing information through emails, reports, and inventory documents.	Preparing and sharing inventory reports or stock updates.
Non-verbal Communication	Communicating through body language, facial expressions, and gestures.	Maintaining eye contact and active listening during meetings.
Visual Communication	Presenting information using charts, dashboards, and graphs.	Using inventory dashboards to present stock status and inventory performance.

Table 1.2.1: Types of Workplace Communication

An Apparel Inventory Data Analyst should follow these communication practices given in the figure below:

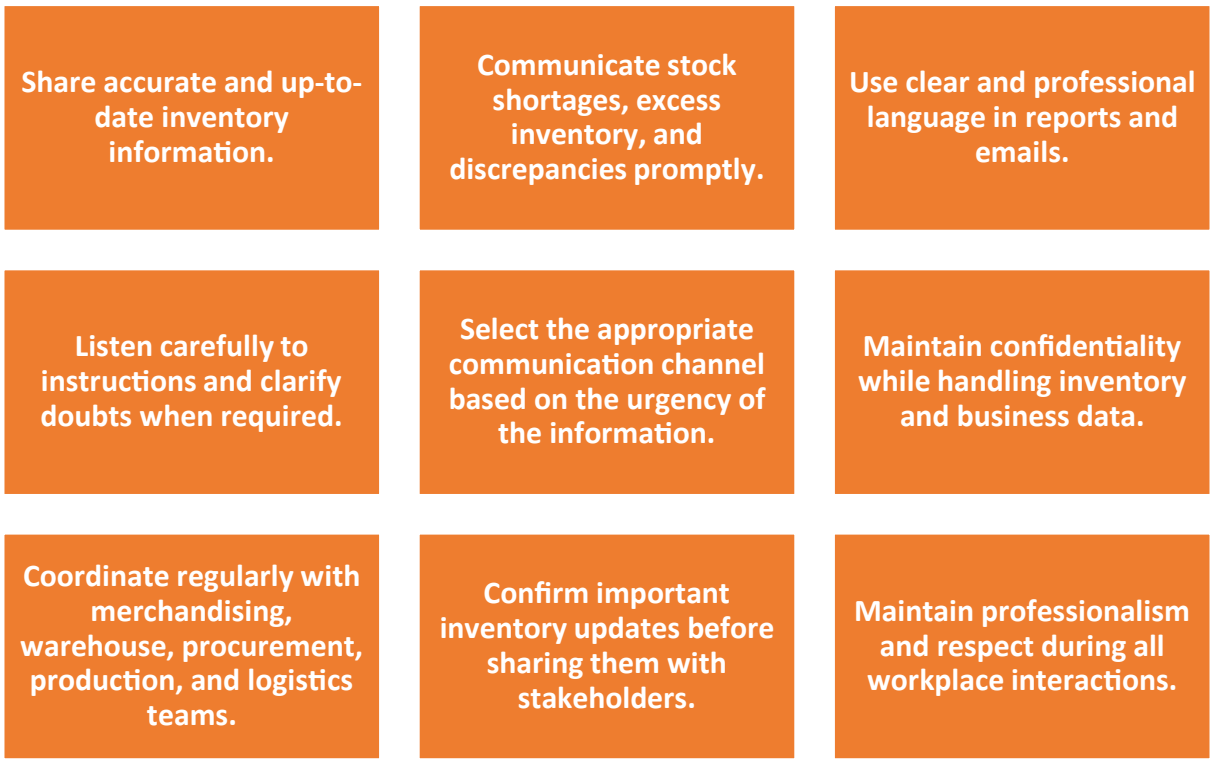

Fig. 1.2.1: Tips for Effective Communication

1.2.2 Professional Conduct and Workplace Practices

Professional Conduct in the Workplace

Professional conduct refers to the behaviour, attitude, and work ethic expected from employees in an organisation. An Apparel Inventory Data Analyst must perform duties responsibly, maintain discipline, and interact respectfully with colleagues and stakeholders. Professional conduct helps create a positive work environment and improves organisational productivity.

Good Professional Practices

- Maintain punctuality and discipline.
- Be honest, responsible, and accountable.
- Treat colleagues and stakeholders with respect.
- Maintain confidentiality of inventory and business data.
- Follow workplace safety and quality standards.
- Demonstrate teamwork and a positive attitude.

Personal Health and Hygiene

Maintaining personal health and hygiene helps create a safe, healthy, and professional work environment.

Good Hygiene Practices

- Wear clean and appropriate work attire.
- Maintain personal cleanliness and grooming.
- Follow workplace hygiene practices.
- Maintain a healthy lifestyle and report illness when necessary.

Fig. 1.2.2: Responsible Hygiene Practices

Employees should avoid habits such as ghutka, tobacco, smoking, alcohol, and other addictive substances, as they can affect health, safety, and workplace performance.

Avoiding such habits improves concentration, productivity, discipline, and overall well-being.

Ghutka **Tobacco** **Smoking** **Alcohol consumption** **Drug abuse**

Fig. 1.2.3: Common Harmful Habits to Avoid in the Workplace

1.2.3 Resume Preparation and Interview Readiness

A well-prepared resume and effective interview skills are essential for securing employment in the apparel industry.

What is a Resume?

A resume is a formal document that provides a summary of an individual's educational qualifications, technical skills, work experience, certifications, achievements, and contact details. It is usually the first document reviewed by an employer during the recruitment process and helps determine whether a candidate is suitable for a job role.

For an Apparel Inventory Data Analyst, a resume should clearly highlight inventory management skills, data analysis abilities, computer proficiency, communication skills, and any relevant training or certifications.

Importance of a Resume

A well-structured resume helps to:

- Create a positive first impression on employers.
- Highlight educational qualifications, skills, and achievements.
- Demonstrate suitability for the job role.
- Increase the chances of being shortlisted for an interview.
- Present information clearly and professionally.

Your Name

Software Engineer

CONTACT

+1 2345 6789

example@gmail.com

#1 road, city/state-0011

SKILLS

- SQL Database Management
- Linux/Unix Command line
- Python
- C++
- JAVA

LANGUAGES

- English: Proficient
- Hindi: Proficient

HOBBIES

- Writing
- Cricket
- Music

PROFILE

I am a software engineer with experience in a variety of programming languages and a track record of delivering high-quality code. I am skilled in problem-solving and have a strong background in computer science. I am a strong communicator and enjoy working collaboratively with others.

WORK EXPPERIENCE

Senior Software Developer

Company – Country Jan 2022 – Dec 2023

- Developed and maintained software using Java, Python, and C++
- Led cross-functional teams to deliver successful software projects
- write a work experience of a senior software engineer in bullet points

Web Developer

Company – Country Jan 2021 – Dec 2021

- Developed and maintained various web applications using languages such as HTML, CSS, JavaScript, and PHP
- Worked with cross-functional teams to gather requirements and design user interfaces

EDUCATION

Masters in Software Engineering

Jan 2019 – Dec 2020

XYX University, Bangalore

Bachelor in Computer Science

Jan 2015 – Dec 2018

XYX University, Bangalore

Fig. 1.2.4: A Sample of a Professional Resume

What is an Interview?

An interview is a formal interaction between an employer and a job applicant to assess the candidate's knowledge, skills, attitude, and suitability for a specific job role. It allows employers to evaluate whether the candidate possesses the technical and professional competencies required for the position.

The steps that are taken for preparing for an Interview are illustrated in the image below:

Fig. 1.2.5: Preparation for an Interview

Summary

- The apparel industry is one of India's largest industries, providing employment and contributing significantly to the country's economy.
- An Apparel Inventory Data Analyst manages inventory data to ensure the right products are available at the right time and quantity.
- The analyst supports inventory planning, stock monitoring, demand forecasting, and coordination with different departments.
- The apparel production process includes designing, sourcing, production, quality control, packing, and dispatch, where inventory management is essential at every stage.
- The apparel industry offers career opportunities in manufacturing, retail, warehousing, e-commerce, sourcing, and supply chain management.
- Effective communication helps improve coordination, inventory accuracy, teamwork, and smooth business operations.
- Professional conduct, personal hygiene, workplace ethics, and good time management contribute to a safe and productive work environment.
- Avoiding harmful habits such as tobacco, smoking, and alcohol helps improve health, discipline, and workplace performance.
- A professional resume highlights a candidate's qualifications, skills, and experience, increasing the chances of securing an interview.
- Proper interview preparation, confidence, communication skills, and professional behaviour improve employment opportunities.

Exercise

Multiple-choice Question:

1. What is the primary responsibility of an Apparel Inventory Data Analyst?
   a. Designing garments
   b. Managing inventory data and stock information
   c. Sewing garments
   d. Selling apparel products

2. Which stage comes after Quality Control in the apparel production process?
   a. Designing
   b. Fabric Inspection
   c. Finishing
   d. Cutting

3. Which type of communication uses emails, reports, and documents?
   a. Verbal Communication
   b. Written Communication
   c. Non-verbal Communication
   d. Visual Communication

4. Which of the following is an example of good professional conduct?
   a. Ignoring workplace policies
   b. Sharing confidential business information
   c. Being punctual and maintaining discipline
   d. Reporting late to work regularly

5. What is the main purpose of a resume?
   a. To advertise products
   b. To record attendance
   c. To present qualifications, skills, and experience to employers
   d. To prepare inventory reports

Descriptive Questions:

1. Explain the role and responsibilities of an Apparel Inventory Data Analyst in the apparel industry.
2. Describe the major stages of the apparel production process and explain how inventory management supports each stage.
3. Why is effective communication important in the workplace? Explain with suitable examples.
4. Discuss the importance of professional conduct, personal hygiene, and time management in the workplace.
5. Explain the importance of a resume and describe the key points to remember while preparing for an interview.

Notes

Scan the QR codes or click on the link to watch the related videos

https://youtu.be/f7CjpHlbH9Q?si=Q05f1X4uW0p64cIK

What is the role of an Inventory Analyst?

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2. Understand and Analyse Merchandise Concepts and Mix Planning in Domestic Retail Apparel

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Unit 2.1 - Fundamentals of Apparel Merchandise Planning

Unit 2.2 - Merchandise Planning, Analysis and Reporting

AMH/N0510

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Assess merchandising principles and planning practices to support effective assortment and inventory decisions.
2. Examine consumer demand, market trends, and seasonal factors to improve merchandise planning and retail performance.
3. Evaluate merchandising data and business insights to optimise product mix, stock allocation, and pricing decisions.
4. Apply merchandise planning methods to develop balanced assortments that align with business objectives and customer needs.
5. Prepare and communicate merchandising recommendations using analytical reports and effective cross-functional collaboration.

UNIT 2.1: Fundamentals of Apparel Merchandise Planning

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the principles of apparel merchandising and merchandise planning.
2. Interpret consumer behaviour, market trends, and seasonal influences in merchandise decisions.
3. Examine pricing strategies and planning methods used in apparel retail.
4. Describe the role of cross-functional collaboration and documentation in merchandising operations.

2.1.1 Apparel Merchandising and its Principles

Apparel merchandising is the process of planning, developing, sourcing, pricing, and managing apparel products to ensure they meet customer demand while achieving the organisation's business objectives. It involves selecting the right products, maintaining optimum inventory levels, and ensuring that the right merchandise is available at the right place, at the right time, in the right quantity, and at the right price.

Fig. 2.1.1: Apparel Merchandising

Importance of Apparel Merchandising

Apparel merchandising plays a vital role in ensuring efficient business operations and meeting customer expectations. It helps apparel organisations to:

- Offer products that match customer needs and market demand.
- Maintain the right balance between inventory and sales.
- Improve product availability across stores and distribution channels.
- Minimise stock shortages and excess inventory.
- Increase sales, profitability, and customer satisfaction.

Fig. 2.1.2: Principles of Apparel Merchandising

Merchandise Planning

Merchandise planning is the systematic process of determining what products should be purchased, how much inventory should be maintained, and when products should be made available for sale. It helps organisations balance customer demand with inventory availability while improving sales and profitability.

Merchandising and inventory management work together to ensure efficient retail operations. While merchandising focuses on product selection, pricing, and assortment planning, inventory management ensures that adequate stock is available throughout the supply chain.

Category Management

Products are grouped into categories such as men's wear, women's wear, children's wear, ethnic wear, or accessories. Managing each category separately helps improve inventory control, product availability, and overall sales performance.

Merchandise planning is a systematic process that includes the following steps:

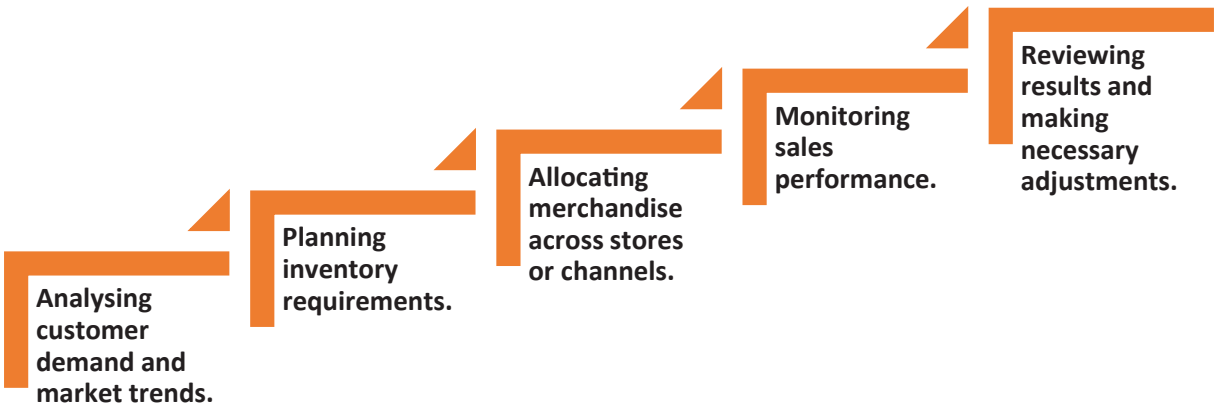


Fig. 2.1.3: Merchandise Planning Process

2.1.2 Consumer Behaviour and Market Trends

Consumer behaviour and market trends play a significant role in apparel merchandising and inventory planning. Understanding how customers make purchasing decisions, respond to fashion trends, and shop during different seasons helps retailers develop effective merchandise plans and maintain an optimum product mix. By analysing consumer preferences, sales patterns, and market trends, organisations can improve inventory planning, enhance customer satisfaction, and respond quickly to changing market demands.

Fig. 2.1.4: Customer buying clothes based on preference

Modern technologies such as Artificial Intelligence (AI) and Machine Learning (ML) further support merchandising by analysing large volumes of sales and customer data to identify purchasing patterns, forecast demand, and recommend suitable merchandise strategies.

Consumer behaviour refers to the purchasing habits, preferences, and decision-making patterns of customers when buying apparel products. Factors such as age, lifestyle, income, fashion preferences, price, quality, brand image, and seasonal demand influence buying decisions.

Understanding consumer behaviour helps retailers:

- Identify customer needs and preferences.
- Plan suitable product assortments.
- Improve inventory planning and product availability.
- Enhance customer satisfaction and loyalty.

AI-powered customer analytics tools analyse purchase history and shopping behaviour to identify customer preferences and recommend suitable product assortments.

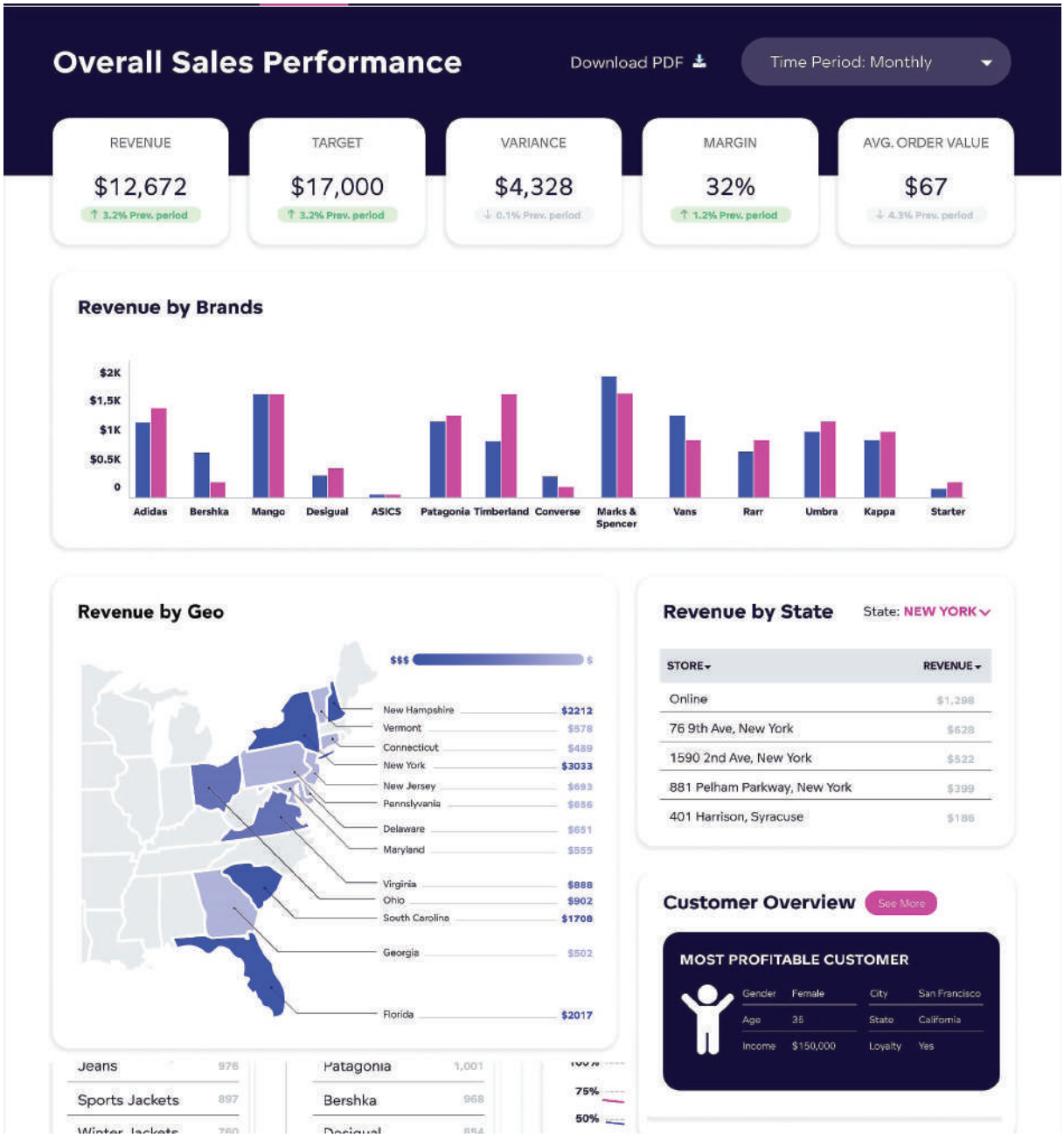


Fig. 2.1.5: Cloud Native BI Tools for Customer Behaviour Analysis

Sales Cycles and Market Trends

Sales cycles refer to the recurring patterns of product demand during different periods of the year, while market trends represent changes in customer preferences, fashion, and retail demand over time. Retailers analyse historical sales data and market trends to plan inventory, forecast demand, and optimise merchandise availability. Understanding sales cycles and market trends helps apparel organisations:

- Forecast future product demand.
- Plan inventory according to sales periods.
- Reduce excess inventory and stock shortages.
- Improve merchandising decisions.

Fig. 2.1.6: Analysis of Market Trends

2.1.3 Pricing Strategies in Apparel Retail

Pricing is one of the most important elements of apparel merchandising, as it directly influences customer purchasing decisions, sales performance, and business profitability. A well-planned pricing strategy helps retailers offer products at competitive prices while ensuring adequate profit margins. Pricing decisions are influenced by factors such as production cost, market competition, customer demand, brand positioning, and perceived product value.

An Inventory Data Analyst supports pricing decisions by analysing sales performance, inventory levels, product demand, and market trends. The analyst provides data-driven insights that help merchandising teams evaluate pricing strategies, monitor product performance, and optimise inventory based on customer demand and profitability.

Pricing Strategy	Basis for Pricing	Suitable For	Example
Cost-based Pricing	Selling price is based on the cost of production plus a profit margin.	Standard and everyday apparel products	A T-shirt costing ₹500 is sold for ₹600 after adding a 20% profit margin.
Competitive Pricing	Selling price is based on competitors' prices for similar products.	Highly competitive apparel markets	Similar jeans sold by competitors for ₹1,499 are priced at ₹1,399 or ₹1,497.
Value-based Pricing	Selling price is based on the customer's perceived value of the product.	Premium, branded, and designer apparel	A premium designer kurta is priced higher because customers value its quality, design, and brand.

Table 2.1.1: Comparison of Pricing Strategies in Apparel Retail

Artificial Intelligence (AI) helps apparel retailers make smarter pricing decisions by analysing market conditions, customer demand, competitor pricing, and sales performance. The AI applications that can be used are given in the figure below:

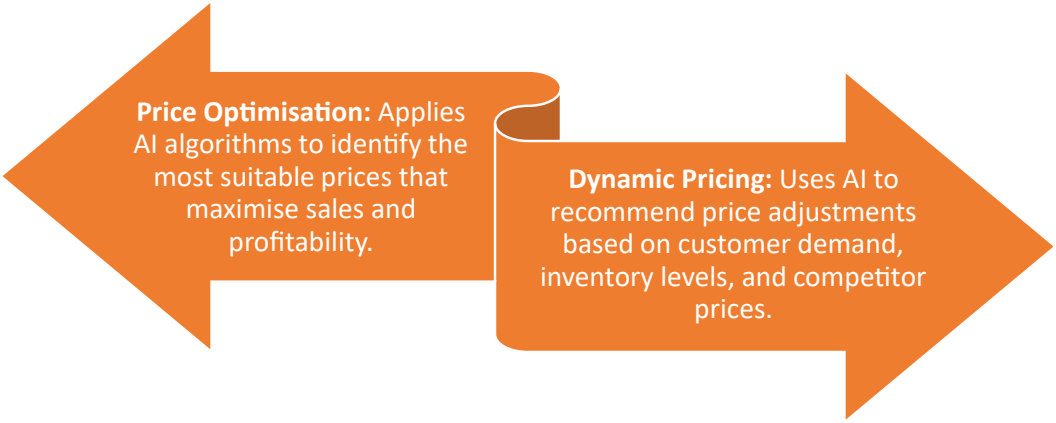


Fig. 2.1.7: AI Applications in Pricing

2.1.4 Cross-functional Coordination in Merchandising

Cross-functional coordination is the process of collaboration among different departments involved in apparel merchandising to ensure the smooth planning, production, and delivery of products. Each team performs specific responsibilities while working towards a common objective of providing the right product, at the right time, in the right quantity, and at the right price.

Fig. 2.1.8: Cross-functional Collaboration in Apparel Merchandising

The table below summarises the roles of the key cross-functional teams involved in apparel merchandising and highlights their contribution to the merchandise planning and retail value chain.

Team	Role
Buying Team	Selects merchandise, plans purchases, and coordinates procurement based on market demand and business requirements.

Team	Role
Design Team	Develops apparel collections by incorporating fashion trends, customer preferences, and brand requirements.
Sourcing Team	Procures fabrics, trims, and other materials while ensuring quality, cost-effectiveness, and timely supply.
Production Team	Plans and manages garment manufacturing to ensure products are produced on time and meet quality standards.
Retail Operations Team	Manages product distribution, store inventory, and merchandise availability to meet customer demand.

Table 2.1.2: Roles of Cross-functional Teams in Apparel Merchandising

UNIT 2.2: Merchandise Planning, Analysis and Reporting

Unit Objectives

By the end of this unit, the participants will be able to:

1. Develop merchandise plans using inventory, sales, and assortment data.
2. Analyse merchandise performance to support inventory and assortment decisions.
3. Evaluate planning outcomes to recommend improvements in product mix and stock management.
4. Present merchandise insights and recommendations using appropriate reporting and communication tools.

2.2.1 Merchandise Mix Planning

Merchandise mix planning is the process of selecting and allocating the right combination of products to meet customer demand while achieving business objectives. It involves analysing inventory levels, sales performance, and assortment requirements to ensure that the right products are available in the right quantity, at the right time, and at the right location.

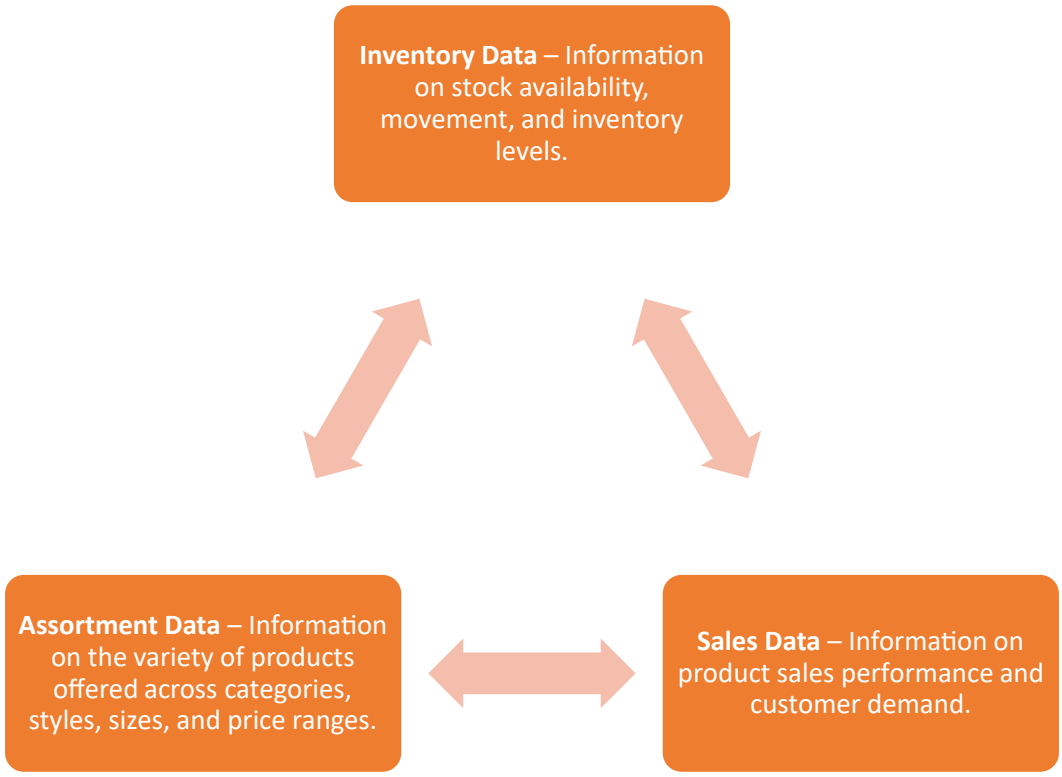


Fig. 2.2.1: Elements of Merchandise Mix Planning

A merchandise mix plan is generally developed through the following steps:

- Analyse inventory availability and current stock levels.
- Review historical sales data and customer demand.
- Identify best-selling and slow-moving products.

- Plan the product assortment based on category, season, and target customers.
- Allocate stock across stores or sales channels according to demand.
- Monitor merchandise performance and update the plan when required.

2.2.2 Sales and Assortment Analysis

Sales and assortment analysis are the process of evaluating merchandise performance using sales, inventory, and customer data. It helps retailers understand which products perform well, identify inventory gaps, and make informed decisions regarding assortment planning and stock management. For an Apparel Inventory Data Analyst, analysing merchandise performance is essential to ensure that the right products are available in the right quantity and at the right time.

Key Components of Sales and Assortment Analysis

1. **Sales Data Analysis:** Sales data analysis involves examining sales reports to identify product performance, sales trends, and customer purchasing patterns.
2. **Customer Insights:** Customer insights help understand customer preferences, buying behaviour, and product demand, enabling better merchandising decisions.
3. **Bestsellers and Slow Movers:** Identifying best-selling and slow-moving products helps optimise inventory by increasing the availability of high-demand items and reducing excess stock of low-performing products.
4. **Assortment Gap Analysis:** Assortment gap analysis identifies missing products, sizes, colours, or categories that may affect customer satisfaction and sales opportunities.

Fig. 2.2.2: Steps in Sales and Assortment Analysis

An Inventory Data Analyst plays a key role in sales and assortment analysis by transforming inventory and sales data into actionable business insights. The analyst monitors product performance across different categories, identifies best-selling and slow-moving products, and detects stock shortages,

excess inventory, and assortment gaps. By analysing these insights, they support merchandising teams in making informed decisions related to inventory replenishment, product assortment, and stock allocation.

Artificial Intelligence (AI) and Machine Learning (ML) help retailers analyse large volumes of sales and inventory data, enabling faster and more accurate merchandising decisions.

An Apparel Inventory Data Analyst uses AI-enabled inventory management and Business Intelligence (BI) tools to analyse sales trends, monitor stock performance, forecast demand, and support data-driven merchandising decisions.

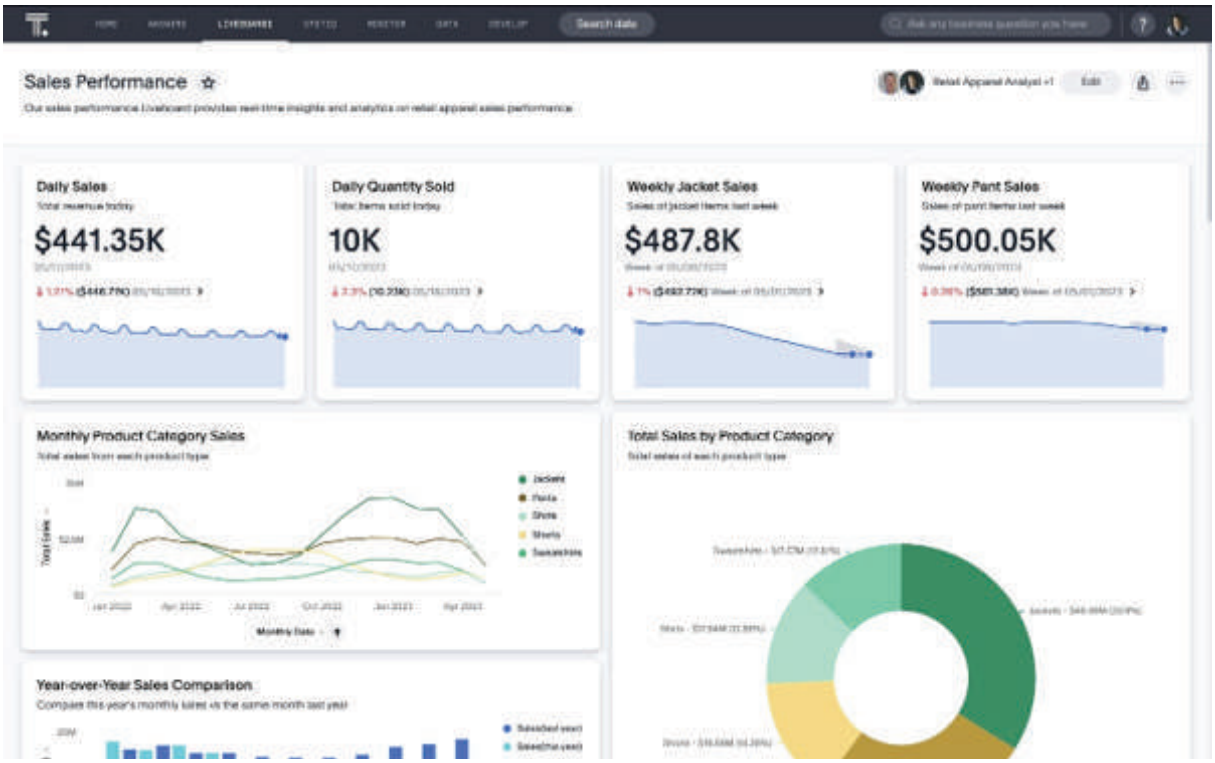


Fig. 2.2.3: Sample of AI and Business Intelligence in Sales and Assortment Analysis

2.2.3 Inventory and Stock Planning

Inventory and stock planning are the process of evaluating inventory levels and stock performance to ensure that the right products are available in the required quantity at the right time. It involves analysing inventory data, sales trends, and stock movement to improve product availability, minimise inventory costs, and support effective merchandise planning. By regularly evaluating planning outcomes, organisations can recommend improvements in product mix, stock allocation, and replenishment strategies.

Evaluating planning outcomes is the process of reviewing merchandise and inventory performance to determine whether planning objectives have been achieved.

Inventory Planning Techniques

1. **Open-to-Buy (OTB) Budget Calculation:** Open-to-Buy (OTB) is a merchandise budgeting technique used to determine the amount of inventory that can be purchased during a specific period without exceeding the planned budget. OTB helps control inventory investment, supports planned purchasing, prevents overstocking and understocking, and improves inventory turnover.

2. **Stock Level Analysis:** Stock level analysis involves regularly reviewing inventory quantities to ensure adequate stock is available across stores and warehouses. Stock level analysis helps maintain optimum inventory levels, improves product availability, reduces stock shortages and excess inventory, and supports efficient inventory management.
3. **Replenishment Planning:** Replenishment planning is the process of determining when and how much inventory should be reordered based on sales performance, stock levels, and customer demand. Replenishment planning ensures timely stock availability, prevents stock shortages and overstocking, improves customer satisfaction, and supports a smooth flow of merchandise across the supply chain.

Fig. 2.2.4: Stock Analysis in a Boutique Store

What is Product Mix?

A product mix is the complete range of apparel products offered by a retailer or brand. It includes different product categories, styles, colours, sizes, designs, and price ranges that are planned to meet the needs of the target customers. Product mix plays an important role in merchandise planning because it helps organisations:

- Meet changing customer preferences.
- Maintain an appropriate variety of products.
- Improve product availability.
- Reduce excess and slow-moving inventory.
- Increase sales and customer satisfaction.

An Apparel Inventory Data Analyst evaluates sales, inventory, and merchandise performance to identify opportunities for improving the product mix and stock management. By analysing inventory data and customer demand, the analyst recommends inventory replenishment, stock redistribution, and assortment adjustments that help improve product availability, reduce inventory costs, and support effective merchandising decisions.

Recommendation	Purpose
Increase stock of high-demand products	Ensure product availability and maximise sales.
Reduce inventory of slow-moving products	Minimise excess stock and inventory holding costs.
Introduce products based on market trends	Meet changing customer preferences and demand.

Recommendation	Purpose
Optimise the product mix	Maintain a balanced assortment across categories, sizes, colours, and price ranges.
Reallocate inventory across stores	Match stock availability with regional demand.
Improve replenishment planning	Prevent stock shortages and overstocking.
Use sales and inventory data	Support informed merchandising and inventory decisions.
Monitor inventory performance regularly	Continuously improve product mix and stock management.

Table 2.2.1: Recommendations for Improving Product Mix and Stock Management

2.2.4 Seasonal Merchandise Planning

Seasonal merchandise planning is the process of planning and managing apparel products according to seasonal demand, fashion trends, customer preferences, and store requirements. It helps retailers offer the right products at the right time, ensuring better inventory utilisation, improved sales, and higher customer satisfaction.

Fig. 2.2.5: Summer Seasonal Merchandising

The table below presents the key approaches to seasonal merchandise planning along with their purpose and benefits in apparel merchandising:

Planning Type	Description	Benefits
Seasonal Assortment Planning	Selects an appropriate range of products for a particular season based on customer demand, fashion trends, climate, and business objectives.	Improves product availability, reduces excess inventory, enhances customer satisfaction, and supports better sales performance.
Trend-based Product Selection	Selects products by analysing fashion trends, consumer preferences, market demand, and past sales performance.	Helps respond to changing fashion trends, improves product acceptance, and maximises sales opportunities.
Store Profile-based Merchandise Planning	Allocates merchandise based on store size, customer demographics, regional preferences, purchasing behaviour, and sales performance.	Improves inventory allocation, increases product availability, reduces stock imbalances, and enhances store performance.

Table 2.2.2: Key Approaches to Seasonal Merchandise Planning

2.2.5 Merchandise Performance Evaluation

Merchandise performance evaluation is the process of assessing how effectively apparel products perform in the market based on sales, inventory movement, customer demand, and profitability. It helps retailers determine whether merchandise planning objectives have been achieved and identify opportunities to improve product assortment and inventory management.

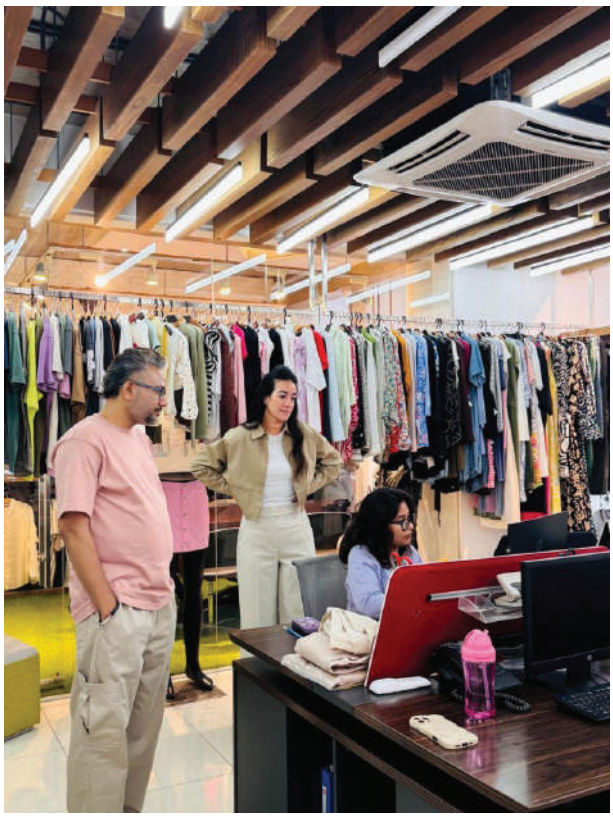


Fig. 2.2.6: Merchandise Performance Review

Merchandise performance evaluation helps apparel organisations to:

- Measure the effectiveness of merchandise planning.
- Monitor sales and inventory performance.
- Identify high-performing and slow-moving products.
- Improve product mix and assortment decisions.
- Optimise inventory utilisation and profitability.
- Support data-driven merchandising decisions.
- Merchandise performance evaluation focuses on three important areas:

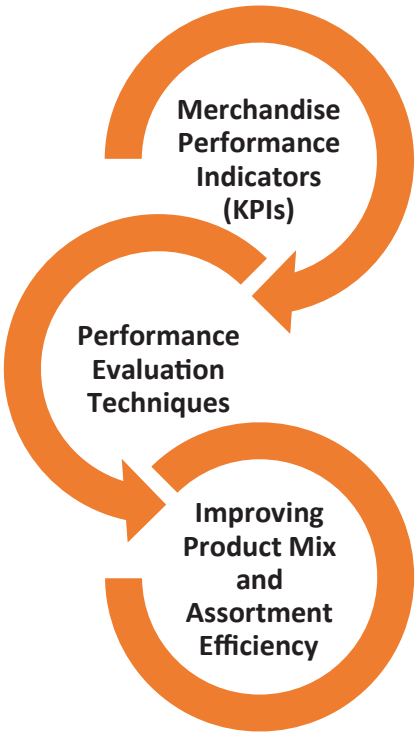


Fig. 2.2.7: Key Aspects of Merchandise Performance Evaluation

Key Performance Indicators (KPIs) are measurable metrics used to assess the success of merchandise planning and inventory management. They help retailers monitor sales, inventory performance, stock availability, and profitability to evaluate whether merchandising objectives are being achieved.

Performance evaluation techniques involve analysing sales data, inventory records, customer demand, and market trends to measure merchandise performance. These techniques help identify strengths, weaknesses, and opportunities for improving merchandising strategies.

Based on the evaluation results, retailers can optimise the product mix by increasing the availability of high-performing products, reducing slow-moving inventory, improving stock allocation, and refining assortments to better meet customer demand and market trends.

An Apparel Inventory Data Analyst supports merchandise performance evaluation by analysing sales and inventory data, monitoring key performance indicators, and identifying trends that affect merchandise performance.

2.2.6 Merchandise Reporting and Communication

Merchandise reporting and communication are essential components of apparel merchandising that ensure accurate information is shared among buying, merchandising, sourcing, inventory, and retail teams. Effective reporting helps monitor merchandise performance, while clear communication enables timely decision-making, efficient coordination, and successful execution of merchandise plans.

Merchandise Reports

Merchandise reports provide a summary of inventory, sales, and product performance. They help management evaluate merchandise performance and make informed decisions regarding inventory, product assortment, and replenishment.

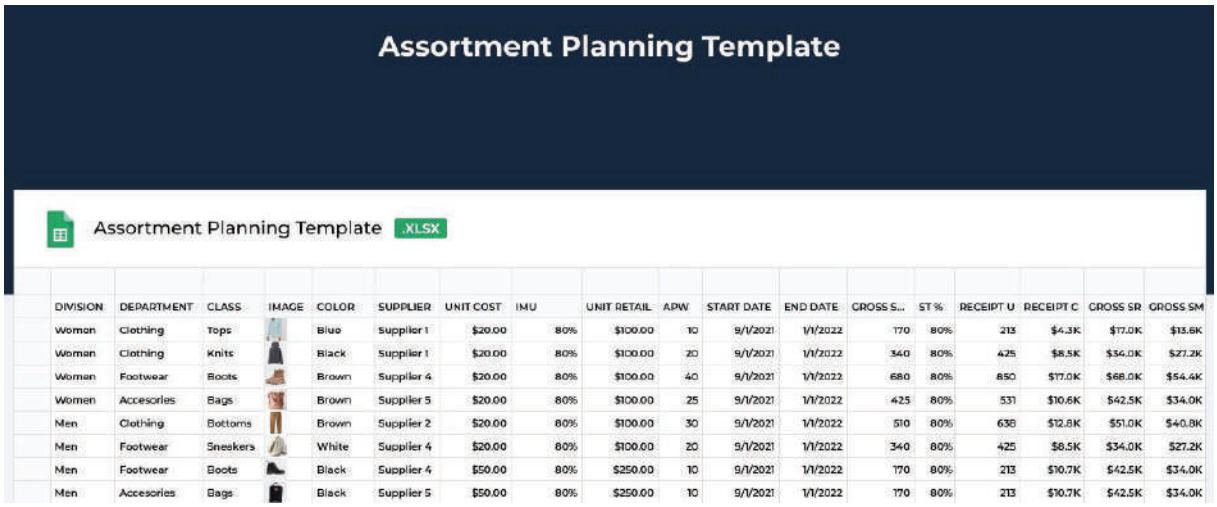
Common merchandise reports include:

- Sales Performance Reports
- Inventory Status Reports
- Stock Ageing Reports
- Bestsellers and Slow-movers Reports
- Replenishment Reports

Fig. 2.2.8: Merchandise Reports

Assortment Grids and Planning Templates

Assortment grids and planning templates are structured tools used to organise and plan merchandise for different categories, stores, and seasons. They help merchandising teams maintain a balanced assortment of products based on styles, colours, sizes, price ranges, and customer demand.



DIVISION	DEPARTMENT	CLASS	IMAGE	COLOR	SUPPLIER	UNIT COST	IMU	UNIT RETAIL	APW	START DATE	END DATE	GROSS S...	ST %	RECEIPT U	RECEIPT C	GROSS SR	GROSS SM
Women	Clothing	Tops		Blue	Supplier 1	$20.00	80%	$100.00	10	9/1/2021	1/1/2022	170	80%	213	$4.3K	$17.0K	$13.6K
Women	Clothing	Knits		Black	Supplier 1	$20.00	80%	$100.00	20	9/1/2021	1/1/2022	340	80%	425	$8.5K	$34.0K	$27.2K
Women	Footwear	Boots		Brown	Supplier 4	$20.00	80%	$100.00	40	9/1/2021	1/1/2022	680	80%	850	$17.0K	$68.0K	$54.4K
Women	Accesories	Bags		Brown	Supplier 5	$20.00	80%	$100.00	25	9/1/2021	1/1/2022	425	80%	531	$10.6K	$42.5K	$34.0K
Men	Clothing	Bottoms		Brown	Supplier 2	$20.00	80%	$100.00	30	9/1/2021	1/1/2022	510	80%	638	$12.8K	$51.0K	$40.8K
Men	Footwear	Sneakers		White	Supplier 4	$20.00	80%	$100.00	20	9/1/2021	1/1/2022	340	80%	425	$8.5K	$34.0K	$27.2K
Men	Footwear	Boots		Black	Supplier 4	$50.00	80%	$250.00	10	9/1/2021	1/1/2022	170	80%	213	$10.7K	$42.5K	$34.0K
Men	Accesories	Bags		Black	Supplier 5	$50.00	80%	$250.00	10	9/1/2021	1/1/2022	170	80%	213	$10.7K	$42.5K	$34.0K

Fig. 2.2.9: Sample of Assortment Grids Apparel Merchandise Planning

These planning tools support:

- Product assortment planning.
- Category-wise merchandise allocation.
- Seasonal merchandise planning.
- Inventory tracking and decision-making.

Six-Month Dollar Merchandising Plan					Department Name:			
						LY-LAST YEAR	TY-PLAN	ACTUAL
					Average Stock			
	LY-LAST YEAR	TY-PLAN	ACTUAL		Turnover Rate			
Markup %					Overall Markdown %			
Cost %					Workroom Expe	n/a	n/a	n/a
Spring		February	March	April	May	June	July	Season Total
								100%
Monthly % of Sales								
SALES	Last Year							
	Plan							
BOM Stock	Last Year							
	Plan							
EOM STOCK	Last Year							
EOS stock is EOM July	Plan							
Markdowns	Last Year							
	Monthly %							
	Plan							
Retail Purchases	Last Year							
	Plan							
Cost Purchases	Last Year							
	Plan							
Stock to Sales	Last Year							
	Plan							

Fig. 2.2.10: Merchandise Planning Template

Artificial Intelligence (AI) and Business Intelligence (BI) tools enhance merchandise reporting by automating data analysis and generating real-time insights. The following applications given in the table can be used for merchandising reports:

AI Application	Purpose
Automated Reporting	Generates inventory and sales reports automatically.
Business Intelligence (BI) Dashboards	Displays real-time merchandise performance and KPIs.
Data Visualisation Tools	Presents sales and inventory data through charts and graphs.
AI-based Recommendations	Suggests inventory replenishment and assortment improvements.
Automated Alerts	Notifies teams about stock shortages, excess inventory, or sales deviations.

Table 2.2.3: AI Applications in Merchandise Reporting and Communication

Summary

- Apparel merchandising ensures that the right products are available to customers at the right time, place, quantity, quality, and price.
- Merchandise planning involves analysing demand, planning inventory, and managing product assortments to improve sales and profitability.
- Consumer behaviour, market trends, and seasonal influences help retailers understand customer needs and make better merchandising decisions.
- Pricing strategies such as cost-based, competitive, and value-based pricing help retailers remain profitable and competitive.
- Effective merchandising requires coordination among buying, design, sourcing, production, and retail operations teams.
- Inventory, sales, and assortment data are used to develop merchandise plans and maintain optimum stock levels.
- Sales and assortment analysis help identify best-selling products, slow-moving items, and opportunities to improve product assortments.
- Inventory and stock planning support replenishment, stock allocation, and product mix improvements while reducing excess inventory and stock shortages.
- Merchandise performance is evaluated using key performance indicators (KPIs), reports, dashboards, and analytical tools to support informed business decisions.
- Clear reporting, communication, and data-driven recommendations help merchandising teams improve product planning, inventory management, and overall retail performance.

Exercise

Multiple-choice Question:

1. What is the main objective of apparel merchandising?
   a. To manufacture garments only
   b. To provide the right products to customers at the right time and price
   c. To recruit employees
   d. To prepare financial statements

2. Which factor is commonly used to develop an effective merchandise plan?
   a. Employee attendance records
   b. Inventory, sales, and assortment data
   c. Factory building design
   d. Office furniture

3. Which pricing strategy is based on the customer's perceived value of a product?
   a. Cost-based pricing
   b. Competitive pricing
   c. Value-based pricing
   d. Discount pricing

4. Which team is primarily responsible for selecting merchandise based on market demand and sales forecasts?
   a. Production Team
   b. Buying Team
   c. Retail Operations Team
   d. Finance Team

5. Why is merchandise performance evaluation important?
   a. To increase employee working hours
   b. To identify improvement opportunities in product mix and inventory management
   c. To prepare payroll records
   d. To manage office administration

Descriptive Questions:

1. Explain the principles of apparel merchandising and discuss the importance of merchandise planning.
2. Describe how consumer behaviour, market trends, and seasonal influences affect merchandising decisions.
3. Explain the different pricing strategies used in apparel retail and their significance.
4. Discuss how inventory, sales, and assortment data are used to develop effective merchandise plans.
5. Explain the importance of merchandise performance evaluation and how reporting and communication tools support merchandising decisions.

Notes

Scan the QR codes or click on the link to watch the related videos

https://youtu.be/rcYQ57BxaCY?si=iniQVkFBlS7EwLc8

Garments Costing for Merchandiser

https://youtu.be/NPnruykngJw?si=0JS4Z-SCZJQfH0j9

What is Merchandise Planning

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
RE>IMAGINE FUTURE

3. Analyse Merchandise Data to Forecast Apparel Trends

APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

Unit 3.1 - Fashion Trend Forecasting and Market Insights

AMH/N0511

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Evaluate emerging fashion trends and consumer preferences to support business and merchandising objectives.
2. Interpret market intelligence and seasonal forecasts to guide apparel assortment and product planning.
3. Assess merchandise performance and competitive market trends to improve product selection and inventory decisions.
4. Apply forecasting methods and trend analysis techniques to develop market-relevant product concepts.
5. Present actionable trend insights through visual merchandising tools and professional communication for cross-functional decision-making.

UNIT 3.1: Fashion Trend Forecasting and Market Insights

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the fundamentals of fashion trend forecasting, consumer behaviour, and factors influencing apparel trends.
2. Interpret seasonal trend reports, fashion cycles, market insights, and competitive trends to understand emerging fashion directions.
3. Apply trend analysis techniques to evaluate market trends, consumer preferences, and fashion data for merchandising decisions.
4. Develop and present trend-based merchandising tools and product recommendations using mood boards, trend interpretation sheets, and visual planning techniques.

3.1.1 Fundamentals of Fashion Trend Forecasting

Fashion is constantly evolving as customer preferences, lifestyles, and market conditions change. To remain competitive, apparel retailers and manufacturers must anticipate these changes and introduce products that meet future customer demand. This process is known as fashion trend forecasting. It enables organisations to identify emerging trends, plan product assortments, and make informed merchandising decisions.

Fashion trend forecasting is closely linked with consumer behaviour, as purchasing decisions are influenced by factors such as fashion preferences, social influences, economic conditions, and seasonal demand. By understanding these factors, apparel organisations can develop products that align with market expectations and improve customer satisfaction.

Fig. 3.1.1: Fashion Trend Forecasting in the Apparel Industry

Fashion trend forecasting is the process of predicting future fashion trends by analysing consumer behaviour, market conditions, historical sales data, cultural influences, and emerging design trends. It helps apparel organisations identify upcoming colours, fabrics, silhouettes, styles, and consumer preferences before they become widely popular.

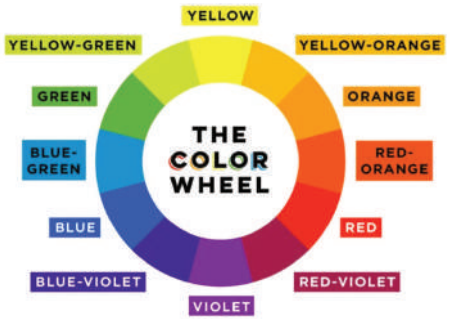
Trend forecasting supports:

- Product development and merchandise planning.
- Inventory and assortment planning.
- Seasonal collection development.
- Better alignment with customer demand.
- Improved business competitiveness.

Apparel trends are influenced by a combination of social, cultural, economic, technological, and environmental factors that shape customer preferences and purchasing behaviour. Some of the major factors include:

- **Fashion Designers and Brands:** Introduce new styles, colours, and collections.
- **Celebrities and Social Media Influencers:** Influence customer purchasing decisions and fashion choices.
- **Seasonal Changes and Festivals:** Drive demand for climate-specific and festive apparel.
- **Consumer Lifestyle and Preferences:** Changing lifestyles create demand for new fashion categories.
- **Economic Conditions:** Income levels and purchasing power affect buying behaviour.
- **Technology and E-commerce:** Digital platforms accelerate the spread of fashion trends and increase customer access to products.

An apparel trend consists of several design elements that together define the appearance and appeal of a garment. The table given below represents its components:

Component	Description
 **Colours**	Popular colour palettes preferred during a season.
 **Fabrics**	Materials selected based on comfort, functionality, and fashion trends.

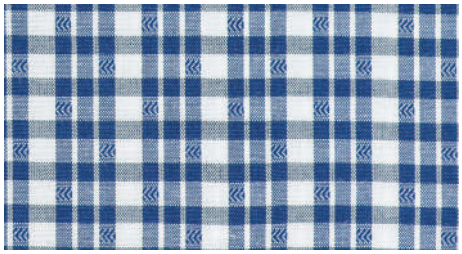
Component	Description
 **Silhouettes**	Overall shape and fit of a garment, such as oversized, slim-fit, or relaxed.
 **Prints and Patterns**	Decorative designs that enhance the visual appeal of apparel.
 **Trims and Accessories**	Elements such as buttons, zippers, embroidery, lace, and embellishments that add style and functionality.
 **Details and Finishes**	Design features such as pleats, ruffles, pockets, stitching, and surface finishes that distinguish a garment.

Table 3.1.1: Components of Apparel Trends

Purchasing decisions of the consumers are influenced by personal preferences, lifestyle, income, fashion awareness, quality, price, brand image, and seasonal requirements. The analyst identifies emerging demand patterns, monitors product performance, and provides data-driven insights that help merchandising and buying teams plan assortments, optimise inventory, and develop products aligned with current and future fashion trends. Understanding consumer behaviour enables retailers to:

- Identify changing customer preferences.
- Develop products that meet market demand.
- Improve merchandise planning.
- Enhance customer satisfaction and brand loyalty.

Fig. 3.1.2: Consumer Behaviour in Apparel Retail

Artificial Intelligence (AI) and Machine Learning (ML) analyse historical sales data, online search trends, social media activity, and customer preferences to identify emerging fashion trends and predict future demand. These technologies help apparel retailers make data-driven decisions for merchandise planning, inventory management, and product development.

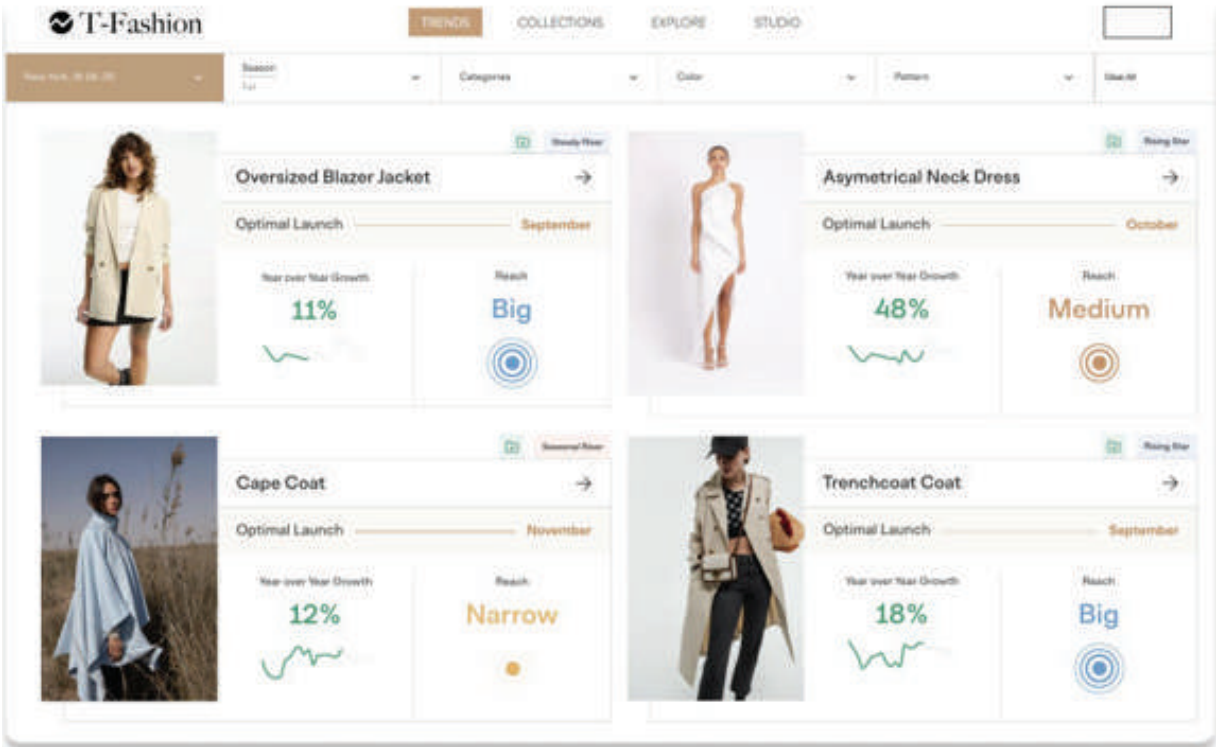


Fig. 3.1.3: AI and Machine Learning in Fashion Trend Forecasting

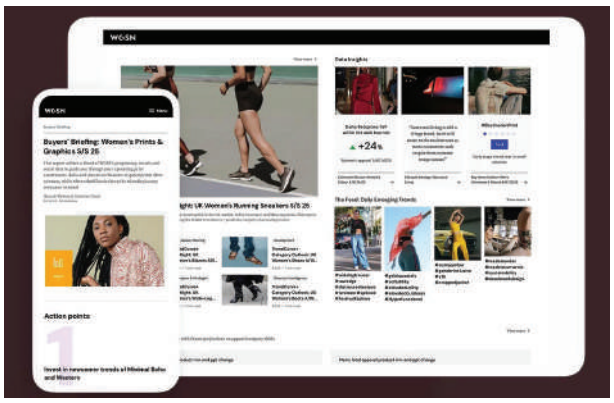
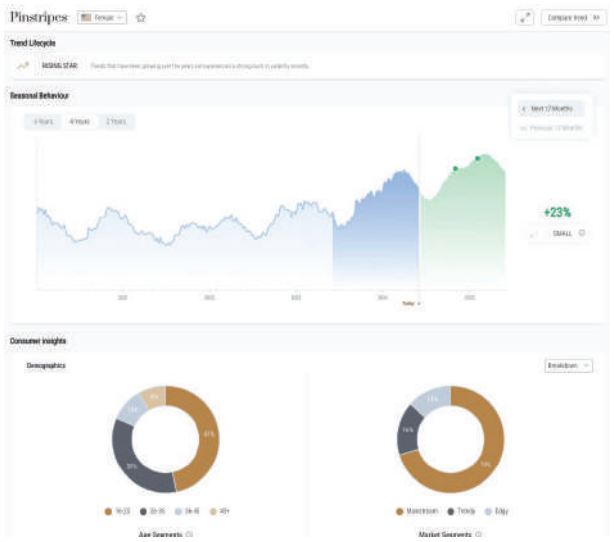
3.1.2 Fashion Trends and Market Insights

Fashion trends continuously evolve due to changing consumer preferences, seasonal demand, market conditions, and global influences. Apparel retailers monitor trend reports, fashion cycles, market insights, and competitor activities to understand emerging fashion directions and develop products that meet customer expectations. An Inventory Data Analyst supports this process by analysing sales, inventory, and market data to identify trends and provide insights for effective merchandising and inventory planning.

Seasonal trend reports provide information about upcoming fashion trends for a particular season. They highlight popular colours, fabrics, prints, silhouettes, styles, and consumer preferences that are expected to influence the apparel market. Seasonal trend reports help retailers to:

- Plan seasonal merchandise collections.
- Forecast product demand.
- Select appropriate colours, fabrics, and styles.
- Improve assortment and inventory planning.

AI-powered trend forecasting platforms analyse fashion shows, online searches, social media activity, and sales data to identify emerging fashion trends and generate seasonal trend reports. Some commonly used tools are included in the table below:

Tool/Application	Purpose
 **WGSN**	Provides global fashion trend forecasts, colour predictions, and consumer insights.
 **Heuritech**	Uses Artificial Intelligence (AI) to analyse social media images and predict emerging fashion trends.

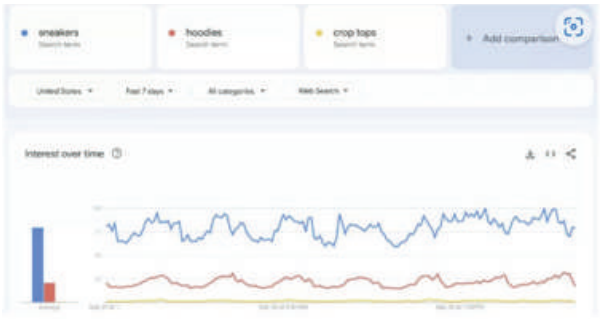
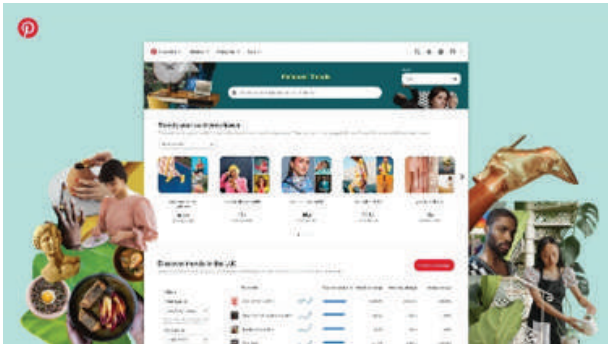
Tool/Application	Purpose
 **Google Trends**	Tracks the popularity of fashion-related search terms and changing consumer interests over time.
 **Pinterest Trends**	Identifies emerging fashion and lifestyle trends based on user searches and saved content.

Table 3.1.2: AI-powered Tools for Fashion Trend Forecasting

A fashion cycle describes the journey of a fashion trend from its introduction to its decline. Most fashion trends pass through the following stages:

Introduction – A new fashion trend is introduced by designers or brands. → **Growth** – The trend gains popularity among consumers. → **Peak** – The trend reaches maximum acceptance and demand. → **Decline** – Consumer interest decreases as new trends emerge. → **Obsolescence** – The trend is replaced by newer fashion styles.

Fig. 3.1.4: Stages of Fashion Cycle

Domestic and Global Fashion Influencers

Fashion trends are shaped by various domestic and global influences that affect consumer purchasing behaviour and market demand. These influencers help introduce new styles, colours, fabrics, and fashion concepts to the market. Some of the major influencers include:

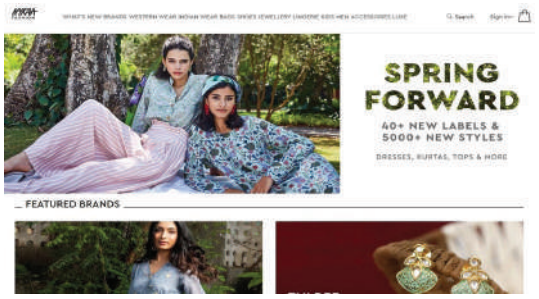
 **Fashion weeks and runway shows**	 **Celebrities and social media influencers**
 **E-commerce platforms and digital marketplaces**	 **Cultural events, festivals, and regional preferences**

Table 3.1.3: Major Domestic and Global Fashion Influencers

3.1.3 Trend Analysis for Merchandising

Trend analysis is the systematic process of studying market trends, consumer preferences, competitor activities, and sales data to identify emerging fashion directions. It enables apparel retailers to make informed merchandising decisions by understanding what customers want, how the market is changing, and which products are likely to perform well. An Apparel Inventory Data Analyst plays an important role in this process by analysing inventory and sales data to support product planning, assortment decisions, and inventory optimisation.

An Apparel Inventory Data Analyst analyses trend reports, sales performance, inventory data, and consumer preferences to support trend-based merchandising decisions. The analyst prepares reports and visual insights that help merchandising teams recommend suitable products, optimise assortments, and align inventory with current and emerging fashion trends.

Apparel retailers use a combination of market research, digital platforms, sales analysis, and forecasting tools to identify emerging fashion trends and consumer demand. These tools help organisations monitor changes in the market and support effective merchandising decisions. Some commonly used trend analysis methods are provided in the table below:

Tool/Method	Application
Market Research & Surveys	Collect customer preferences and market insights.
WGSN / Heuritech	Forecast fashion trends and consumer demand.
Google Trends	Analyse popular fashion-related search trends.
Social Media Analytics	Monitor emerging trends and customer engagement.

Tool/Method	Application
Sales & Inventory Reports	Evaluate product performance and demand patterns.
Competitor Benchmarking	Compare competitors' products, pricing, and assortments.
Store Audits	Assess merchandise displays and market offerings.
AI-powered Analytics Platforms	Analyse large datasets to predict fashion trends and support merchandising decisions.

Table 3.1.4: Common Trend Analysis Tools and Their Applications

Sales data provides valuable insights into customer demand and product performance. By analysing historical sales, inventory movement, and purchasing patterns, retailers can identify which fashion trends are gaining popularity and which are declining. An Inventory Data Analyst collects and analyses sales, inventory, market, and consumer data to identify emerging trends and evaluate merchandise performance. The analyst provides data-driven recommendations that help merchandising, buying, and planning teams optimise product assortments, improve inventory management, and respond effectively to changing market demands. Sales data helps to:

- Identify best-selling and slow-moving products.
- Measure customer adoption of fashion trends.
- Forecast future demand.
- Improve inventory planning and replenishment decisions.
- Optimise product assortment.

3.1.4 Trend-based Merchandising and Product Planning

Trend-based merchandising and product planning involve converting fashion trend insights into practical merchandising strategies and product ideas. Retailers use visual planning tools, trend interpretation sheets, and product recommendations to communicate emerging trends and develop collections that align with customer preferences and market demand. An Apparel Inventory Data Analyst supports this process by analysing sales, inventory, and trend data to provide insights that assist merchandising and buying teams in planning successful product assortments.

Visual planning tools help merchandising and design teams organise and communicate fashion concepts for a particular season or product category. The table provides the following

Visual Planning Tool	Purpose
 **Mood Board**	Combines colours, fabrics, textures, images, and design elements to convey the overall mood or style of a collection.
 **Theme Board**	Presents a central concept or theme that guides the development of a fashion collection.
 **Inspiration Board**	Collects ideas from fashion, nature, culture, art, and lifestyle to inspire new product designs.

Table 3.1.5: Visual Planning Tools Used in Apparel Merchandising

Trend-based product recommendations involve suggesting apparel products based on market trends, consumer preferences, and sales analysis. These recommendations help organisations introduce products that are more likely to meet customer demand and perform well in the market. Recommendations may include:

- Introducing new seasonal styles.
- Expanding popular product categories.
- Updating colours, fabrics, and silhouettes.
- Modifying assortments based on customer preferences.

RETAILER: MISS GUIDED **TREND: AW19/20**

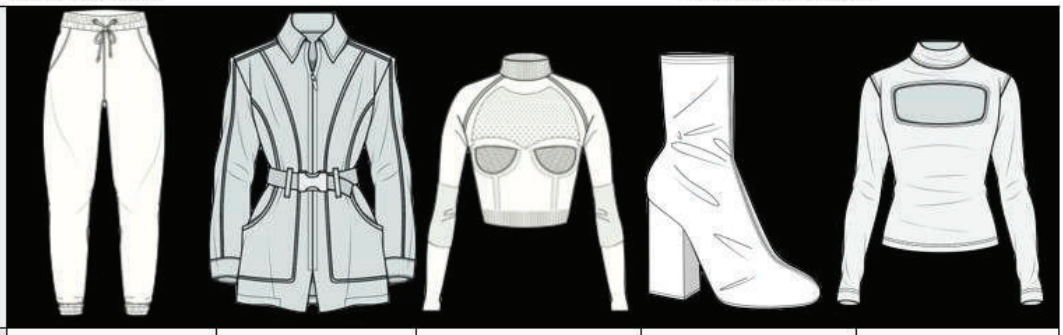
IMAGE					
FABRIC	Cotton 70% Polyester 30%	Polyester 100% Elastane Linings	Polyester 95% Elastane 5%	Lycra Rubber Soles	Polyester 95% Elastane 5%
DESCRIPTION	Slim Fit Tie up on Inner Waist Tight fit around ankles Pockets	Belted Buckle at Waist Longline Fit Pockets Zip to do up Collar	Long tight Sleeves Breast cups (allows no bra) Mesh on Chest area Turtle neck	Tight ankle fit Hidden Zip up the back of shoe Stretchy fit Block Heel	Open Chest Long Sleeves Turtle Neck Tight but Stretchy Fit
COLOUR					
SELLING PRICE (Before VAT)	£18.00	£35.00	£20.00	£30.00	£22.00
COST PRICE	£7.20	£8.40	£8.00	£12.00	£8.80
MARGIN	£7.20 50%	£19.60 70%	£8.00 50%	£12.00 50%	£8.80 50%
COUNTRY OF ORIGIN	India	Indian	India	China	Indian
RANGING ALL/ MID/TOP	MIDDLE STORES	TOP STORES	ALL STORES	ALL STORES	MIDDLE STORES

Fig. 3.1.5: Trend Interpretation Sheet for Apparel Merchandising

Trend insights are transformed into practical product concepts that can be developed and marketed. Merchandising teams use trend analysis to create collections that reflect current fashion directions and customer expectations. Trend insights can be translated into:

Seasonal apparel collections.

Colour palettes.

Fabric and material selections.

Style and silhouette recommendations.

Capsule collections and category-wise assortments

Fig. 3.1.6: Translating Trend Insights into Product Ideas

Summary

- Fashion trend forecasting helps apparel retailers predict future fashion trends by analysing consumer behaviour, market trends, and historical data.
- Consumer behaviour influences merchandising decisions by helping retailers understand customer preferences, buying patterns, and product demand.
- Apparel trends are shaped by factors such as fashion designers, social media, celebrities, technology, seasonal changes, and economic conditions.
- Seasonal trend reports provide information on colours, fabrics, silhouettes, and styles that help retailers plan future collections.
- Understanding fashion cycles helps organisations introduce products at the right time and avoid excess or obsolete inventory.
- Market insights and competitor analysis enable retailers to identify new opportunities and respond to changing customer demands.
- Trend analysis tools, AI applications, and sales data help retailers forecast demand and make data-driven merchandising decisions.
- Visual planning tools such as mood boards, theme boards, inspiration boards, and trend interpretation sheets help convert fashion trends into product ideas.
- Trend-based product recommendations support the development of seasonal collections, product assortments, and merchandising strategies.
- An Apparel Inventory Data Analyst analyses trend, sales, inventory, and market data to support merchandising decisions and improve product planning.

Exercise

Multiple-choice Question:

1. What is the main purpose of fashion trend forecasting?
   a. To calculate garment production costs
   b. To predict future fashion trends and customer demand
   c. To prepare inventory reports only
   d. To monitor employee performance

2. Which of the following is a major factor influencing apparel trends?
   a. Fashion designers and brands
   b. Employee attendance
   c. Office furniture
   d. Factory layout

3. Why are seasonal trend reports important in apparel merchandising?
   a. They provide employee performance records.
   b. They help retailers plan collections based on upcoming fashion trends and consumer demand.
   c. They are used only for financial reporting.
   d. They monitor warehouse operations.

4. Which of the following is commonly used to present fashion concepts and product ideas visually?
   a. Stock Register
   b. Purchase Order
   c. Mood Board
   d. Invoice

5. What is the role of an Apparel Inventory Data Analyst in trend forecasting?
   a. Designing garments and accessories
   b. Analysing trend, sales, and inventory data to support merchandising decisions
   c. Stitching apparel samples
   d. Managing payroll records

Descriptive Questions:

1. Explain the concept of fashion trend forecasting and discuss its importance in the apparel industry.
2. Describe the factors that influence apparel trends and explain how consumer behaviour affects merchandising decisions.
3. Explain the importance of seasonal trend reports, fashion cycles, and market insights in merchandise planning.
4. Discuss the role of trend analysis tools, AI applications, and sales data in evaluating fashion trends and supporting merchandising decisions.
5. Explain how mood boards, trend interpretation sheets, and other visual planning tools help merchandising teams develop trend-based product recommendations.

Notes

Scan the QR codes or click on the link to watch the related videos

https://www.youtube.com/live/CE1hw1yCfdE?si=ASR53vBxTcsY01dK

Fashion Trend Forecasting LIVE

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
RE>IMAGINE FUTURE

4. Analyse Pricing and Sale Strategies to Develop Merchandise Plans in Apparel Retail

APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

Unit 4.1 - Analyse Apparel Pricing, Sales Performance and Market Trends

Unit 4.2 - Develop Merchandise Pricing and Sales Plans

AMH/N0512

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Analyse pricing methods, cost structures, and competitor pricing to determine suitable apparel price points.
2. Evaluate sales performance, market trends, customer behaviour, and promotional effectiveness using data.
3. Apply pricing and markdown techniques to improve category performance and profitability.
4. Develop data-driven pricing, promotional, and merchandise plans aligned with business objectives.

UNIT 4.1: Analyse Apparel Pricing, Sales Performance and Market Trends

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe merchandise planning, assortment strategy, and category management principles.
2. Explain retail pricing models, pricing factors, and profitability concepts used in apparel retail.
3. Calculate mark-ups, markdowns, margins, and profitability ratios using standard methods.
4. Analyse sales data, customer behaviour, competitor pricing, and market trends to evaluate pricing effectiveness.
5. Evaluate historical sales data, KPIs, and forecasting methods for demand and sales planning.
6. Assess the impact of promotions, discounts, product lifecycle, and seasonal trends on pricing and sales performance.
7. Interpret merchandising, ERP, POS reports, and data visualisations to support pricing decisions.

4.1.1 Merchandise Planning and Category Management

Merchandise planning and category management are important functions in apparel retail. They ensure that the right products are available in the right quantity, at the right place, at the right time, and at the right Price. Effective planning helps retailers meet customer demand, improve sales, and optimise inventory.

1. Merchandise Planning

Merchandise planning is the process of deciding what products to buy, how much to buy, when to buy, and where to sell them based on customer demand, market trends, and business goals. Merchandise planning helps meet customer demand and preferences, ensure product availability throughout the season, optimise inventory levels, reduce overstock and stock-outs, and improve sales and profitability.

Merchandise planning decisions involve selecting products that meet customer demand while supporting business objectives. Factors influencing merchandise planning include customer demand, sales performance, market trends, seasonal requirements, inventory availability, business goals, and competitor activities.

2. Merchandise Planning Process

Step	Description
Market Analysis	Study customer preferences, fashion trends, competitors, and seasonal demand.
Sales Forecasting	Estimate future sales using historical data and market trends.
Merchandise Budgeting	Plan the quantity and value of products to be purchased.
Assortment Planning	Decide the mix of products, sizes, colours, and price ranges.
Inventory Planning	Allocate stock to stores and plan replenishment.
Performance Review	Monitor sales and inventory to improve plans.

Table 4.1.1: Merchandise Planning Process

3. Merchandise Assortment Strategy

Merchandise assortment strategy is the process of selecting the right combination of apparel products to satisfy customer needs while achieving business objectives. Elements of merchandise assortment include:

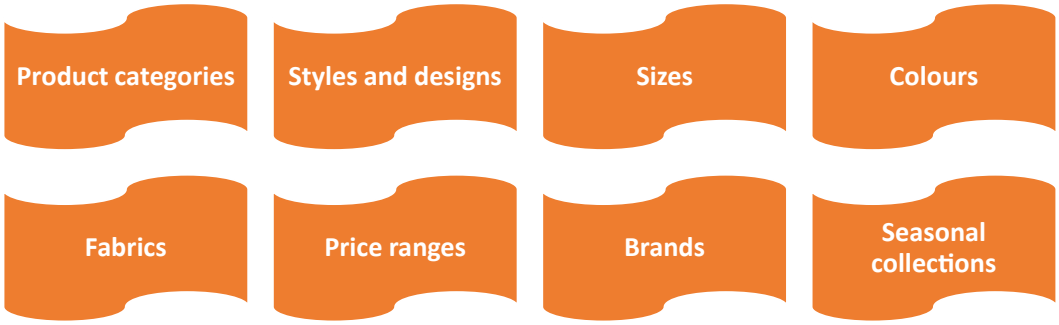


Fig. 4.1.1: Elements of merchandise assortment

4. Types of Merchandise Assortment

Type	Description	Example
Wide Assortment	Large variety of product categories	Men's wear, women's wear, kids' wear
Deep Assortment	Multiple options within one category	Shirts in different colours, sizes, and fits
Basic Assortment	Everyday essential products	Plain T-shirts, innerwear
Seasonal Assortment	Products offered for a specific season or festival	Winter jackets, festive ethnic wear
Fashion Assortment	Trend-based products	Designer dresses, trendy denim

Table 4.1.2: Types of Merchandise Assortment

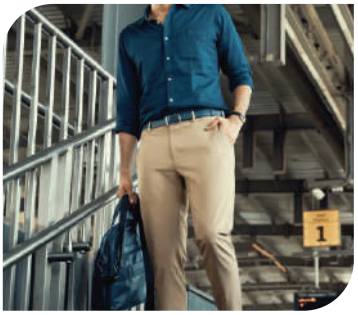
5. Factors Affecting Merchandise Assortment

Fig. 4.1.2: Factors Affecting Merchandise Assortment

6. Category Management

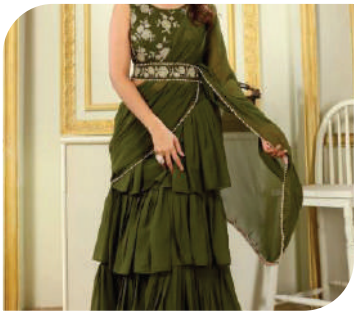
Category management is the process of managing a group of related apparel products as a separate business unit to improve sales, profitability, and customer satisfaction.

Common Apparel Categories



Men's Wear

Shirts, trousers, jeans



Women's Wear

Sarees, kurtis, dresses

Kids' Wear

Casual wear, school uniforms

Ethnic Wear

Kurtas, lehengas, sarees

Western Wear

T-shirts, jeans, jackets

Sportswear

Activewear, track pants

Accessories

Belts, scarves, socks

Fig. 4.1.3: Common Apparel Categories

7. Principles of Category Management

- Focus on customer needs.
- Maintain a balanced product assortment.
- Monitor category performance regularly.
- Optimise inventory levels.
- Use sales and market data for decision-making.
- Coordinate pricing and promotional activities.

Merchandise Planning and Category Management help:

- Improve product availability.
- Reduce excess and obsolete inventory.
- Increase customer satisfaction.
- Support better pricing and promotional decisions.
- Enhances sales and profitability.
- Enables efficient inventory management.

4.1.2 Retail Pricing Models and Profitability Concepts

Pricing is one of the most important decisions in apparel retail. It directly affects sales, customer demand, competitiveness, and profitability. Retailers use different pricing models based on product cost, customer perception, market conditions, and business objectives. Effective pricing:

- Helps maximise sales and profitability.
- Maintains competitiveness in the market.
- Supports inventory management.
- Attracts and retains customers.
- Improves business sustainability.
- Enables better merchandising and promotional planning.

1. **Retail Pricing Models**

   Pricing strategies determine the selling price of apparel products based on business goals, market conditions, and customer demand.

   - **Cost-Plus Pricing**

     The selling price is determined by adding a fixed profit margin to the cost of the product.

     Formula:

     Selling Price = Cost Price + Profit Margin

     Example: If the cost of a shirt is ₹800 and the retailer adds a profit margin of ₹200, the selling price becomes ₹1,000.

   - **Competitive Pricing**

     The selling price is based on competitors' prices for similar products. Retailers may price products lower, equal to, or higher than competitors depending on their market strategy.

   - **Value-Based Pricing**

     The Price is determined by the value customers perceive in the product rather than its production cost. Premium brands often use this model.

   - **Psychological Pricing**

     Prices are set to influence customer buying behaviour.

     Example: Pricing a T-shirt at ₹999 instead of ₹1,000.

   - **Dynamic Pricing**

     Prices are adjusted based on demand, inventory levels, seasonality, or market conditions. This model is commonly used in online apparel retail.

2. Factors Affecting Pricing Decisions

Factor	Description
Product Cost	Includes material, labour, manufacturing, packaging, transportation, and overhead costs.
Customer Demand	Higher demand may allow higher prices, while lower demand may require discounts.
Competition	Competitor pricing influences retail price decisions.
Fashion Trends	Trendy products can often be priced higher than basic products.
Seasonality	Prices vary during festive seasons, end-of-season sales, and clearance periods.
Brand Positioning	Premium brands generally charge higher prices than value brands.
Target Customers	Pricing depends on the purchasing power and preferences of the target market.
Inventory Levels	Excess stock may require markdowns to encourage sales.

Table 4.1.3: Factors Affecting Pricing Decisions

3. Profitability Concepts and Analysis

Profitability analysis measures the financial performance of products, categories, or stores to determine whether they generate sufficient profit. Common profitability measures include sales revenue, gross profit, gross profit margin, markup, and net profit. Profitability analysis identifies profitable and low-performing products, supports pricing decisions, improves merchandise assortment, and helps optimise inventory investment.

- **Profit**

  Profit is the amount earned after deducting all costs from the selling price.

  Formula:

  Profit = Selling Price − Cost Price

- **Profit Margin**

  Profit margin shows the percentage of profit earned on the selling price.

  Formula:

  Profit Margin (%) = (Profit ÷ Selling Price) × 100

- **Markup**

  Markup is the percentage added to the cost price to determine the selling price.

  Formula:

  Markup (%) = (Selling Price − Cost Price) ÷ Cost Price × 100

- **Markdown**

  Markdown is the reduction in the original selling price to increase sales or clear inventory.

  Formula:

  Markdown (%) = (Original Price − Reduced Price) ÷ Original Price × 100

- Gross Profit

  Gross profit is the revenue remaining after deducting the cost of goods sold (COGS). It indicates how efficiently products are being sold.

  Formula:

  Gross Profit = Sales Revenue − Cost of Goods Sold (COGS)

4. **Market Evidence**

   Market evidence provides factual information to support pricing and merchandise decisions. Sources of market evidence include historical sales data, customer feedback, market trends, competitor pricing, and fashion trends.

   Using market evidence helps retailers select the right products, set competitive prices, and respond to changing customer demand.

5. **Risk Assessment**

   Risk assessment identifies factors that may affect sales and profitability. Common risks include:

Fig. 4.1.4: Common risks

Regular forecasting, inventory monitoring, and timely pricing adjustments help minimise these risks.

4.1.3 Margin, Mark-up and Markdown Calculations

Margin, mark-up, and markdown are important pricing concepts in apparel retail. They help retailers determine selling prices, measure profitability, and manage inventory efficiently. Accurate calculations support better pricing decisions and improve business performance.

Margin, mark-up, and markdown calculations:

- Help determine appropriate selling prices.
- Measure product profitability.
- Support pricing and promotional decisions.
- Improve inventory movement through planned markdowns.
- Assist in achieving sales and profit targets.

1. **Mark-up**

   Mark-up is the amount or percentage added to the cost price to determine the selling price. It is calculated on cost price, used to determine selling price, and usually higher than margin for the same product.

   Formula:

   Mark-up (₹) = Selling Price − Cost Price

   Mark-up (%) = (Mark-up ÷ Cost Price) × 100

Example:

Cost Price = ₹800

Selling Price = ₹1,000

Mark-up = ₹1,000 − ₹800 = ₹200

Mark-up (%) = (200 ÷ 800) × 100 = 25%

2. **Margin**

Margin is the percentage of profit earned on the selling price. It is calculated on the selling Price, used to measure profitability, and usually lower than mark-up for the same product.

Formula:

Profit = Selling Price − Cost Price

Margin (%) = (Profit ÷ Selling Price) × 100

Example:

Cost Price = ₹800

Selling Price = ₹1,000

Profit = ₹200

Margin = (200 ÷ 1,000) × 100 = 20%

3. **Markdown**

Markdown is the reduction in the original selling price to increase sales or clear inventory.

Formula:

Markdown (₹) = Original Price − Reduced Price

Markdown (%) = (Markdown ÷ Original Price) × 100

Example:

Original Price = ₹2,000

Sale Price = ₹1,600

Markdown = ₹2,000 − ₹1,600 = ₹400

Markdown (%) = (400 ÷ 2,000) × 100 = 20%

4. **Profitability Ratios**

Profitability ratios measure how efficiently a retailer generates profit from sales and investments.

Ratio	Formula	Purpose
Gross Profit Margin	(Gross Profit ÷ Sales Revenue) × 100	Measures profit after deducting the cost of goods sold.
Net Profit Margin	(Net Profit ÷ Sales Revenue) × 100	Measures overall business profitability after all expenses.
Markup Percentage	(Markup ÷ Cost Price) × 100	Measures the percentage added to the cost price.
Margin Percentage	(Profit ÷ Selling Price) × 100	Measures profit earned from the selling price.

Table 4.1.4: Profitability Ratios

4.1.4 Sales, Customer and Market Analysis

Sales, customer, and market analysis help apparel retailers understand product performance, customer preferences, competitor activities, and market trends. These analyses enable retailers to evaluate whether current pricing strategies are effective and make informed business decisions.

1. Sales Data Analysis

Sales data analysis involves examining sales records to measure product performance and identify business opportunities. Sales data analysis identifies best-selling and slow-moving products, supports pricing and inventory decisions, evaluates promotional performance, and helps improve sales planning.

Common Sales Metrics

Metric	Purpose
Sales Revenue	Measures total income from product sales.
Units Sold	Indicates the quantity of products sold.
Sell-Through Rate	Measures the percentage of inventory sold during a specific period.
Average Selling Price	Shows the average price at which products are sold.
Category-wise Sales	Compares the performance of different product categories.

Table 4.1.5: Common Sales Metrics

2. Customer Behaviour Analysis

Customer behaviour analysis studies how customers purchase apparel products and what influences their buying decisions. Customer behaviour analysis understands customer preferences, improves product assortment, supports targeted promotions, and enhances customer satisfaction.

Factors Influencing Customer Behaviour

Fig. 4.1.5: Factors Influencing Customer Behaviour

3. **Competitor Pricing Analysis**

   Competitor pricing analysis involves comparing product prices with those offered by competing retailers. It compares prices of similar products, monitors discounts and promotional offers, evaluates product quality and value, and identifies market positioning. Competitor pricing analysis maintains competitive pricing, identifies pricing opportunities, and supports pricing adjustments based on market conditions.

4. **Market Trend Analysis**

   Market trend analysis identifies changes in customer demand, fashion preferences, and retail practices. It supports demand forecasting, helps introduce relevant products, enables timely pricing and promotional decisions, and improves competitiveness.

Common Market Trends in the Indian Apparel Sector

- Growing demand for sustainable and eco-friendly apparel.
- Increasing online and omnichannel shopping.
- Rising preference for athleisure and casual wear.
- Seasonal and festival-driven purchasing.
- Growing demand for value-for-money products.

5. **Evaluating Pricing Effectiveness**

   Retailers evaluate pricing effectiveness by analysing sales performance, customer response, competitor pricing, and market conditions.

Indicators of Effective Pricing

Fig. 4.1.6: Indicators of Effective Pricing

4.1.5 Sales Forecasting and Performance Metrics

Sales forecasting is the process of estimating future sales based on historical data, market trends, seasonal demand, and customer behaviour. Performance metrics, also known as Key Performance Indicators (KPIs), help retailers measure business performance and make informed merchandising, inventory, and pricing decisions.

1. **Sales Forecasting**

   Sales forecasting helps retailers plan inventory, purchasing, staffing, and promotional activities to meet future demand.

   Factors Affecting Sales Forecasting

   - Historical sales data
   - Seasonal and festival demand
   - Fashion trends
   - Customer preferences
   - Promotional campaigns
   - Market conditions
   - Competitor activities

2. **Common Sales Forecasting Methods**

Method	Description
Historical Data Analysis	Uses past sales data to estimate future demand.
Trend Analysis	Identifies sales patterns over a period of time.
Seasonal Forecasting	Predicts demand based on seasonal and festive sales trends.
Market-Based Forecasting	Considers market trends, customer preferences, and competitor activities.
Expert Judgement	Uses the experience of merchandising and sales teams to estimate future demand.

Table 4.1.6: Common Sales Forecasting Methods

3. **Historical Sales Data**

   Historical sales data provides information about previous sales performance and helps identify buying patterns. It improves demand forecasting accuracy, identifies fast-moving and slow-moving products, supports inventory planning, and reduces stock shortages and excess inventory.

   Information Analysed

Fig. 4.1.7: Information analysed in historical sales data

4. **Key Performance Indicators (KPIs)**

   KPIs are measurable values used to evaluate the performance of merchandise, inventory, and sales operations.

KPI	Purpose
Sales Revenue	Measures total income generated from sales.
Sell-Through Rate	Measures the percentage of inventory sold during a specific period.
Stock Turnover	Measures how frequently inventory is sold and replaced.
Gross Margin	Measures profit earned after deducting the cost of goods sold.
Average Selling Price	Indicates the average selling price of products.
Inventory Turnover Ratio	Evaluates inventory management efficiency.

Table 4.1.7: Key Performance Indicators (KPIs)

Sales forecasting and KPIs:

- Improves demand planning.
- Supports effective inventory management.
- Assists in merchandise planning.
- Helps optimise pricing and promotional strategies.
- Reduces inventory carrying costs.
- Improves profitability and customer satisfaction.

4.1.6 Promotions, Product Lifecycle and Seasonal Pricing

Promotions, discounts, product lifecycle, and seasonal pricing play an important role in apparel retail. They help retailers increase sales, attract customers, clear old inventory, and maximise profitability while responding to changing market demand.

1. **Promotions**

   Promotions are marketing activities designed to encourage customers to purchase products. Promotions help increase sales volume, attract new customers, improve inventory movement, and enhance brand visibility.

Common Types of Promotions and their descriptions

Percentage Discount

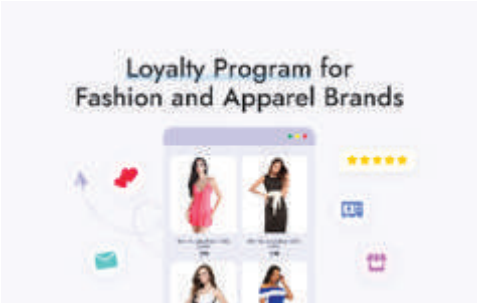
Offers a fixed percentage off the selling price.

Buy One Get One (BOGO)

Provides an additional product free or at a reduced price.

Combo Offers

Combines multiple products at a special price.



Loyalty Rewards

Offers benefits to repeat customers.

Festival Offers

Special discounts during festivals and seasonal events.

2. Discounts

A discount is a reduction in the selling price offered for a limited period to increase product sales.

Types of Discounts

- Seasonal discounts
- Clearance discounts
- Festival discounts
- Bulk purchase discounts
- Member or loyalty discounts

Impact of Discounts

Positive Impact	Negative Impact
• Increases customer purchases. • Clears excess inventory. • Improves cash flow.	• Reduces profit margins. • May lower the perceived value of products if offered frequently.

3. Product Lifecycle

The product lifecycle describes the stages through which an apparel product passes from its launch to withdrawal from the market.

Stage	Characteristics	Pricing Strategy
Introduction	New product launched with low customer awareness.	Premium or introductory pricing.
Growth	Sales and customer acceptance increase.	Competitive pricing to expand market share.
Maturity	Sales stabilise and competition increases.	Promotional offers and value pricing.
Decline	Demand decreases due to changing trends.	Markdowns and clearance pricing.

Table 4.1.8: Product Lifecycle

4. Seasonal Pricing

Seasonal pricing involves changing product prices based on seasons, festivals, and customer demand matches prices with customer demand, improves sales during peak seasons, reduces unsold inventory after the season, and increases inventory turnover.

Examples of Seasonal Pricing in the Indian Apparel Sector

Season/Event	Pricing Trend
Summer Collection Launch	Regular or premium pricing.
Winter Collection Launch	Regular pricing for new arrivals.
Diwali and Wedding Season	Premium pricing for festive and ethnic wear.
End-of-Season Sale	Heavy discounts and markdowns.
Clearance Sale	Lowest prices to clear remaining stock.

Table 4.1.9: Examples of Seasonal Pricing in the Indian Apparel Sector

Impact of promotions, product lifecycle and seasonal pricing on pricing and sales performance

- Promotions increase customer traffic and sales.
- Discounts help clear slow-moving and seasonal inventory.
- Pricing changes according to the product lifecycle improve profitability.
- Seasonal pricing helps maximise revenue during peak demand and reduce losses during off-seasons.
- Planned promotional and pricing strategies support better inventory management and overall business performance.

Pricing and promotional strategies help apparel retailers maximise sales, improve profitability, and manage inventory effectively. Appropriate pricing and well-planned promotions attract customers while maintaining healthy profit margins.

4.1.7 Merchandising Systems and Data Analytics

Merchandising systems and data analytics help apparel retailers collect, analyse, and interpret business data for effective pricing and merchandising decisions. They provide real-time information on sales, inventory, customer demand, and product performance.

1. **Merchandising Systems**

   A merchandising system is a software application used to manage merchandise planning, inventory, pricing, purchasing, and product performance.

   Functions of Merchandising Systems

   - Manage product assortment and inventory.
   - Monitor stock availability across stores.
   - Plan pricing and promotions.
   - Track sales performance.
   - Support demand forecasting and replenishment.

2. **Enterprise Resource Planning (ERP)**

   ERP is an integrated software system that connects different business functions such as procurement, inventory, finance, sales, and merchandising. ERP centralises business information, improves inventory control, supports accurate pricing decisions, and enhances coordination between departments.

   Common ERP Reports

Report	Purpose
Inventory Report	Shows stock availability and stock movement.
Purchase Report	Tracks purchases from suppliers.
Sales Report	Displays sales performance by product, category, or store.
Pricing Report	Compares selling prices, discounts, and margins.
Replenishment Report	Identifies products that require restocking.

Table 4.1.10: Common ERP reports

3. **Point of Sale (POS) System**

   A POS system records sales transaction at retail stores and captures real-time sales data. POS System provides real-time sales information, identifies fast-moving and slow-moving products, measures promotional performance, and supports inventory replenishment.

Information Available from POS Reports

Fig. 4.1.8: Information available from POS reports

4. Data Analytics in Apparel Retail

Data analytics is the process of examining retail data to identify patterns, trends, and business opportunities.

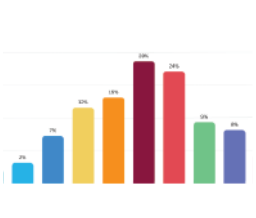
Applications of Data Analytics

- Sales trend analysis
- Customer buying pattern analysis
- Demand forecasting
- Inventory optimisation
- Price comparison
- Promotion effectiveness analysis

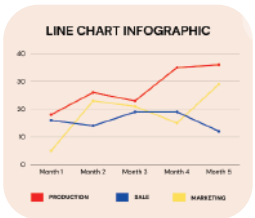
5. Data Visualisation

Data visualisation presents business data in graphical form, making it easier to understand and interpret. Data visualisation simplifies large volumes of data, highlights sales and inventory trends, supports faster decision-making, and improves reporting and communication.

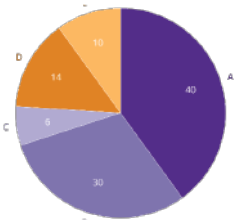
Common Data Visualisation Tools



Bar charts

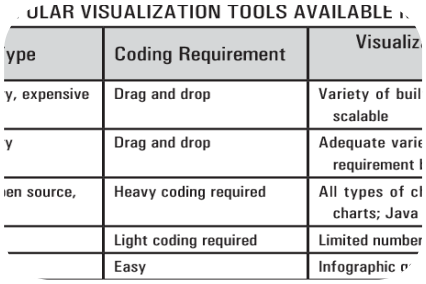


Line graphs



Pie charts

Dashboards



Tables

Fig. 4.1.9: Common Data Visualisation Tools

6. Using Reports for Pricing Decisions

Retailers analyse merchandising, ERP, and POS reports to:

- Identify products with high and low sales.
- Compare selling prices with inventory levels.
- Evaluate the effectiveness of discounts and promotions.
- Monitor profit margins across product categories.
- Adjust prices based on demand, stock availability, and market trends.
- Plan future pricing and merchandising strategies using data-driven insights.

UNIT 4.2: Develop Merchandise Pricing and Sales Plans

Unit Objectives

By the end of this unit, the participants will be able to:

1. Develop merchandise assortment and category plans based on customer demand and business goals.
2. Design seasonal sales and promotional calendars aligned with merchandise and financial objectives.
3. Develop demand forecasts, inventory plans, and stock allocation strategies to support merchandise planning.
4. Analyse omnichannel pricing, competitor benchmarking, and market positioning for effective merchandising.
5. Recommend continuous improvement strategies through collaboration, compliance, and performance evaluation.

4.2.1 Merchandise Assortment Planning

Merchandise assortment planning is the process of selecting the right mix of apparel products to meet customer demand while achieving business objectives. It helps retailers offer sufficient product variety, optimise inventory, and improve sales and profitability. Merchandise assortment planning:

- Improves product availability.
- Increases customer satisfaction.
- Reduces excess and obsolete inventory.
- Supports better inventory utilisation.
- Improves sales and profitability.
- Helps achieve merchandising and business goals.

1. Merchandise Assortment Planning Process

Step	Description
Analyse Customer Demand	Study customer preferences, buying patterns, and regional requirements.
Review Sales Data	Identify best-selling and slow-moving products using historical sales data.
Define Product Categories	Decide categories such as men's wear, women's wear, kids' wear, ethnic wear, and accessories.
Plan Product Mix	Select appropriate styles, colours, sizes, fabrics, and price ranges.
Allocate Inventory	Distribute stock across stores or sales channels based on expected demand.
Monitor Performance	Review sales and inventory regularly and update the assortment plan when required.

Table 4.2.1: Merchandise assortment planning process

2. Factors Affecting Merchandise Assortment Planning

Fig. 4.2.1: Factors affecting merchandise assortment planning

3. Elements of an Effective Assortment Plan

- Balanced product variety
- Appropriate size and colour availability
- Suitable price range
- Seasonal product mix
- Adequate inventory levels
- Alignment with customer demand

4. Category Planning

Category planning involves organising products into categories and managing each category to achieve sales and profitability targets. Common apparel categories include:

- **Men's Wear:** Shirts, trousers, jeans
- **Women's Wear:** Sarees, kurtis, dresses
- **Kids' Wear:** Casual wear, school uniforms
- **Ethnic Wear:** Kurtas, lehengas, sarees
- **Sportswear:** Activewear, track pants
- **Accessories:** Belts, scarves, caps, socks

4.2.2 Seasonal Sales and Promotional Planning

Seasonal sales and promotional planning involve scheduling sales events and promotional activities throughout the year based on seasons, festivals, customer demand, and business goals. A well-planned promotional calendar helps retailers maximise sales, improve inventory turnover, and achieve financial targets. Seasonal sales and promotional planning:

- Improves sales during peak seasons.
- Reduces excess inventory.
- Increases customer participation in promotional events.
- Supports better inventory and merchandise planning.
- Helps achieve financial and merchandising goals.

1. Seasonal Sales Planning

Seasonal sales planning ensures that the right merchandise is available during periods of high customer demand. Factors to consider while planning seasonal sales include seasonal demand, customer buying behaviour, fashion trends, inventory availability, competitor activities, marketing budget, and business objectives.

Common Sales Seasons in India

Season/Event	Merchandise Focus
Spring/Summer	Cotton wear, T-shirts, dresses, casual wear
Monsoon	Quick-dry fabrics, light jackets, rainwear
Autumn/Winter	Sweaters, jackets, thermals, woollen wear
Festive Season	Ethnic wear, festive collections
Wedding Season	Sarees, lehengas, suits, formal wear
End-of-Season Sale	Clearance of seasonal inventory

Table 4.2.2: Common Sales Seasons in India

2. Promotional Calendar

A promotional calendar is a schedule of planned promotional activities throughout the year.

Components of a Promotional Calendar	Common Promotional Activities
• Promotion period • Product categories • Type of promotion • Target customer segment • Discount or offer • Sales target • Marketing channels	• Festival sales • End-of-season sales • New collection launches • Weekend or flash sales • Loyalty programme offers • Online exclusive promotions

3. Aligning Promotions with Merchandise and Financial Objectives

An effective promotional plan should:

- Support sales targets.
- Increase inventory turnover.
- Promote seasonal and new collections.
- Clear slow-moving inventory.
- Maintain profitability through planned discounts.
- Improve customer engagement and repeat purchases.

4.2.3 Demand Forecasting and Inventory Planning

Demand forecasting and inventory planning help apparel retailers estimate future product demand and maintain optimum stock levels. Proper planning ensures product availability, reduces excess inventory, and supports efficient merchandise management. Demand forecasting and inventory planning improve product availability, reduce excess and obsolete inventory, support effective merchandise planning, optimise stock allocation across locations, improve customer satisfaction, and increase sales and profitability.

1. **Demand Forecasting**

   Demand forecasting is the process of estimating future customer demand using historical sales data, market trends, and customer preferences.

2. **Factors Affecting Demand Forecasting**

Fig. 4.2.2: Factors Affecting Demand Forecasting

3. **Common Demand Forecasting Methods**

Method	Description
Historical Sales Analysis	Uses past sales data to predict future demand.
Trend Analysis	Identifies sales patterns over a period.
Seasonal Forecasting	Estimates demand during specific seasons and festivals.
Market Research	Uses customer surveys and market information to forecast demand.
Expert Judgement	Relies on the experience of merchandising and sales teams.

Table 4.2.3: Common Demand Forecasting Methods

4. **Inventory Planning**

   Inventory planning is the process of determining the quantity of products to purchase, store, and replenish to meet customer demand. The primary objectives of inventory planning are to:

   - Maintain optimum stock levels.
   - Prevent stock-outs and overstocking.
   - Improve inventory turnover.
   - Reduce inventory carrying costs.
   - Ensure timely product availability.

The inventory planning process has the following steps:

Fig. 4.2.3: Inventory Planning Process

5. Stock Allocation Strategies

Stock allocation is the process of distributing inventory across stores, warehouses, or online channels according to expected demand.

Common Stock Allocation Strategies

Strategy	Description
Demand-Based Allocation	Stock is allocated according to forecasted demand at each location.
Sales-Based Allocation	Allocation is based on historical sales performance.
Regional Allocation	Stock is distributed according to regional customer preferences.
Seasonal Allocation	Higher stock is allocated for products with seasonal demand.

Table 4.2.4: Common Stock Allocation Strategies

4.2.4 Omnichannel Pricing and Competitor Analysis

Apparel retailers today sell products through multiple channels such as physical stores, websites, mobile applications, and online marketplaces. Analysing prices across these channels and comparing them with competitors helps retailers remain competitive and improve merchandising decisions.

1. Omnichannel Pricing

Omnichannel pricing is the practice of managing product prices consistently across different sales channels while considering channel-specific costs, customer expectations, and promotional strategies. The common sales channels in apparel retail include physical retail stores, brand websites, mobile applications, online marketplaces, and social commerce platforms.

Omnichannel pricing provides a consistent customer experience, improves price competitiveness, supports coordinated promotional campaigns, and increases customer trust and satisfaction.

Factors Affecting Omnichannel Pricing

- Product demand
- Shipping and delivery costs
- Promotional campaigns
- Customer preferences
- Competitor pricing
- Inventory availability

Competitor Benchmarking

Competitor benchmarking is the process of comparing products, prices, promotions, and business performance with competing retailers. Competitor benchmarking identifies market opportunities, supports competitive pricing decisions, improves merchandising strategies, and helps respond to changing market conditions.

2. **Areas of Comparison**

Parameter	Purpose
Product Range	Compare the variety of products offered.
Pricing	Compare selling prices of similar products.
Discounts and Promotions	Evaluate promotional offers and campaigns.
Product Quality	Compare quality, features, and value.
Customer Service	Assess shopping experience and after-sales support.

Table 4.2.5: Areas of Comparison

3. **Market Positioning**

Market positioning is the process of creating a distinct image of a brand or product in the minds of customers compared to competitors. Factors influencing market positioning include product quality, price range, brand image, fashion and design, customer service, and target customer segment.

Common Market Positioning Strategies

- Premium positioning
- Value-for-money positioning
- Fashion-focused positioning
- Sustainable apparel positioning

4. **Importance for Effective Merchandising**
   - Aligns product assortment with customer expectations.
   - Supports competitive and consistent pricing.
   - Improves product visibility across sales channels.
   - Enhances customer satisfaction and brand value.
   - Increases sales and profitability through informed merchandising decisions.

4.2.5 Collaboration, Compliance and Continuous Improvement

Effective merchandise planning requires collaboration between different departments, compliance with organisational and legal requirements, and continuous evaluation of business performance. These practices help improve operational efficiency, customer satisfaction, and profitability.

1. **Collaboration**

   Collaboration involves coordination among different teams to achieve common merchandising and sales objectives. Key departments involved in collaboration include merchandising, buying and procurement, inventory Planning, sales and marketing, finance, and supply chain and logistics.

   Collaboration improves communication and decision-making, ensures product availability, supports effective pricing and promotional planning, and enhances inventory management.

2. **Compliance**

   Compliance means following organisational policies and applicable legal and regulatory requirements while planning and selling apparel products. Compliance builds customer trust, reduces legal and financial risks, ensures fair business practices, and maintains brand reputation.

   Areas of Compliance

   - Pricing and promotional policies
   - Consumer protection regulations
   - Product labelling requirements
   - Tax and invoicing regulations
   - Company standard operating procedures (SOPs)

3. **Performance Evaluation**

   Performance evaluation measures the effectiveness of merchandising and pricing strategies using business data.

   Common Performance Indicators

   - Sales revenue
   - Profit margin
   - Inventory turnover
   - Sell-through rate
   - Customer satisfaction
   - Promotional performance

   Performance results help identify strengths, weaknesses, and areas requiring improvement.

4. Continuous Improvement Strategies

- Analyse sales and inventory data regularly.
- Review pricing and promotional performance.
- Update merchandise assortment based on customer demand.
- Improve demand forecasting and inventory planning.
- Adopt digital tools for better data analysis.
- Encourage feedback and coordination among teams.
- Monitor market trends and competitor activities.

Fig. 4.2.4: Continuous Improvement Strategies

Summary

- Merchandise planning ensures the right product assortment is available to meet customer demand and business objectives.
- Retail pricing models help determine suitable selling prices while maintaining competitiveness and profitability.
- Margin, mark-up, markdown, and profitability measures support effective pricing decisions.
- Sales data, customer behaviour, competitor pricing, and market trends provide insights for merchandising and pricing strategies.
- Sales forecasting and performance metrics improve demand planning and inventory management.
- Promotions, discounts, seasonal pricing, and product lifecycle strategies influence sales and inventory performance.
- Merchandising systems, ERP, POS reports, and data analytics support data-driven pricing and merchandising decisions.
- Merchandise assortment, inventory planning, and stock allocation improve product availability and operational efficiency.
- Omnichannel pricing, competitor benchmarking, and market positioning strengthen merchandising effectiveness across retail channels.
- Collaboration, compliance, performance evaluation, and continuous improvement enhance merchandising performance and long-term business growth.

Exercise

Multiple-choice Question:

1. Which pricing model determines the selling price by adding a fixed profit margin to the cost price?
   a. Competitive Pricing
   b. Cost-Plus Pricing
   c. Psychological Pricing
   d. Dynamic Pricing

2. Which of the following is commonly used to clear excess or slow-moving inventory?
   a. Product Launch
   b. Markdown
   c. Stock Allocation
   d. Demand Forecasting

3. Which system records real-time sales transactions at retail stores?
   a. ERP System
   b. CRM System
   c. POS System
   d. CAD System

4. Which factor is most useful for forecasting future apparel demand?
   a. Historical sales data
   b. Employee attendance records
   c. Office maintenance reports
   d. Vendor contact details

5. Competitor benchmarking primarily helps retailers to:
   a. Calculate employee salaries
   b. Compare prices, products, and promotions with competitors
   c. Design garment patterns
   d. Prepare financial statements

Descriptive Questions:

1. Explain the concept and importance of merchandise planning in the apparel retail sector.
2. Describe different retail pricing models and the factors influencing pricing decisions.
3. Explain the importance of demand forecasting and inventory planning in apparel merchandising.
4. Describe the role of omnichannel pricing and competitor analysis in effective merchandising.
5. Explain how collaboration, compliance, and continuous improvement contribute to successful merchandise planning and sales performance.

Notes

Scan the QR codes or click on the link to watch the related videos

https://youtu.be/sF6AMj3H0jg?si=LZVwKp6-LAtbSs8H

Pricing strategy an introduction Explained

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
RE>IMAGINE FUTURE

5. Coordinate with Cross-Functional Teams to Ensure Timely Product Availability and Manage Merchandising Documents

APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

Unit 5.1 - Supplier Management and Procurement Processes

Unit 5.2 - Merchandising Documentation and Performance Management

Unit 5.3 - Cross-Functional Merchandising Operations Coordination

AMH/N0513

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Explain the roles of suppliers, vendors, and cross-functional teams in apparel merchandising.
2. Describe supplier selection, qualification, onboarding, and procurement processes.
3. Discuss vendor terms, lead times, procurement compliance, and sourcing policies.
4. Elaborate on merchandise flow, sourcing calendars, production timelines, and delivery schedules.
5. Explain quality, cost, and delivery (QCD) benchmarks, KPIs, and vendor performance evaluation.
6. Describe merchandising documents, documentation protocols, compliance, and version control practices.
7. Outline production tracking methods, supply chain risks, bottlenecks, and corrective actions.
8. Highlight communication, coordination, negotiation, and escalation practices with vendors and cross-functional teams.
9. Prepare and maintain supplier databases, communication records, and merchandising documentation.
10. Prepare, verify, and update purchase orders, line sheets, delivery trackers, and related merchandising documents.
11. Explain production, sourcing, delivery timelines, and supplier performance to ensure timely product availability.
12. Elucidate merchandising execution, documentation accuracy, and vendor performance to recommend corrective actions.
13. Elaborate on resolving supply chain, quality, and documentation issues through structured follow-up and negotiation.
14. Prepare merchandise tracking dashboards, status reports, and approval records for effective coordination.
15. Describe professional communication and relationship-building skills while collaborating with suppliers, vendors, and business teams.

UNIT 5.1: Supplier Management and Procurement Processes

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the roles of suppliers, vendors, and cross-functional teams in the apparel retail value chain, including product tracking from planning to store delivery.
2. Describe the processes of supplier selection, qualification, onboarding, and procurement management.
3. Discuss vendor terms, lead times, procurement compliance requirements, and sourcing practices.
4. Explain quality, cost, and delivery (QCD) benchmarks and vendor performance evaluation methods.
5. Elaborate on merchandise flow processes, retail calendars, sourcing lead times, sourcing schedules, product development timelines, production timelines, and delivery planning.

5.1.1 Apparel Merchandising Teams in Retail Value Chain

The importance of apparel merchandising in the retail value chain lies in ensuring that the right products are sourced, produced, tracked, and delivered to stores on time while meeting quality, cost, and customer requirements. It improves coordination across suppliers, vendors, production, logistics, and retail teams, enabling efficient inventory management, smooth merchandise flow, timely product availability, and enhanced customer satisfaction.

What is understood by merchandising activity cycle?

The merchandising activity cycle is the systematic sequence of activities involved in planning, sourcing, purchasing, producing, tracking, distributing, and delivering apparel products from product development to retail stores. It ensures effective coordination, accurate documentation, timely decision-making, and smooth merchandise flow to achieve product availability, inventory efficiency, and customer satisfaction.

Fig. 5.1.1: Merchandising activity cycle

What is understood by apparel merchandising teams?

Apparel merchandising teams are groups of professionals who work together to manage the movement of apparel products from planning to store delivery. They coordinate product development, procurement, production, inventory tracking, documentation, and delivery to ensure timely product availability, quality, and business efficiency.

- Trend forecasting and market analysis
- Inventory management
- Product and process development
- Supply chain coordination and negotiation
- Sustainability practices

Fig. 5.1.2: Standard operations of apparel merchandising teams

The following are the different teams of apparel merchandising:

- **Suppliers**

  Suppliers provide fabrics, trims, accessories, packaging materials, or finished garments required for apparel production. They ensure timely availability of materials while meeting agreed quality, quantity, cost, and delivery requirements.

- **Vendors**

  Vendors manufacture or supply apparel products and related services based on buyer specifications and purchase orders. They coordinate with merchandising teams to meet production schedules, quality standards, and delivery commitments.

- **Cross-functional teams**

  Cross-functional teams consist of professionals from different departments who work together to plan, develop, produce, track, and deliver apparel products. Their coordination ensures smooth merchandising operations across the retail value chain. The following are the different types of cross-functional teams:

Cross-Functional Team	Function	Role in Apparel Merchandising
Buying team	Plans product assortments, selects merchandise, determines quantities, and places purchase orders based on market demand, sales trends, and business objectives.	Ensures the right products are purchased in the right quantity at the right time to meet customer demand and business goals.
Design team	Develops apparel concepts, styles, colours, fabrics, and product specifications based on fashion trends, customer preferences, and brand requirements.	Creates market-relevant products that meet customer expectations and brand standards.
Sourcing team	Identifies suitable suppliers and vendors, negotiates commercial terms, procures materials, and ensures compliance with quality, cost, and delivery requirements.	Secures reliable suppliers and materials while ensuring cost efficiency, quality, and timely procurement.
Production team	Plans, monitors, and controls garment manufacturing activities according to approved specifications, quality standards, and delivery schedules.	Ensures garments are manufactured efficiently, meet quality standards, and are completed on schedule.
Logistics team	Manages the storage, transportation, distribution, and movement of raw materials and finished products throughout the supply chain.	Ensures the efficient movement and timely delivery of products across the supply chain.
Retail operations team	Ensures products reach stores on time, maintains inventory availability, supports store replenishment, and coordinates merchandising execution at retail outlets.	Maintains product availability at retail stores and supports effective in-store merchandising operations.

Cross-Functional Team	Function	Role in Apparel Merchandising
Product tracking from planning to delivery	Continuously monitors an apparel product from planning, sourcing, and production through logistics until final delivery to retail stores.	Tracks merchandise movement, identifies delays, maintains accurate records, and ensures timely product availability throughout the retail value chain.

Table 5.1.1: Cross-functional apparel merchandising team roles

5.1.2 Supplier Management and Procurement

What is understood by supplier management?

Supplier management is the process of selecting, onboarding, coordinating with, monitoring, and evaluating suppliers to ensure they consistently meet quality, cost, delivery, and compliance requirements. It helps build reliable supplier relationships, maintain uninterrupted material supply, and support efficient merchandising and inventory operations. The following are the stages of supplier management:

- **Supplier selection**

  Supplier selection is the process of identifying and choosing suppliers who can consistently provide materials or products that meet the organisation's quality, cost, delivery, and compliance requirements. It involves evaluating suppliers based on factors such as capability, reliability, pricing, production capacity, financial stability, and past performance. The following are the key metrics of supplier selection:

KPI metric	Definition and calculation	Interpretation
On-time delivery rate (%)	Measures the percentage of orders delivered on or before the agreed delivery date. (On-time Deliveries ÷ Total Deliveries) × 100	A higher value indicates better supplier reliability, stronger delivery performance, and timely order fulfilment.
Supplier defect rate (%)	Measures the percentage of supplied items rejected because of quality defects. (Defective Units ÷ Total Units Received) × 100	A lower value indicates better product quality, improved manufacturing consistency, and fewer quality-related issues.
Cost competitiveness (%)	Compares the supplier's quoted price with the target or benchmark price. (Supplier Price ÷ Target Price) × 100	A lower value or one closer to 100% indicates more competitive pricing and better cost efficiency.
Order fulfilment rate (%)	Measures the percentage of ordered quantity supplied accurately by the supplier. (Quantity Delivered ÷ quantity Ordered) × 100	A higher value indicates greater order accuracy, dependable supply capability, and better inventory support.

KPI metric	Definition and calculation	Interpretation
Supplier Compliance Rate (%)	Measures the percentage of mandatory quality, legal, and organisational requirements fulfilled by the supplier. (Requirements Met ÷ Total Requirements) × 100	A higher value indicates stronger compliance with organisational standards, regulations, and contractual obligations.

Table 5.1.2: Supplier selection KPI evaluation metrics

- **Qualification**

  Supplier qualification is the process of assessing and approving selected suppliers before they are authorised to supply materials or products. It includes verifying quality standards, certifications, production capability, compliance with organisational requirements, and the supplier's ability to meet delivery commitments. The following are the key metrics of qualification:

KPI metric	Definition and calculation	Interpretation
Quality audit score (%)	Percentage score obtained during supplier quality audits. (Score Obtained ÷ Total Audit Score) × 100	A higher audit score indicates stronger quality management practices and better operational capability.
Certification compliance rate (%)	Percentage of mandatory certifications that are valid and available. (Valid Certifications ÷ Required Certifications) × 100	A higher compliance rate indicates better conformity with industry and regulatory standards.
Approval rate (%)	Percentage of evaluated suppliers approved after the qualification process. (Approved Suppliers ÷ Evaluated Suppliers) × 100	A higher approval rate indicates that more suppliers successfully meet qualification requirements.
Production capacity utilisation (%)	Percentage of available production capacity against the required production capacity. (Available Capacity ÷ Required Capacity) × 100	A higher capacity utilisation indicates a stronger ability to meet production and order requirements.
Delivery commitment success rate (%)	Percentage of committed deliveries successfully achieved during supplier evaluation. (Successful Deliveries ÷ Committed Deliveries) × 100	A higher success rate indicates better consistency in meeting agreed delivery commitments.

Table 5.1.3: Supplier qualification KPI evaluation metrics

- **Onboarding**

  Supplier onboarding is the process of integrating an approved supplier into the organisation's procurement and merchandising system. It involves completing registration, documentation, contractual agreements, system setup, compliance verification, and communication procedures to enable smooth business operations. The following are the key metrics of onboarding:

KPI metric	Definition and calculation	Interpretation
Onboarding completion rate (%)	Percentage of onboarding activities completed successfully. (Completed Activities ÷ Total Onboarding Activities) × 100	A higher completion rate indicates a more effective and complete supplier onboarding process.
Documentation accuracy rate (%)	Percentage of supplier documents submitted without errors. (Accurate Documents ÷ Total Documents Submitted) × 100	A higher accuracy rate indicates better documentation quality and fewer administrative errors.
Onboarding cycle time (days)	Average time taken to complete the supplier onboarding process. Total Onboarding Days ÷ Number of Suppliers Onboarded	A lower onboarding cycle time indicates faster supplier integration and greater process efficiency.
Compliance verification rate (%)	Percentage of compliance checks completed successfully during onboarding. (Successful Compliance Checks ÷ Total Compliance Checks) × 100	A higher verification rate indicates better supplier readiness and stronger compliance with organisational requirements.
System registration accuracy (%)	Percentage of supplier records correctly entered into organisational systems. (Correct Records ÷ Total Records Entered) × 100	A higher registration accuracy indicates more accurate supplier master data and fewer system errors.

Table 5.1.4: Supplier selection KPI evaluation metrics

What is understood by the supplier procurement process?

The supplier procurement process is the structured procedure followed to identify purchasing needs, select approved suppliers, procure materials or products, and ensure timely delivery according to organisational requirements. It ensures that procurement activities are cost-effective, compliant, well-documented, and aligned with quality, production, and inventory objectives. The following are the key metrics of the supplier procurement process:

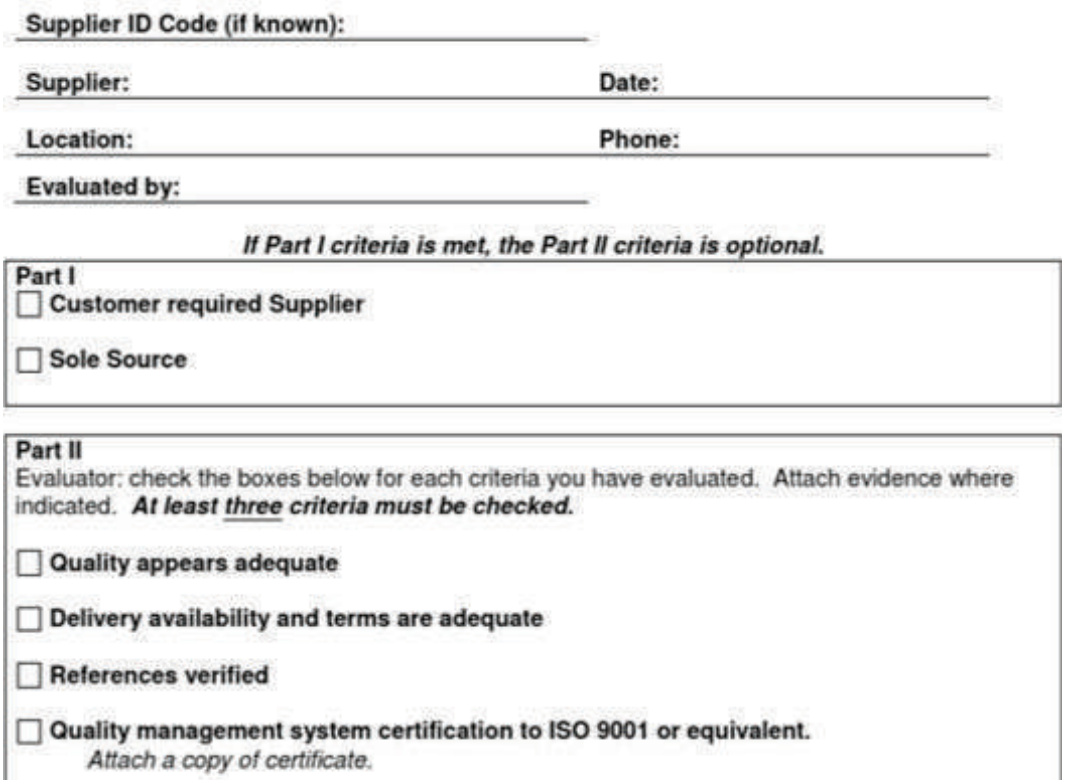
KPI metric	Definition and calculation	Interpretation
Procurement Planning Accuracy (%)	Measures the percentage of procurement requirements correctly planned and approved. (Accurate Procurement Plans ÷ Total Procurement Plans) × 100	A higher planning accuracy indicates better demand forecasting and alignment with quality, production, and inventory objectives.
Supplier Selection Efficiency (%)	Measures the percentage of supplier quotations evaluated and purchase orders issued successfully. (Suppliers Selected ÷ Suppliers Evaluated) × 100	A higher selection efficiency indicates a more effective supplier evaluation and purchasing process.
Material Receipt and Verification Accuracy (%)	Measures the percentage of received materials that meet the required quality, quantity, and delivery specifications. (Verified Deliveries ÷ Total Deliveries Received) × 100	A higher verification accuracy indicates better receiving, inspection, and inventory accuracy.

KPI metric	Definition and calculation	Interpretation
Procurement Compliance Rate (%)	Measures the percentage of procurement activities completed in accordance with organisational procedures and documentation requirements. (Compliant Procurement Activities ÷ Total Procurement Activities) × 100	A higher compliance rate indicates stronger adherence to procurement policies, documentation standards, and regulatory requirements.
Procurement Cost Efficiency (%)	Measures procurement expenditure against the approved procurement budget. (Budgeted Procurement Cost ÷ Actual Procurement Cost) × 100	A higher cost efficiency indicates better cost control, efficient purchasing, and improved procurement performance.

Table 5.1.5: Procurement process performance metrics

What is a supplier evaluation and procurement checklist?

Supplier management and procurement are carried out using a supplier evaluation and procurement checklist, through which the Apparel Inventory Data Analyst verifies supplier information, procurement records, delivery schedules, and documentation to support accurate inventory management and timely product availability. Once the supplier management and procurement metrics have been calculated and evaluated, the Apparel Inventory Data Analyst records the findings in a Supplier Evaluation and Procurement Checklist to support supplier selection, performance monitoring, and procurement decisions.



Supplier ID Code (if known): _____

Supplier: _____ **Date:** _____

Location: _____ **Phone:** _____

Evaluated by: _____

If Part I criteria is met, the Part II criteria is optional.

Part I

☐ **Customer required Supplier**

☐ **Sole Source**

Part II

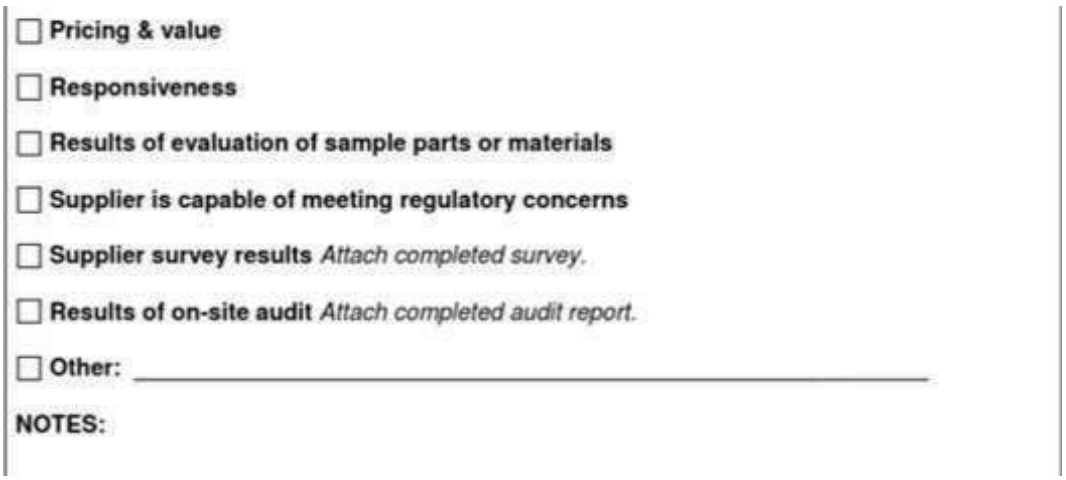
Evaluator: check the boxes below for each criteria you have evaluated. Attach evidence where indicated. ***At least three criteria must be checked.***

☐ **Quality appears adequate**

☐ **Delivery availability and terms are adequate**

☐ **References verified**

☐ **Quality management system certification to ISO 9001 or equivalent.**
Attach a copy of certificate.


☐ Pricing & value

☐ Responsiveness

☐ Results of evaluation of sample parts or materials

☐ Supplier is capable of meeting regulatory concerns

☐ Supplier survey results *Attach completed survey.*

☐ Results of on-site audit *Attach completed audit report.*

☐ Other: _____

NOTES:

Fig. 5.1.3: Supplier management and procurement checklist

5.1.3 Procurement Operations and Sourcing Guidelines

What is a procurement operation?

Procurement operations are the day-to-day activities involved in planning, purchasing, receiving, and managing materials or products required for business operations. They ensure cost-effective procurement, supplier compliance, accurate documentation, timely deliveries, and uninterrupted supply chain performance. THE following are the stages of procurement operation:

- **Needs recognition -** Identify required goods and services
- **Purchase requisition -** Submit formal internal purchase request
- **Review of request -** Evaluate and validate request details
- **Budget approval -** Authorise necessary funds for purchase
- **Quaotation requests -** Solicit prices and quotes from vendors and suppliers
- **Negotiation and contract -** Finalise pricing and legal terms
- **Recieve goods/services -** Accept and inspect delivered items
- **Three-way matching -** Verify order, receipt and invoice

Invoice approval payment - Process release and final payment

Record keeping - Archive transaction documents for audits

Fig. 5.1.4: Procurement operation stages

What is a sourcing guideline?

Sourcing guidelines are a set of policies, standards, and procedures that help organisations identify, evaluate, select, and procure materials or products from reliable suppliers while ensuring quality, cost efficiency, timely delivery, ethical practices, and regulatory compliance. In India, sourcing activities are guided by the General Financial Rules (GFR), 2017, the Manual for Procurement of Goods (2024) issued by the Ministry of Finance, and the Public Procurement (Preference to Make in India) Order, 2017, which promote transparent, fair, and value-for-money procurement while encouraging domestic sourcing.

Vendor terms

Vendor terms are verified using a vendor agreement sheet, through which the Apparel Inventory Data Analyst reviews pricing, payment terms, delivery commitments, quality requirements, and contractual conditions. The agreement is checked to ensure that all commercial and operational terms are accurate, complete, and mutually accepted before procurement activities begin. Special attention is given to clauses related to lead times, order quantities, penalties, returns, warranties, and dispute resolution to minimise business risks. The analyst also confirms that the agreed terms comply with organisational procurement policies and applicable legal requirements. Any discrepancies, missing information, or deviations from approved standards are documented and communicated to the relevant stakeholders for clarification and corrective action before finalising the agreement.

YOUR LOGO

COMPANY NAME
APPARELS PVT. LTD.

VENDOR AGREEMENT SHEET

Address :
Phone :
Email :
Website :

AGREEMENT NO.	EFFECTIVE DATE	VALID UP TO

1. COMPANY DETAILS		2. VENDOR DETAILS	

3. PRODUCT DETAILS	

4. COMMERCIAL TERMS		5. PAYMENT TERMS	

6. DELIVERY TERMS		7. QUALITY REQUIREMENTS	

8. COMPLIANCE	9. PACKAGING & LABELLING

10. PENALTIES		11. GENERAL TERMS

12. AUTHORIZED SIGNATORIES	
For Company	For Vendor / Supplier

Fig. 5.1.5: Vendor agreement sheet sample template

Lead times

Lead times are monitored using a lead time monitoring checklist, through which the Apparel Inventory Data Analyst tracks procurement, production, and delivery timelines to ensure timely product availability. The checklist helps compare planned schedules with actual progress to identify potential delays at every stage of the supply chain. The analyst reviews supplier commitments, production milestones, shipping schedules, and transit times to ensure that orders are completed within the agreed timeframe. Any delays, bottlenecks, or deviations from the planned lead time are documented and communicated to the relevant stakeholders for timely corrective action. Continuous monitoring of lead time performance also supports better inventory planning, minimises stock shortages, and improves overall supply chain efficiency.

Format NO.: [User Input] Version: 1.1

Product ID	Product	Customer Name	P.O. No.	P.O. Qty	Production Start Date	Actual Dispatch Date	Actual Customer Received Date	Transit Lead Time	Manufacturing Lead Time

NOTES:

Fig. 5.1.6: Lead time monitoring checklist

Procurement compliance

Procurement compliance is verified using a procurement compliance checklist, through which the Apparel Inventory Data Analyst checks procurement activities, documentation, approvals, and adherence to organisational policies and regulatory requirements. The checklist is used to ensure that every procurement transaction follows approved procurement procedures, purchasing guidelines, and contractual obligations. The analyst reviews purchase requests, quotations, vendor evaluation records, approvals, purchase orders, invoices, and supporting documents to verify their accuracy, completeness, and consistency. Compliance with financial controls, ethical sourcing practices, and applicable legal and regulatory requirements is confirmed throughout the procurement process. The analyst also verifies that procurement activities are carried out within approved budgets and delegated approval limits. Procurement records are examined to ensure that all mandatory documents are available, properly maintained, and readily accessible for audits or inspections. Any non-compliance, missing documentation, policy violations, or procedural deviations are documented, investigated, and communicated to the appropriate stakeholders for timely corrective action. Trends in procurement non-compliance are analysed to identify recurring issues and recommend preventive measures for future procurement activities. Periodic compliance reviews help strengthen internal controls, improve procurement transparency, reduce operational and financial risks, and enhance accountability across the procurement function. Consistent monitoring of procurement compliance also supports efficient purchasing practices, regulatory adherence, and continuous improvement of the organisation's procurement management system.

PROC. ID	PROCUREMENT ACTIVITY & DESCRIPTION	RESPONSIBLE ANALYST / DATE		VERIFICATION STATUS (Documentation/Approvals/ Policies)			FINAL AUDIT STATUS
PROC-01	Identify & Source Material	R. Anlyst		☐	☐	☐	Yes/No/Partial
PROC-02	Vendor Review & Adherence (Adiding)	R. Anlyst		☐	☐	☐	Yes/No/Partial
PROC-03	Cooperation & Approvals Process	R. Anlyst		☐	☐	☐	Yes/No/Partial
PROC-04	Palleranities & Payment Terms	R. Anlyst		☐	☐	☐	Yes/No/Partial
PROC-05	Proc. Orders & Commites (Orders & Returns)	R. Anlyst		☐	☐	☐	Yes/No/Partial
PROC-06	Shipping, Completes & Reviews	R. Anlyst		☐	☐	☐	Yes/No/Partial
PROC-07	Identify & Orders	R. Anlyst		☐	☐	☐	Yes/No/Partial
PROC-08	Analyze & Verified Status	R. Anlyst		☐	☐	☐	Yes/No/Partial

VERIFICATION ANALYST NOTES:

Fig. 5.1.7: Procurement compliance checklist

Sourcing practices

Sourcing practices are assessed using a supplier sourcing evaluation checklist, through which the Apparel Inventory Data Analyst verifies supplier selection, sourcing decisions, procurement methods, and compliance with quality, cost, and delivery requirements. The checklist is used to ensure that sourcing activities are conducted in accordance with organisational procurement policies, sourcing strategies, and approved vendor management procedures. The analyst reviews supplier qualification records, quotations, bid evaluations, market comparisons, and sourcing justifications to confirm that supplier selection is objective, transparent, and well documented. Supplier capabilities, production capacity, quality certifications, financial stability, sustainability practices, and past performance are evaluated to determine their suitability for business requirements. The analyst also verifies that sourcing decisions provide the optimum balance between cost, quality, lead time, reliability, and overall value to the organisation. Compliance with contractual obligations, ethical sourcing standards, and applicable legal and regulatory requirements is assessed throughout the sourcing process. Any sourcing risks, supplier limitations, policy deviations, or documentation gaps are identified, documented, and communicated to the relevant stakeholders for timely corrective action. Periodic reviews of sourcing practices help improve supplier performance, strengthen supply chain resilience, minimise procurement risks, and support continuous improvement in strategic sourcing and vendor management.

Date:	**Prepared By:**
Evaluation #	**Title:**

Vendor/Supplier Information	
Company Name:	**Type of Business:**
Company Address:	**Legal Form:**
City: **State:** **ZIP:**	**Phone:** **Fax:**
Number of Employees:	**Number of Employees at Headquarters:**
Size of Headquarters:	**Number of Locations:**
Names of Salespeople:	**Names of Key officers:**

Vendor Evaluation	**1**	**2**	**3**	**4**	**5**
Timeliness of Deliveries					
Quality of Parts/Products/Material Upon Delivery					
Overall Quality of Parts/Products/Material					
Competitiveness of Price					
Quality of Service Provided					
Competitiveness of Terms and Conditions					
Credit Rating					
Overall Financial Condition					
Reputation of Company					
Quality of Design Compared to Specifications					
Level of Assistance in Research & Development					

Expertise of Sales Staff					
Technical Support Staff's Level of Expertise					
Column Totals					
				Grand Total	

Fig. 5.1.8: Supplier sourcing evaluation checklist

5.1.4 Vendor Performance Metrics and Quality Standards

Vendor performance metrics are measurable indicators used to evaluate a vendor's efficiency, reliability, and overall performance. Quality standards define the specifications and requirements that supplied products or services must consistently meet to ensure compliance and customer satisfaction. They have the following components:

- **Key Performance Benchmarks:** QCD

  Key performance benchmarks (QCD) are the measurable standards used to evaluate vendor performance based on Quality, Cost, and Delivery. These benchmarks help organisations assess supplier effectiveness, monitor performance, and ensure consistent compliance with operational and business requirements.

  - **Quality benchmarks**

    Quality benchmarks define the measurable standards used to evaluate whether products or services consistently meet specified quality requirements and performance expectations, as follows:

Quality Benchmark	Definition and Calculation	Interpretation
Quality acceptance rate (%)	Percentage of products accepted without defects. (Accepted Units ÷ Total Units Received) × 100	A higher acceptance rate indicates consistent product quality and compliance with quality specifications.
Defect rate (%)	Percentage of products identified with defects during inspection. (Defective Units ÷ Total Units Inspected) × 100	A lower defect rate indicates better manufacturing quality and fewer quality issues.
First-pass quality rate (%)	Percentage of products passing inspection on the first attempt. (Products Passed First Inspection ÷ Total Products Inspected) × 100	A higher first-pass quality rate reflects effective process control and consistent product quality.
Rejection rate (%)	Percentage of products rejected during quality inspection. (Rejected Units ÷ Total Units Inspected) × 100	A lower rejection rate indicates improved supplier quality performance and reduced wastage.
Specification compliance rate (%)	Percentage of products meeting all technical specifications. (Products Meeting Specifications ÷ Total Products Inspected) × 100	A higher compliance rate demonstrates better adherence to product requirements and standards.

Table 5.1.6: Quality benchmark evaluation metrics

- **Cost benchmarks**

  Cost benchmarks establish the measurable standards used to assess whether procurement costs remain competitive, cost-effective, and within approved budget limits, as follows:

Cost Benchmark	Definition and Calculation	Interpretation
Cost variance (%)	Percentage difference between actual and budgeted procurement cost. ((Actual Cost − Budgeted Cost) ÷ Budgeted Cost) × 100	A lower cost variance indicates better budget control and procurement planning.
Cost savings (%)	Percentage of savings achieved against the planned procurement cost. ((Budgeted Cost − Actual Cost) ÷ Budgeted Cost) × 100	A higher cost savings percentage indicates effective supplier negotiation and procurement efficiency.
Purchase price compliance (%)	Percentage of purchases made within approved pricing limits. (Compliant Purchases ÷ Total Purchases) × 100	A higher compliance rate indicates adherence to negotiated prices and procurement policies.
Procurement cost efficiency (%)	Comparison of procurement cost against the approved target cost. (Target Cost ÷ Actual Procurement Cost) × 100	A higher efficiency percentage indicates better cost optimisation and value for money.
Budget adherence rate (%)	Percentage of procurement activities completed within the approved budget. (Procurement Activities Within Budget ÷ Total Procurement Activities) × 100	A higher adherence rate reflects effective financial planning and cost control.

Table 5.1.7: Cost Benchmark Evaluation Metrics

- **Delivery benchmarks**

  Delivery benchmarks specify the measurable standards used to evaluate the timely, accurate, and complete delivery of goods or services according to agreed schedules, as follows:

Delivery Benchmark	Definition and Calculation	Interpretation
On-time delivery rate (%)	Percentage of orders delivered on or before the agreed delivery date. (On-Time Deliveries ÷ Total Deliveries) × 100	A higher on-time delivery rate indicates reliable supplier performance and effective delivery management.
Lead time adherence (%)	Percentage of deliveries completed within the agreed lead time. (Deliveries Within Lead Time ÷ Total Deliveries) × 100	A higher adherence rate indicates better production planning and scheduling by the supplier.
Order fulfilment rate (%)	Percentage of orders delivered completely and accurately. (Orders Fulfilled Completely ÷ Total Orders) × 100	A higher fulfilment rate indicates dependable delivery performance and improved customer satisfaction.

Delivery Benchmark	Definition and Calculation	Interpretation
Delivery accuracy rate (%)	Percentage of deliveries matching the ordered quantity and specifications. (Accurate Deliveries ÷ Total Deliveries) × 100	A higher delivery accuracy rate indicates fewer shipment errors and improved logistics performance.
Delivery delay rate (%)	Percentage of deliveries completed after the agreed delivery date. (Delayed Deliveries ÷ Total Deliveries) × 100	A lower delivery delay rate indicates better supplier reliability and stronger supply chain performance.

Table 5.1.8: Supplier selection KPI evaluation metrics

5.1.5 Supply Chain Planning & Merchandise Logistics Scheduling

What is the merchandise flow process?

Merchandise flow process refers to the planned movement of products from sourcing to final distribution, ensuring timely availability of the right products in the right quantity and location while optimising inventory and supply chain efficiency. It includes activities such as procurement, production coordination, transportation, warehousing, inventory tracking, and order fulfilment across the supply chain. The process helps organisations manage product availability by aligning supply with market demand, seasonal requirements, and retail schedules. Effective merchandise flow management reduces delays, prevents overstocking or stock shortages, and improves operational efficiency. It also enables better coordination among suppliers, warehouses, logistics teams, and retail channels to ensure smooth product movement from origin to customer.

Fig. 5.1.9: Components of merchandise flow

The following are the stages of the merchandise flow process:

- **Supply chain planning**

  Supply Chain Planning refers to the process of forecasting demand, planning sourcing activities, managing inventory requirements, and aligning supply with business needs. The following are the components:

- **Retail calendars**

  Retail calendars define seasonal periods, promotional events, and business cycles to support demand forecasting, merchandise planning, and timely product availability.

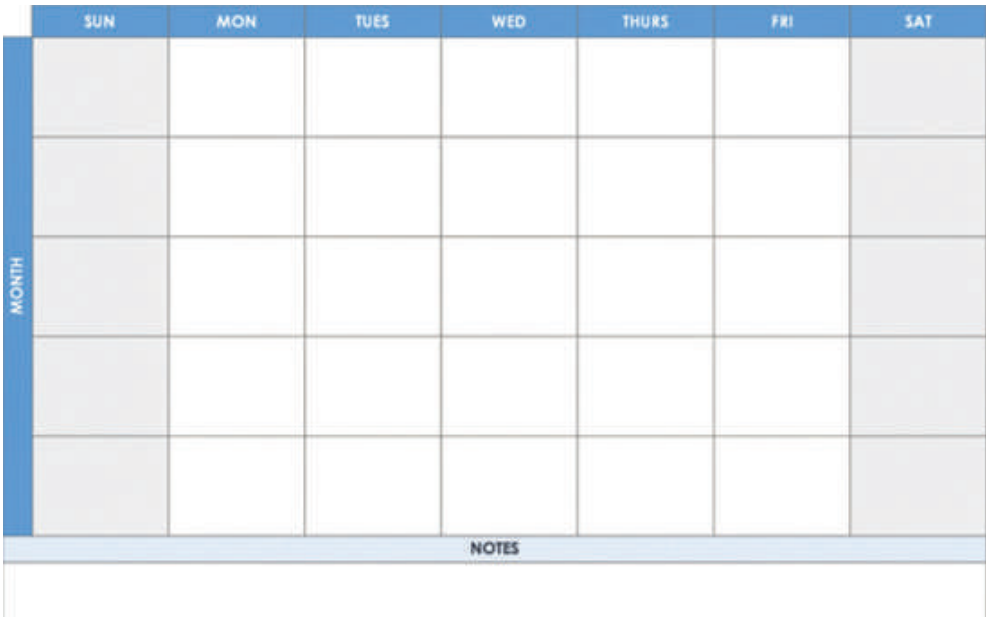


Fig. 5.1.10: Retail calendar template

- **Sourcing lead times**

  Sourcing lead times define the time required from supplier selection and order placement to product readiness, helping ensure effective procurement planning and timely supply.

	Start	End	Activity Details	
10/27/2022	10:30:00 AM	11:30:00 AM		
10/28/2022	8:00:00 PM	11:00:00 PM		
10/29/2022				
10/30/2022				
10/31/2022				
11/1/2022				
11/2/2022				
11/3/2022				
11/4/2022				
11/5/2022				
11/6/2022				
			Total hours	
			Billing rate (hourly)	
			Total amount	

Fig. 5.1.11: Lead time sourcing template

- **Sourcing schedules**

  Sourcing schedules outline planned procurement activities, supplier milestones, and order timelines to coordinate sourcing operations and meet business requirements.

Internal Analysis	Key figures (COGS)	Spend under management	Cost price breakdown	Number of suppliers	Payment terms	Contract coverage	Supplier rating	Saving potential
Sourcing group 1	conclusion							
Sourcing group 2								
Sourcing group 3								
Sourcing group 4								
Sourcing group 5								

Fig. 5.1.12: Sourcing schedule template

- **Product development timelines**

  Product development timelines define the schedule for design, sampling, approvals, and final product readiness to ensure timely transition from concept to production.

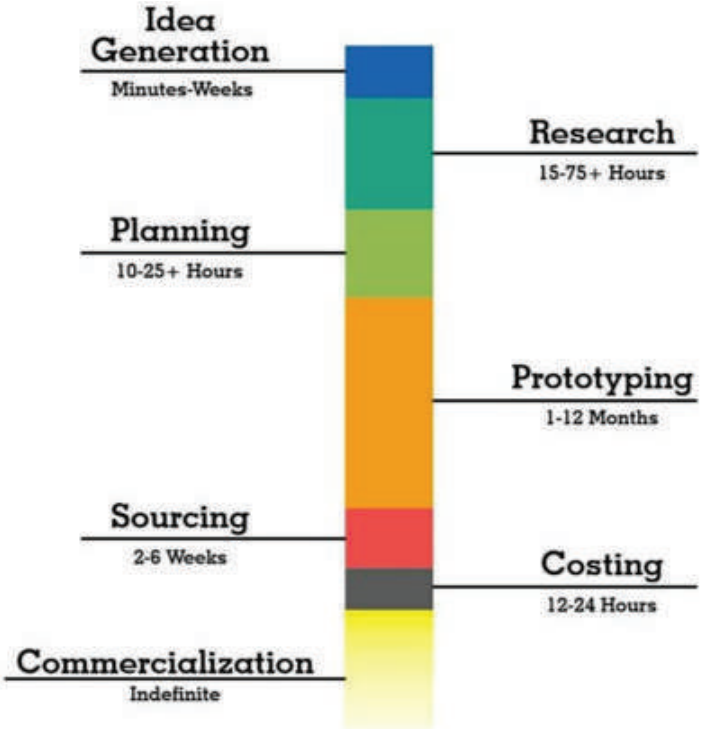


Fig. 5.1.13: Product development timeline template

- **Logistics scheduling**

  Logistics Scheduling refers to the process of planning and coordinating the movement, transportation, and delivery of merchandise across the supply chain.

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Supplier/Vendor	Time	Time	Time	Time	Time	Time	Time

Fig. 5.1.14: Logistics planning sheet

The following are the components:

- **Merchandise movement**

  Merchandise movement refers to the planned transportation and transfer of products from suppliers to warehouses, distribution centres, stores, or customers. It ensures efficient product flow through proper coordination of logistics, handling, tracking, and delivery activities.

- **Production timelines**

  Production timelines define the planned schedule for manufacturing activities, including production stages, completion dates, and quality checks. They help ensure products are manufactured on time and are ready for shipment as per business requirements.

- **Delivery planning and schedules**

  Delivery planning and schedules outline transportation plans, shipment timelines, and delivery commitments to ensure timely movement of products to the required destinations. They support effective logistics coordination, reduce delays, and improve supply chain reliability.

UNIT 5.2: Merchandising Documentation and Performance Management

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the purpose of merchandising documents, documentation procedures, compliance requirements, version control, and documentation accuracy in merchandising operations.
2. Outline production monitoring techniques, delivery and tracking indicators, supply chain and operational bottlenecks, product availability risks, and corrective measures.
3. Prepare and maintain supplier databases, communication logs, and merchandising records for effective coordination.
4. Prepare, verify, update, and maintain purchase orders, line sheets, delivery trackers, assortment plans, sales summaries, and other merchandising documents.
5. Outline merchandising performance, documentation accuracy, execution status, vendor performance evaluation, and corrective actions to ensure timely product availability.

5.2.1 Merchandising Documentation and Compliance Guidelines

What are merchandising documents?

Merchandising documents are structured records used by the apparel inventory data analyst to track, verify, and manage product-related information across sourcing, production, inventory, and delivery processes. These documents include purchase orders, product specifications, inventory reports, sourcing records, production updates, and shipment details that support effective merchandise management.

What is the purpose of merchandising documents?

Merchandising documents help the Apparel Inventory Data Analyst maintain accurate product data, monitor inventory flow, coordinate with suppliers and internal teams, and support timely decision-making. They enable tracking of order status, identification of issues, compliance monitoring, and efficient management of apparel supply chain activities through the following stages.

Risk area	Monitoring approach	Impact on apparel inventory management
Identify delays and bottlenecks	Merchandising documents are used to track order progress, supplier timelines, production status, inventory movement, and delivery schedules to identify sourcing delays, production constraints, documentation gaps, and shipment disruptions.	Enables the Apparel Inventory Data Analyst to detect issues early, coordinate corrective actions, and ensure smooth merchandise flow and timely product availability.

Risk area	Monitoring approach	Impact on apparel inventory management
Risks affecting product availability	Merchandising documents are used to monitor inventory levels, supplier performance, lead times, production progress, and delivery commitments to assess potential supply risks.	Supports proactive planning to prevent stock shortages, missed retail deadlines, and supply chain disruptions while maintaining product availability.

Table 5.2.1: Merchandising risk assessment

Merchandising documentation types

The following are the different types of merchandising documents:

- **Assortment plans**

  Assortment plans define the range, quantity, styles, colours, sizes, and categories of products planned for a specific season or retail period. They help the Apparel Inventory Data Analyst align inventory requirements with market demand and merchandising strategies.

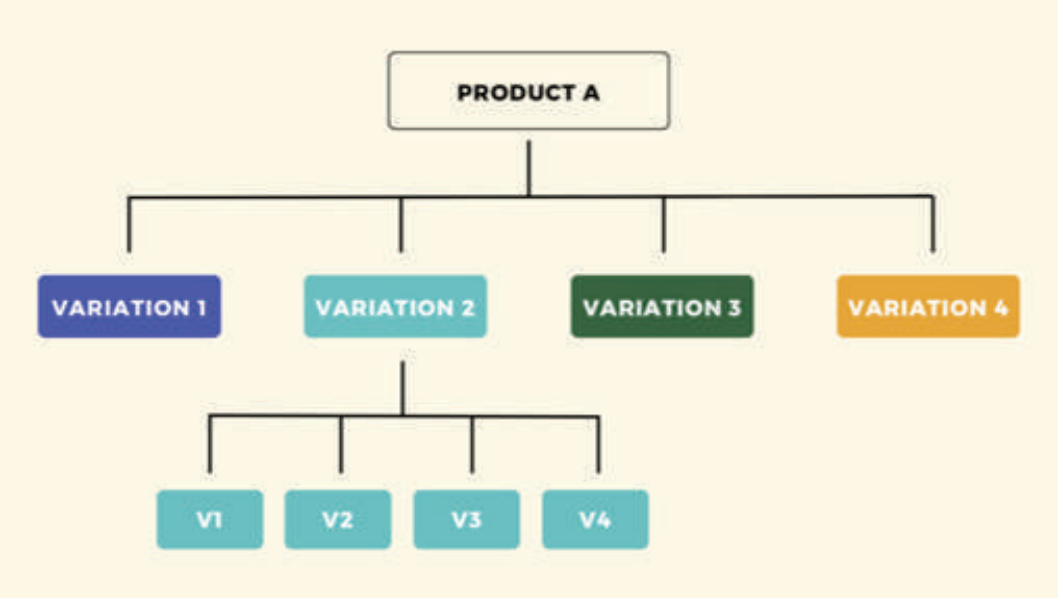


Fig. 5.2.1: Assortment planning stage

- **Line sheets**

  Line sheets provide detailed information about products, including styles, specifications, pricing, images, and availability details for buyers and internal teams. They support product tracking, communication, and decision-making during the merchandising and sales process.

ITEM	TARGET QTY	QTY IN STOCK	SOLD THIS MONTH	NEED TO PURCHASE

Fig. 5.2.2: Inventory line sheet

- **Purchase orders**

  Purchase orders are official documents that record product requirements, quantities, prices, delivery terms, and supplier details for procurement activities. They help the Apparel Inventory Data Analyst monitor order accuracy, supplier commitments, and inventory inflow.

Name _____ Date _____ Period _____ Notes _____

Description	Qty	Rate	Notes

Main objective
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____
○ _____

Fig. 5.2.3: Purchase order

- **Delivery trackers**

  Delivery trackers are records used to monitor shipment status, expected delivery dates, quantities, and supplier fulfilment progress. They help identify delays, track merchandise movement, and ensure timely product availability.

Item Name	Supplier's Name	Item Detail	Quantity purchase	Unit Price	Value in stock	Date	Quantity	Date	Quantity

Fig. 5.2.4: Delivery tracker sheet

The delivery trackers are of the following two types:

- **Delivery indicators**

  Delivery indicators are measurable parameters used to evaluate delivery performance, such as on-time delivery rate, lead time adherence, and order fulfilment accuracy. They help assess supplier reliability and ensure products reach required locations within planned timelines.

- **Tracking indicators**

  Tracking indicators are measurable data points used to monitor order progress, inventory movement, production status, and supply chain activities. They enable the Apparel Inventory Data Analyst to identify deviations, analyse performance, and support timely corrective actions.

- **Sales summaries**

  Sales summaries provide consolidated information on product sales performance, including sales volume, revenue, demand trends, and inventory movement. They help the Apparel Inventory Data Analyst analyse product performance and support future inventory and merchandising decisions.

DATE:_____ PREPARED BY:_____

NO.	GUEST	ITEM	QTY	REMARKS	PRICE
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

Fig. 5.2.5: Sales summary sheet

- **Documentation procedures**

  Documentation procedures are standardised methods for preparing, reviewing, approving, updating, storing, and retrieving merchandising records to ensure accuracy, consistency, and traceability throughout the merchandising process. They help maintain clear communication, support compliance with organisational requirements, and enable effective monitoring of product development, procurement, and delivery activities. The following are the documentation procedures for the different merchandising documentation mentioned above:

Documentation Type	Documentation Procedures
Assortment plans	Prepare the assortment plan based on seasonal objectives, target customers, product categories, and budget allocations. Review, approve, update, and distribute the plan to relevant teams while maintaining version control.
Line sheets	Create line sheets with complete product details, including style numbers, descriptions, colours, sizes, pricing, and images. Verify information for accuracy before sharing with buyers, sales, and merchandising teams, and update whenever product changes occur.
Purchase orders	Generate purchase orders with accurate supplier details, product specifications, quantities, prices, delivery dates, and payment terms. Obtain required approvals, issue the purchase order to suppliers, and securely maintain copies for tracking and auditing.

Documentation Type	Documentation Procedures
Delivery trackers (Delivery indicators and tracking indicators)	Record production milestones, shipment schedules, dispatch dates, delivery status, delays, and performance indicators in the delivery tracker. Regularly update the tracker using supplier and logistics information, verify accuracy, and communicate exceptions to relevant stakeholders.
Sales summaries	Compile sales summaries using verified sales data, including product-wise performance, revenue, quantities sold, returns, and inventory movement. Review the reports for accuracy, archive them systematically, and share them with management for merchandising and replenishment decisions.

Table 5.2.2: Merchandising documentation procedures guide

- **Compliance guidelines and version control**

  Compliance guidelines establish the mandatory regulatory and quality standards required for organisational workflows, while version control systematically tracks, manages, and archives changes to critical documents and data over time. Together, they create an auditable and transparent framework that ensures information accuracy, protects historical revisions, and meets statutory audit requirements through the following parameters:

KPI Metric	Definition and calculation	Interpretation
Documentation Accuracy (%)	Measures the percentage of documents completed without errors, omissions, or incorrect information. (Accurate Documents ÷ Total Documents Reviewed) × 100	A higher value indicates greater documentation reliability, fewer errors, and improved decision-making and operational efficiency.
Documentation Compliance (%)	Measures the percentage of documents prepared in accordance with organisational procedures, quality standards, and regulatory requirements. (Compliant Documents ÷ Total Documents Reviewed) × 100	A higher value indicates better adherence to documentation standards, improved audit readiness, and reduced compliance risks.
Execution Status (%)	Measures the percentage of planned merchandising activities or documentation tasks completed within the scheduled timeline. (Completed Tasks ÷ Total Planned Tasks) × 100	A higher value indicates better execution efficiency, timely completion of activities, and stronger workflow management.
Recommendations Implementation Rate (%)	Measures the percentage of approved recommendations that have been successfully implemented. (Implemented Recommendations ÷ Total Approved Recommendations) × 100	A higher value indicates continuous process improvement, effective corrective actions, and enhanced merchandising performance.

Table 5.2.3: Documentation standard KPI Metrics

- **Version Control in Merchandising**

  Version control in merchandising is the systematic process of recording, reviewing, approving, updating, and maintaining different versions of merchandising documents throughout the product lifecycle. It ensures that only the latest approved information is used for decision-making while preserving previous versions for traceability, accountability, and audit purposes through the following parameters:

KPI Metric	Definition and Calculation	Interpretation
Latest version usage (%)	Measures the percentage of merchandising activities performed using the latest approved document version. (Activities Using Latest Version ÷ Total Activities Reviewed) × 100	A higher value indicates effective document control, reduced communication errors, and improved operational consistency.
Version update timeliness (%)	Measures the percentage of required document revisions completed within the specified timeline. (Updates Completed on time ÷ Total Required Updates) × 100	A higher value indicates efficient document maintenance and quicker communication of changes across teams.
Version compliance rate (%)	Measures the percentage of documents that follow organisational version numbering, approval, and revision procedures. (Version-Compliant Documents ÷ Total Documents Reviewed) × 100	A higher value indicates stronger adherence to document management standards and better audit preparedness.
Revision traceability rate (%)	Measures the percentage of document revisions supported by complete revision history, approval records, and change logs. (Traceable Revisions ÷ Total Revisions) × 100	A higher value indicates improved accountability, easier document retrieval, and stronger process transparency.

Table 5.2.4: Version control in merchandising

- **Corrective actions on-time product availability**

  Corrective actions for on-time product availability are structured measures implemented to identify, resolve, and prevent issues that may delay product production, procurement, shipment, or delivery. These actions improve supply chain responsiveness, minimise disruptions, and ensure products are available as planned through the following parameters:

KPI metric	Definition and calculation	Interpretation
Corrective action closure rate (%)	Measures the percentage of identified corrective actions completed within the planned timeline. (Corrective Actions Closed ÷ Total Corrective Actions Raised) × 100	A higher value indicates effective issue resolution and stronger process control.
On-time product availability (%)	Measures the percentage of products available as per the planned launch, dispatch, or delivery schedule. (Products Available on Time ÷ Total Planned Products) × 100	A higher value indicates better production planning, supplier coordination, and inventory readiness.

KPI metric	Definition and calculation	Interpretation
Delay reduction rate (%)	Measures the percentage reduction in delivery or production delays after implementing corrective actions. ((Previous Delays − Current Delays) ÷ Previous Delays) × 100	A higher value indicates that corrective measures are effectively reducing operational delays and improving supply chain performance.
Recurring issue rate (%)	Measures the percentage of previously resolved issues that reoccur during subsequent merchandising cycles. (Recurring Issues ÷ Total Issues Reported) × 100	A lower value indicates more effective root cause analysis, stronger preventive actions, and sustained process improvement.

Table 5.2.5: Corrective action KPI Metrics for on-time product availability

5.2.2 Production Monitoring and Risk Mitigation

What is understood by production monitoring?

Production monitoring is the systematic real-time tracking and evaluation of manufacturing workflows, machinery output, and operational performance to identify inefficiencies and bottlenecks. It enables teams to optimise resource utilisation, maintain product quality standards, and ensure output aligns with planned schedules. The following are the different production monitoring techniques:

What is understood by risk mitigation?

Risk mitigation is the proactive process of identifying, assessing, and reducing potential threats or operational vulnerabilities before they escalate into major failures. It involves implementing targeted control measures, contingency plans, and safety protocols to minimise negative impacts on business objectives and timelines. The following are the different risk mitigation techniques and stages:

- **Identifying supply chain bottlenecks**

  Identifying supply chain bottlenecks is the process of detecting constraints, delays, or inefficiencies that disrupt the smooth flow of materials, information, or products across procurement, production, transportation, warehousing, and distribution activities. Early identification enables timely intervention, minimises disruptions, improves supply chain resilience, and ensures consistent product availability through the following parameters:

KPI metric	Definition and calculation	Interpretation
Bottleneck identification rate (%)	Measures the percentage of actual supply chain bottlenecks successfully identified during monitoring and review activities. (Bottlenecks Identified ÷ Total Bottlenecks Reported) × 100	A higher value indicates stronger monitoring capabilities and more effective risk identification.
Average bottleneck resolution time (days)	Measures the average time taken to resolve identified supply chain bottlenecks. Total Resolution Time ÷ Total Bottlenecks Resolved	A lower value indicates faster response, improved operational agility, and reduced supply disruptions.

KPI metric	Definition and calculation	Interpretation
Supply chain disruption rate (%)	Measures the percentage of supply chain activities affected by delays or interruptions. (Disrupted Activities ÷ Total Supply Chain Activities) × 100	A lower value indicates a more stable and resilient supply chain with fewer operational interruptions.
Recommendation's implementation rate (%)	Measures the percentage of approved supply chain improvement recommendations successfully implemented. (Implemented Recommendations ÷ Total Approved Recommendations) × 100	A higher value indicates proactive risk management and continuous improvement of supply chain performance.

Table 5.2.6: Supply chain bottleneck identification KPI metrics

- **Identifying operational bottlenecks**

  Identifying operational bottlenecks is the systematic process of recognising workflow constraints, resource limitations, equipment issues, or process inefficiencies that reduce productivity and delay merchandising operations. Identifying these bottlenecks supports timely corrective action, improves operational efficiency, and enhances overall business performance through the following parameters:

KPI metric	Definition and calculation	Interpretation
Operational bottleneck detection rate (%)	Measures the percentage of operational bottlenecks identified during process monitoring and audits. (Operational Bottlenecks Identified ÷ Total Bottlenecks Reported) × 100	A higher value indicates more effective process monitoring and stronger operational visibility.
Process delay rate (%)	Measures the percentage of operational activities delayed because of process inefficiencies. (Delayed Activities ÷ Total Operational Activities) × 100	A lower value indicates smoother workflows and improved operational efficiency.
Resource utilisation efficiency (%)	Measures how effectively available workforce, equipment, and other operational resources are utilised. (Actual Productive Resource Usage ÷ Total Available Resource Capacity) × 100	A higher value indicates better resource management and increased operational productivity.
Recommendation's implementation rate (%)	Measures the percentage of approved operational improvement recommendations successfully implemented. (Implemented Recommendations ÷ Total Approved Recommendations) × 100	A higher value indicates continuous operational improvement and stronger process optimisation.

Table 5.2.7: Operational bottleneck identification KPI metrics

- **Corrective measures**

  Corrective measures are structured actions implemented to eliminate the root causes of identified problems, reduce operational risks, and prevent the recurrence of supply chain or operational issues. They strengthen process reliability, improve organisational performance, and support continuous improvement through the following parameters:

KPI metric	Definition and calculation	Interpretation
Corrective action closure rate (%)	Measures the percentage of corrective actions completed within the planned timeline. (Corrective Actions Closed ÷ Total Corrective Actions Raised) × 100	A higher value indicates effective issue resolution, better accountability, and stronger process control.
Issue recurrence rate (%)	Measures the percentage of previously resolved issues that occur again after corrective actions have been implemented. (Recurring Issues ÷ Total Issues Resolved) × 100	A lower value indicates effective root cause analysis and sustainable corrective action implementation.
Corrective action effectiveness (%)	Measures the percentage of corrective actions that successfully eliminate the identified issue without requiring further intervention. (Effective Corrective Actions ÷ Total Corrective Actions Implemented) × 100	A higher value indicates stronger problem-solving capability and improved operational performance.
Risk reduction rate (%)	Measures the percentage reduction in identified operational or supply chain risks following implementation of corrective measures. ((Previous Risk Incidents – Current Risk Incidents) ÷ Previous Risk Incidents) × 100	A higher value indicates successful risk mitigation, improved business continuity, and enhanced operational resilience.

Table 5.2.8: Corrective measures KPI metrics

5.2.3 Supplier Information and Communication Records

What is a supplier information and communication record?

A supplier information and communication record is a centralised repository that captures profiles, terms, and historical interactions with key vendor partners. It ensures seamless communication tracking, vendor performance accountability, and quick access to essential procurement data. The following are the different types of supplier information and communication records:

- **Supplier databases**

  A structured directory containing vital vendor details, contact information, tax IDs, and contractual terms. It streamlines vendor onboarding and maintains a reliable single source of truth for procurement teams.

- **Communication logs**

  Chronological registers that track correspondence, call notes, emails, and agreed-upon action items between buyers and vendors. They provide transparency, prevent misunderstandings, and serve as an audit trail for negotiated terms and status updates.

- **Merchandising records**

  Documentation tracking product specifications, purchase orders, delivery timelines, and inventory performance linked to specific suppliers. They allow teams to evaluate vendor reliability and make informed, data-driven reordering decisions.

5.2.3 Merchandising Document Management

Merchandising document management is the systematic framework for creating, organising, distributing, and archiving critical retail and inventory records. It ensures seamless cross-departmental coordination, protects data integrity, and maintains clear audit trails across the product lifecycle. The following are the methods of merchandising document management:

Document type	Management method
Assortment plans	Store in a centralised repository with strict version control, ensuring cross-functional teams access only approved seasonal layouts and quantity projections.
Line sheets	Maintain dynamic digital catalogue files with regulated edit access, allowing real-time updates to product specs, pricing, and visual assets for buyers.
Purchase orders	Process via integrated enterprise software with automated authorisation workflows, linking digital invoices and fulfilment logs for full procurement tracking.
Delivery trackers (Delivery indicators and Tracking indicators)	Maintain automated tracking dashboards updated with continuous carrier data, archiving proof-of-delivery receipts to evaluate vendor timelines and metrics.
Sales summaries	Compile structured sales data periodically into automated analytics platforms, archiving historical performance reports to inform future demand forecasting.

Table 5.2.9: Merchandising document management methods

5.2.4 Merchandising Audit and Supplier Quality Assurance

Merchandising audit and supplier quality assurance are systematic processes used to evaluate merchandising activities, supplier performance, and compliance with organisational quality standards to ensure efficient product planning, sourcing, and delivery. They help identify performance gaps, verify documentation accuracy, assess vendor reliability, and support continuous improvement through regular monitoring and corrective actions. The following are the different types of merchandising audit and supplier quality assurance:

- **Merchandising performance**

  Merchandising performance evaluates the effectiveness and efficiency of merchandising activities in achieving organisational objectives related to product availability, inventory management, sales, and customer satisfaction. It is typically assessed through a merchandising performance audit using a merchandising performance audit checklist, which reviews key parameters such as planning accuracy, inventory turnover, stock availability, product assortment, pricing, and promotional execution.

- **Documentation accuracy**

  Documentation accuracy ensures that merchandising records are complete, correct, consistent, and maintained in accordance with organisational procedures, quality standards, and regulatory requirements. It is typically assessed through a documentation compliance audit using a documentation accuracy and compliance checklist, which reviews key parameters such as data accuracy, document completeness, approval status, version control, traceability, filing practices, and record consistency.

- **Vendor audit**

  Vendor audit evaluates a supplier's capability to consistently meet organisational requirements related to quality, delivery, compliance, and contractual obligations throughout the supply chain. It is typically assessed through a supplier quality audit using a supplier quality assurance audit checklist, which reviews key parameters such as product quality, manufacturing processes, delivery performance, statutory compliance, quality management systems, documentation practices, corrective actions, and continuous improvement initiatives.

UNIT 5.3: Cross-Functional Merchandising Operations Coordination

Unit Objectives

By the end of this unit, the participants will be able to:

1. Highlight communication channels, coordination mechanisms, negotiation techniques, and escalation protocols for effective collaboration with vendors and cross-functional teams.
2. Enlist merchandise tracking records, merchandising documents, tracking dashboards, status reports, approval records, and communication updates for effective coordination.
3. Elaborate on professional communication, relationship-building, and inter-departmental coordination with suppliers, vendors, and business teams.

5.3.1 Inter-Team Coordination and Vendor Escalation Policy

Inter-team coordination and vendor escalation policy establishes standardised procedures for communication, collaboration, issue resolution, and information sharing among internal departments and external vendors throughout the merchandising process. It ensures timely identification, escalation, and resolution of operational, quality, delivery, and documentation issues while maintaining accountability, business continuity, and efficient supply chain performance. The following are the types of inter-team coordination and vendor escalation policy:

- **Communication channels, skills, and coordination mechanisms**

  Communication channels, skills and coordination mechanisms refer to the structured methods and interpersonal competencies used to exchange information accurately and efficiently among internal teams and external vendors. They include emails, coordination meetings, documentation reviews, and formal coordination mechanisms that support timely decision-making, collaboration, issue resolution, and effective merchandising operations through the following:

Communication channel	Purpose	Key skills required	Coordination mechanisms
Emails	Exchange purchase orders, approvals, production updates, delivery schedules, and issue notifications among internal teams and vendors.	Written communication, professional etiquette, clarity, accuracy, timely response, and attention to detail.	Acknowledgements, approval workflows, CC/escalation matrices, follow-up actions, and email records.
Coordination Meetings	Review merchandising progress, resolve operational issues, align cross-functional teams, and monitor vendor performance.	Verbal communication, active listening, presentation, collaboration, negotiation, problem-solving, and decision-making.	Meeting agendas, meeting minutes (MoM), action trackers, responsibility matrices (RACI), follow-up reviews, and status updates.

Communication channel	Purpose	Key skills required	Coordination mechanisms
Documentation Reviews	Verify the completeness, accuracy, consistency, and compliance of merchandising documents before approval or execution.	Analytical thinking, attention to detail, documentation management, compliance awareness, and critical evaluation.	Review checklists, version control systems, approval workflows, document verification logs, audit trails, and revision records.

Table 5.3.1: Merchandising communication channels and coordination

- **Negotiation**

  Negotiation with vendors and suppliers is the structured process of reaching mutually beneficial agreements on pricing, quantities, quality standards, delivery schedules, and service levels using accurate merchandising and inventory data. An Apparel Inventory Data Analyst should follow a data-driven negotiation mechanism involving performance analysis, collaborative discussions, documented agreements, and continuous performance monitoring to ensure cost efficiency and timely product availability.

- **Escalation protocols with vendors and teams**

  Escalation protocols with vendors and teams are structured procedures for reporting and resolving critical issues such as delivery delays, quality concerns, quantity mismatches, and documentation errors that cannot be resolved at the operational level. An Apparel Inventory Data Analyst should follow a defined escalation mechanism involving issue identification, timely reporting, communication through designated authority levels, documented corrective actions, and resolution tracking to minimise business disruptions and maintain supply chain continuity.

  The following are the main stages of vendor issue escalation with teams:

Issue Type	Resolution Procedure
Resolving issues related to delays	Monitor delivery schedules to identify delays, determine the root cause through coordination with vendors and internal teams, and escalate unresolved issues according to organisational protocols. Revise delivery plans, update stakeholders, document corrective actions, and monitor implementation until on-time delivery is restored.
Quantity and quality mismatches	Compare received goods with purchase orders, specifications, and quality inspection reports to identify shortages, excess quantities, or quality defects. Notify the vendor, document discrepancies, initiate replacement, rework, or return procedures, and verify corrective actions before accepting the shipment.
Documentation errors (if any)	Review merchandising documents to identify missing, inaccurate, inconsistent, or unauthorised information before further processing. Correct the errors through document verification, obtain necessary approvals, update the revised records using version control, and communicate the changes to all relevant stakeholders.

Table 5.3.2: Vendor issue resolution procedures guide

5.3.2 Approval Workflows and Tracking Records Guidelines

Approval workflows and tracking records guidelines establish standardised procedures for reviewing, authorising, recording, and monitoring merchandising activities and documents throughout the product lifecycle. They ensure timely approvals, accurate record maintenance, process transparency, accountability, and complete traceability to support effective decision-making, compliance, and operational efficiency.

- **Merchandise tracking records**

  Merchandise tracking records are systematic records used to monitor the movement, status, and progress of products throughout the merchandising, procurement, production, and delivery process. They provide accurate and up-to-date information to support inventory control, performance monitoring, timely decision-making, and supply chain visibility.

  - **Accurate tracking dashboards**

    Accurate tracking dashboards are visual reporting tools that present real-time merchandising and inventory data through charts, tables, and key performance indicators. They enable quick monitoring of order status, inventory levels, supplier performance, delivery progress, and operational exceptions for informed decision-making.

  - **Accurate tracking logs**

    Accurate tracking logs are chronological records that capture all merchandising activities, transactions, updates, and status changes throughout the product lifecycle. They provide complete traceability, support audit requirements, and help identify delays, discrepancies, and corrective actions.

- **Status reports and their purpose**

  Status reports summarise the current progress of merchandising activities, highlighting completed tasks, ongoing work, pending actions, risks, and performance against planned timelines. Their purpose is to keep stakeholders informed, facilitate timely decision-making, and support effective coordination across teams.

- **Record and communicate updates**

  Recording and communicating updates involve documenting significant changes, progress, issues, and resolutions and sharing them with relevant stakeholders in a timely manner. This ensures information accuracy, maintains transparency, and supports coordinated decision-making throughout the merchandising process.

  - **Clearly to buying teams**

    Updates communicated to buying teams include product availability, assortment changes, supplier performance, pricing, and delivery schedules to support purchasing decisions. Clear and timely communication helps buyers manage procurement activities, maintain inventory levels, and respond effectively to market demand.

  - **Sourcing teams**

    Updates communicated to sourcing teams include supplier status, production progress, material availability, quality issues, and procurement risks. This enables sourcing teams to coordinate with suppliers, resolve supply chain issues, and ensure uninterrupted material availability.

  - **Retail operations teams**

    Updates communicated to retail operations teams include shipment status, product availability, replenishment schedules, inventory movement, and promotional readiness. Timely communication enables stores to plan stock availability, improve customer service, and execute retail operations efficiently.

- **Approval documentation**

  Approval documentation consists of records that confirm the review and authorisation of merchandising activities, transactions, and business decisions by designated authorities. It provides evidence of compliance with organisational procedures, maintains accountability, and supports audit and traceability requirements.

5.3.3 Supplier Relations and Strategic Stakeholder Framework

The supplier relations and strategic stakeholder framework establishes structured processes for maintaining effective communication, collaboration, and long-term relationships with suppliers, vendors, and internal business teams. It promotes transparency, trust, timely information sharing, and coordinated decision-making through professional communication practices, relationship-building strategies, and inter-departmental communication records.

- **Professional communication**

  Professional communication is the structured exchange of accurate, timely, and respectful information with suppliers, vendors, and business teams to support merchandising operations and business objectives. It promotes collaboration, transparency, and informed decision-making while reducing misunderstandings and strengthening stakeholder relationships.

Stakeholder	Professional communication methods
Suppliers	Communicate through formal emails, purchase orders, supplier portals, virtual or face-to-face meetings, telephone calls, and performance review meetings. Ensure communication is clear, timely, respectful, data-driven, and supported by documented follow-ups and agreed action plans.
Vendors	Use emails, vendor meetings, progress review discussions, video conferencing, phone calls, escalation channels, and documented reports to communicate operational requirements and resolve issues. Maintain professionalism by sharing accurate information, confirming agreements in writing, and monitoring action items until closure.
Business teams	Communicate through team meetings, emails, collaboration platforms, dashboards, status reports, shared documentation systems, and project management tools. Encourage transparent information sharing, timely updates, active listening, and cross-functional coordination to support effective decision-making and merchandising execution.

Table 5.3.3: Professional communication methods

- **Relationship-building**

  Relationship-building is the process of developing and maintaining long-term, collaborative partnerships with suppliers, vendors, and business teams based on trust, mutual respect, and shared objectives. Strong relationships improve communication, encourage problem-solving, enhance supplier performance, and support a resilient supply chain.

Stakeholder	Relationship building methods
Suppliers	Build long-term relationships through regular communication, transparent information sharing, timely payments, collaborative planning, performance review meetings, and prompt resolution of issues. Recognise supplier performance, provide constructive feedback, and encourage continuous improvement to strengthen mutual trust and reliability.
Vendors	Develop strong vendor relationships by maintaining open communication, honouring contractual commitments, resolving concerns promptly, sharing performance feedback, and involving vendors in continuous improvement initiatives. Foster mutual respect, fairness, and collaboration to improve service quality and operational efficiency.
Business teams	Strengthen relationships through regular cross-functional meetings, collaborative decision-making, knowledge sharing, transparent communication, and mutual support across departments. Promote teamwork, accountability, trust, and shared organisational goals to enhance coordination and merchandising performance.

Table 5.3.4: Stakeholder relationship-building methods

- **Inter-departmental communication dashboards**

  Inter-departmental communication dashboards are visual tools that display real-time information on merchandising activities, inventory status, supplier performance, pending actions, and key performance indicators across departments. They improve organisational visibility, facilitate timely decision-making, and enable coordinated execution of merchandising processes.

- **Inter-departmental communication logs**

  Inter-departmental communication logs are chronological records of communications, decisions, approvals, issues, and follow-up actions exchanged among different departments during merchandising operations. They provide traceability, accountability, and an auditable record that supports effective coordination, issue resolution, and process continuity.

Summary

- Apparel merchandising requires effective coordination among suppliers, vendors, and cross-functional teams such as buying, design, sourcing, production, logistics, and retail operations to ensure timely product availability.
- Suppliers provide raw materials and finished products, while vendors and business teams collaborate throughout product planning, development, production, distribution, and store delivery.
- Supplier management includes supplier selection, qualification, onboarding, procurement planning, contract management, and continuous performance monitoring.
- Procurement operations involve managing vendor terms, lead times, sourcing practices, procurement compliance requirements, and ethical purchasing standards.
- Quality, Cost, and Delivery (QCD) benchmarks are used to evaluate supplier performance, improve operational efficiency, and maintain consistent product quality.
- Merchandise flow follows a structured process that includes retail calendars, sourcing schedules, product development timelines, production planning, logistics coordination, and delivery schedules.
- Merchandising documentation includes assortment plans, line sheets, purchase orders, delivery trackers, sales summaries, and other records required for effective merchandising operations.
- Documentation procedures, compliance requirements, version control, and documentation accuracy help maintain consistency, traceability, accountability, and smooth business operations.
- Production monitoring techniques help identify supply chain risks, operational bottlenecks, production delays, and product availability issues so that timely corrective measures can be implemented.
- Supplier databases, communication logs, and merchandising records provide accurate information for coordination, decision-making, supplier evaluation, and business continuity.
- Purchase orders, line sheets, delivery trackers, assortment plans, tracking dashboards, status reports, and approval records support effective merchandising execution and order tracking.
- Effective communication through emails, meetings, documentation reviews, and coordination mechanisms strengthens collaboration among suppliers, vendors, and cross-functional teams.
- Negotiation skills and structured escalation protocols help resolve production delays, quantity mismatches, quality concerns, documentation errors, and vendor-related issues.
- Continuous monitoring of production progress, sourcing activities, delivery schedules, supplier performance, and deviations ensures timely product availability and customer satisfaction.
- Corrective actions, structured follow-ups, and approval workflows improve merchandising accuracy, supplier accountability, documentation quality, and operational efficiency.
- Professional communication, relationship-building, inter-departmental coordination, and effective stakeholder management strengthen long-term supplier partnerships and merchandising performance.

Exercise

Multiple-choice Question:

1. Which benchmark is primarily used to evaluate supplier performance in apparel merchandising?
   a. Sales, Marketing, and Promotion (SMP) Benchmark
   b. Quality, Cost, and Delivery (QCD) Benchmark
   c. Cost, Revenue, and Profit (CRP) Benchmark
   d. Inventory, Finance, and Logistics (IFL) Benchmark

2. Which of the following is an essential merchandising document used to place orders with suppliers?
   a. Delivery Tracker
   b. Purchase Order
   c. Sales Summary
   d. Communication Log

3. Which communication method is commonly used for coordinating with suppliers and cross-functional teams?
   a. Warehouse Inspection Only
   b. Product Photography Only
   c. Retail Display Planning Only
   d. Emails and Coordination Meetings

4. What is the primary purpose of production monitoring in merchandising operations?
   a. To identify delays, bottlenecks, and product availability risks
   b. To recruit new employees
   c. To conduct customer satisfaction surveys
   d. To prepare financial audit reports

5. Which document is primarily used to monitor shipment status and delivery progress?
   a. Delivery Tracker
   b. Supplier Agreement
   c. Employee Attendance Register
   d. Product Catalogue

Descriptive Questions:

1. Explain the role of suppliers, vendors, and cross-functional teams in apparel merchandising operations.
2. Describe the importance of supplier selection, procurement processes, and QCD benchmarks in merchandising.
3. List any two merchandising documents and explain their purpose.
4. What are the common communication channels and escalation methods used for coordinating with suppliers and business teams?
5. Explain how production monitoring, supplier performance evaluation, and corrective actions help ensure timely product availability.

Notes

Scan the QR codes or click on the link to watch the related videos

https://youtu.be/roHe5U5ir4A

Understanding apparel merchandising

https://youtu.be/shV-F3XqLuE

Understanding Production Monitoring and production management systems

Skill India
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& ENTREPRENEURSHIP

N·S·D·C
RE IMAGINE FUTURE

6. Promote and Sustain Safety, Health, and Security in Workplace, while Fostering Gender and Persons with Disabilities (PwD) Sensitisation

APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

Unit 6.1 - Workplace Safety and Compliance

Unit 6.2 - Equipment Operations and Documentation

Unit 6.3 - Quality Environment and Sustainability

AMH/N0620

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Describe safe working practices for the operation, cleaning, maintenance, and storage of tools, equipment, and machinery in the apparel workplace.
2. Explain workplace health, safety, environmental, and organisational procedures related to quality operations and equipment handling.
3. Discuss the effects of contamination, such as machine oil, dirt, and improper handling, on garment quality and production.
4. Identify workplace hazards, risks, accidents, and emergency situations, and explain the appropriate response, evacuation, and reporting procedures.
5. Outline the procedures for obtaining work instructions, interpreting job cards, clarifying task requirements, and meeting assigned work targets.
6. Describe the methods for inspecting tools, equipment, work areas, and finished products to ensure safety, operational readiness, and compliance with quality standards.
7. Prepare workplace records, forms, and reports related to equipment status, safety observations, defects, and production activities.
8. Compare different methods of waste reduction, material reuse, and safe disposal of waste and by-products to promote sustainable manufacturing practices.
9. Highlight the importance of maintaining good health, personal hygiene, and safe work habits while avoiding alcohol, tobacco, and other intoxicants in the workplace.
10. Explain the procedures for reporting defective tools, machine malfunctions, workplace hazards, and quality issues to the appropriate personnel.
11. Discuss the importance of following organisational quality standards, legal requirements, and standard operating procedures to ensure safe and efficient production.
12. Elaborate on the role of workplace safety, environmental responsibility, proper documentation, and continuous housekeeping in improving productivity, product quality, and employee well-being.

UNIT 6.1: Workplace Safety and Compliance

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe safe work practices for operating, cleaning, maintaining, and storing tools, equipment, and machinery in the apparel workplace.
2. Explain workplace health, safety, environmental, and organisational procedures for quality operations and equipment handling.
3. Elaborate on workplace hazards, risks, accidents, and emergencies, and explain the appropriate response, evacuation, and reporting procedures.
4. Highlight the importance of good health, personal hygiene, and safe work habits while avoiding alcohol, tobacco, and other intoxicants at work.
5. Discuss the importance of following organisational quality standards, legal requirements, and standard operating procedures for safe and efficient production.

6.1.1 Safe Equipment Operation and Maintenance

Safe equipment operation and maintenance involves operating, inspecting, and maintaining equipment according to approved safety procedures and manufacturer guidelines. It helps prevent accidents, ensures reliable equipment performance, and maintains a safe workplace. The apparel quality analyst can make use of the equipment safety inspection checklist to safeguard equipment usage:

OPERATOR:_____ SHIFT:_____

DATE: _____

CHECKLIST	MON	TUES	WED	THURS	FRI	SAT	SUN
Operating & Emergency Controls							
Safety Devices							
Personal Protective Devices							
Tires & Wheels							
Outriggers (if applicable) & other Structures							
Air/Hydrolics & Fuel System for Leaks							
Cables & Wiring Harnesses							
Placard/Warning Control Markings							
Operating Manuals							
Guardrail System							
Engine Oil Level (if applicable)							
Battery Fluid Level							
Hydrolic Reservoir Level							
Coolant Level (if applicable)							
Loose or Missing parts							
Braking Device(s) Operating Properly							
Motion Alarms							

WARNING: Do not operate equipment without proper authorization and training.

Additional Comments:_____ SUPERVISOR:

Fig. 6.1.1: Equipment safety inspection checklist

The Occupational Safety, Health and Working Conditions (OSH) Code, 2020 mandates the safe operation, inspection, maintenance, and storage of machinery, tools, and equipment to ensure workplace safety in factories, including apparel manufacturing.

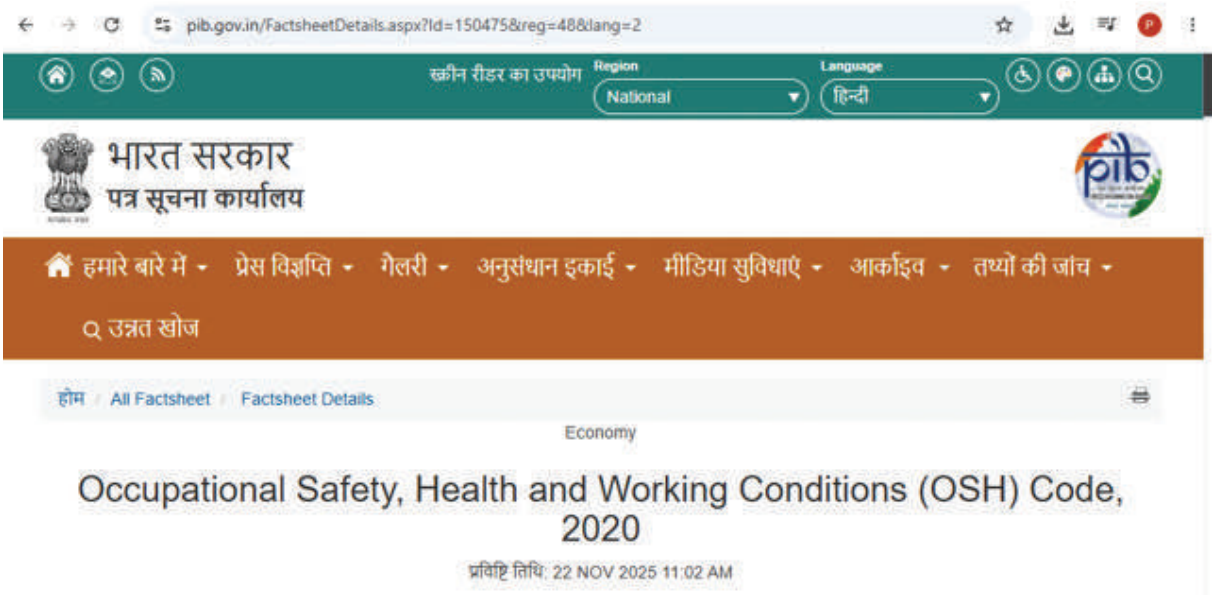


Fig. 6.1.2: OSCH 2020 dashboard

The following are the stages of safe equipment operation and maintenance:

- **Equipment safety inspection**

  Equipment and tools used in apparel manufacturing are inspected before use to ensure they are safe, functional, and free from damage. Unsafe or defective equipment is identified and removed from service before production.

- **Tool selection and use**

  The correct apparel tools and equipment are selected according to the production process, manufacturer's instructions, and organisational procedures. Proper use of tools ensures safe operation, accurate garment production, and prevents equipment damage.

- **Equipment handling practices**

  Apparel tools and equipment are handled carefully during cutting, stitching, finishing, and inspection to minimise wear, prevent accidents, and maintain operational safety. Safe handling also improves equipment performance and extends service life.

- **Storage and maintenance**

  Apparel materials, tools, and equipment are cleaned, stored, and maintained according to manufacturer and organisational requirements after use. Proper storage protects equipment from damage, ensures readiness for future use, and supports workplace safety. The following are the methodologies of storing and maintaining equipment used in apparel industry:

Equipment	Storage procedure
Cutting machine	Clean the machine, cover the cutting blade, switch off the power supply, and store it in accordance with the manufacturers and organisational safety requirements.
Sewing machine	Remove lint, clean the machine, cover it to prevent dust accumulation, switch off the power supply, and store it according to manufacturer instructions.

Equipment	Storage procedure
Overlock machine	Clean the thread path and knife area, remove fabric waste, cover the machine, and store it in a clean, dry location as per organisational procedures.
Flatlock machine	Clean the machine, remove thread and fabric residues, cover it properly, and store it following manufacturer recommendations.
Button attaching machine	Clean the machine, remove loose buttons and thread, switch off the power supply, and store it in a designated equipment area.
Buttonhole machine	Clean the cutting knife and stitch area, cover the machine, and store it safely according to manufacturer and organisational requirements.
Zipper attaching machine	Remove thread and fabric residues, clean the machine, switch off the power supply, and store it in a dry, designated location.
Pressing and finishing machine	Allow the equipment to cool completely, switch off the steam and electrical supply, clean the surface, and store it according to safety procedures.
Inspection machine	Clean the inspection table, rollers, and lighting unit, switch off the electrical supply, cover the machine, and store it in a dust-free environment.

Table 6.1.1: Apparel equipment storage procedures

- **Accessible equipment adaptation**

  Equipment, tools, and workstations are adapted with appropriate accessibility features and reasonable accommodation to enable safe operation by persons with disabilities. These adaptations are provided in accordance with the Rights of Persons with Disabilities (RPwD) Act, 2016 to ensure equal access, workplace safety, and inclusive participation in apparel manufacturing.

6.1.2 Workplace Health Safety Procedures

Workplace health safety procedures are approved practices that protect employees from workplace hazards, injuries, and occupational health risks while ensuring regulatory compliance and a safe working environment. The apparel quality analyst uses the workplace health and safety checklist to implement these procedures in accordance with the Occupational Safety, Health and Working Conditions (OSH) Code, 2020.

Location: [Specify location]

Date: [Insert date]

Inspector(s): [Insert name(s)]

Department/Area Inspected: [Specify area]

Item	Description	Yes/No/NA	Notes/Action Required	Completed By	Completion Date
1.1	All employees have completed mandatory safety training				
1.2	Risk assessments have been conducted for all work areas				
1.3	PPE is provided, maintained, and used correctly by employees				
1.4	Emergency response plans				

Fig. 6.1.3: Workplace health and safety inspection checklist

The following are the stages of workplace health safety procedures:

- **Hazard identification and assessment**

  Workplace hazards such as unsafe machinery, electrical risks, poor lighting, excessive noise, and ergonomic issues are identified and assessed before work begins. Identified hazards are reported and controlled to minimise the risk of accidents and occupational injuries.

- **Personal protective equipment**

  Appropriate personal protective equipment (PPE) such as safety gloves, masks, aprons, eye protection, and safety shoes is selected and used according to the task and organisational procedures. Proper use of PPE protects workers from workplace hazards and reduces the risk of injury.

- **Safe workplace practices**

  Safe work practices are followed during cutting, stitching, finishing, material handling, and inspection to prevent accidents and maintain operational safety. Good housekeeping, safe equipment handling, and compliance with safety procedures ensure a healthy working environment.

- **Emergency response procedures**

  Emergency procedures for fire, electrical hazards, injuries, and evacuation are followed according to organisational emergency plans. Prompt reporting, first aid, and safe evacuation help minimise injuries and protect employees during workplace emergencies.

- **Accessible workplace safety measures**

  Workplace safety procedures, emergency facilities, evacuation routes, and personal protective equipment are adapted to meet the accessibility needs of persons with disabilities. These measures are implemented in accordance with the Rights of Persons with Disabilities (RPwD) Act, 2016 to ensure safe, accessible, and inclusive working conditions.

6.1.3 Workplace Hazard Emergency Management

What is a workplace hazard?

A workplace hazard is any condition, equipment, material, or work practice that can cause injury, illness, property damage, or disruption during apparel manufacturing. Identifying and controlling workplace hazards helps ensure employee safety, regulatory compliance, and a safe working environment.

Potential hazards in workplace

The following are some common potential hazards in workplace:

- **Physical hazards**

  Physical hazards include moving machinery, sharp tools, slippery floors, excessive noise, poor lighting, and hot surfaces that may cause injuries or accidents.

Fig. 6.1.3: Physical hazards types

- **Mechanical hazards**

  Mechanical hazards arise from sewing machines, cutting machines, presses, and other equipment with moving parts that may cause cuts, entanglement, or crushing injuries.

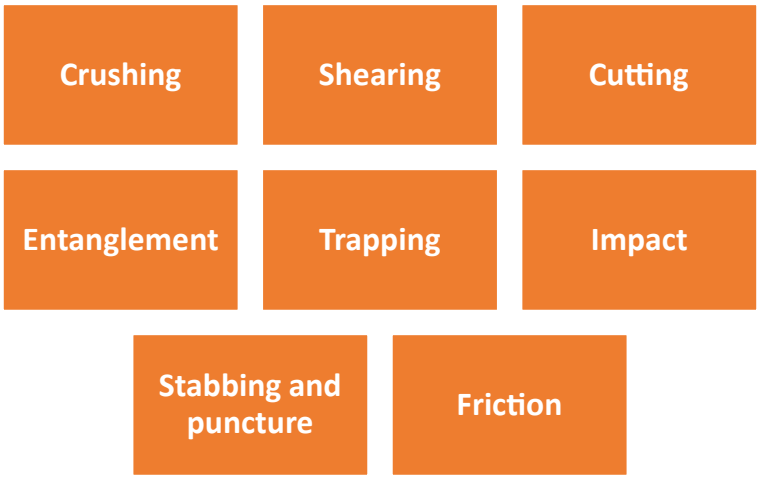


Fig. 6.1.4: Mechanical hazard types

- **Electrical hazards**

  Electrical hazards result from exposed wiring, faulty equipment, overloaded circuits, or damaged electrical connections that may cause electric shock or fire.

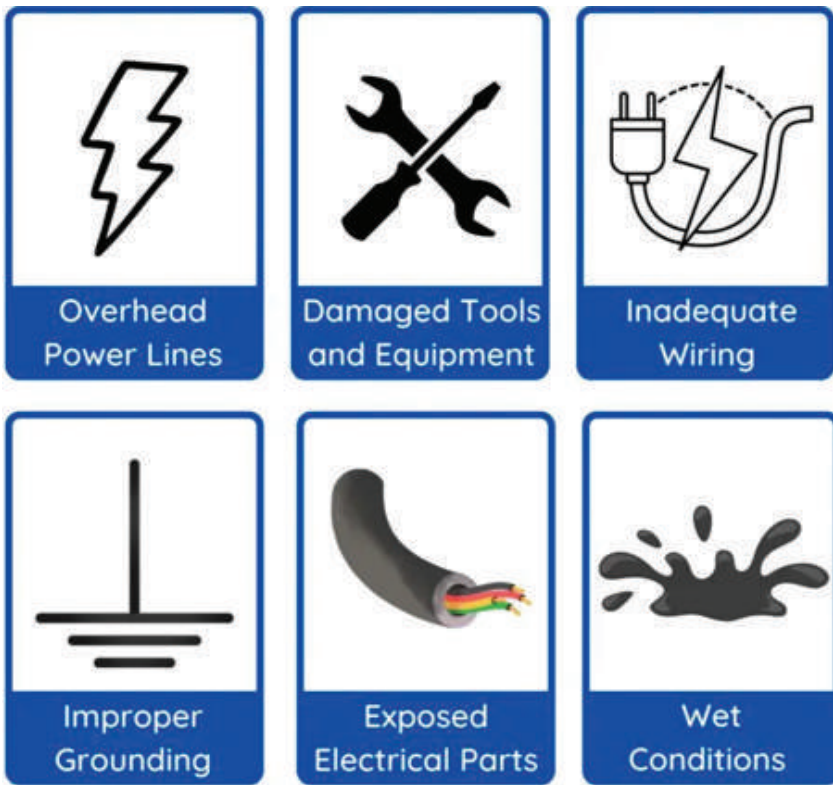


Fig. 6.1.5: Electrical hazard types

- **Chemical hazards**

  Chemical hazards involve exposure to dyes, solvents, adhesives, cleaning agents, and finishing chemicals that may affect health or damage the environment if handled improperly.

Fig. 6.1.6: Chemical hazard identifiers

- **Ergonomic hazards**

  Ergonomic hazards arise from repetitive movements, prolonged standing, poor posture, and improper workstation design, leading to fatigue and musculoskeletal disorders.

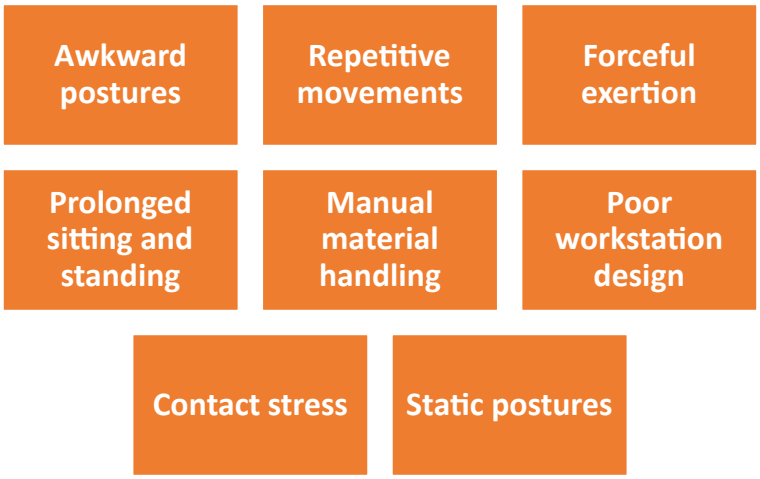


Fig. 6.1.7: Ergonomic hazard types

- **Fire hazards**

  Fire hazards include flammable fabrics, chemicals, electrical faults, and heat-generating equipment that may lead to fires or explosions.

Fig. 6.1.8: Fire hazard types

- **Biological hazards**

  Biological hazards include mould, bacteria, fungi, and poor hygiene conditions that may affect employee health and product quality.

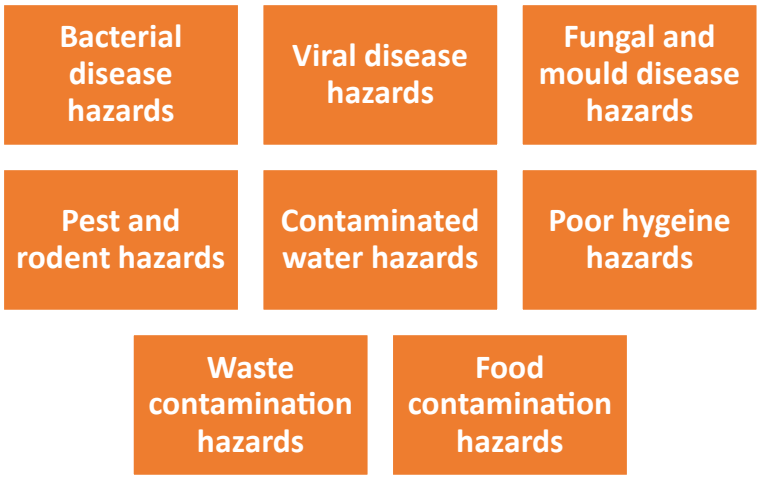


Fig. 6.1.9: Biological hazard types

- **Environmental hazards**

  Environmental hazards include improper waste disposal, chemical spills, excessive dust, poor ventilation, and pollution that may impact the workplace and surrounding environment.

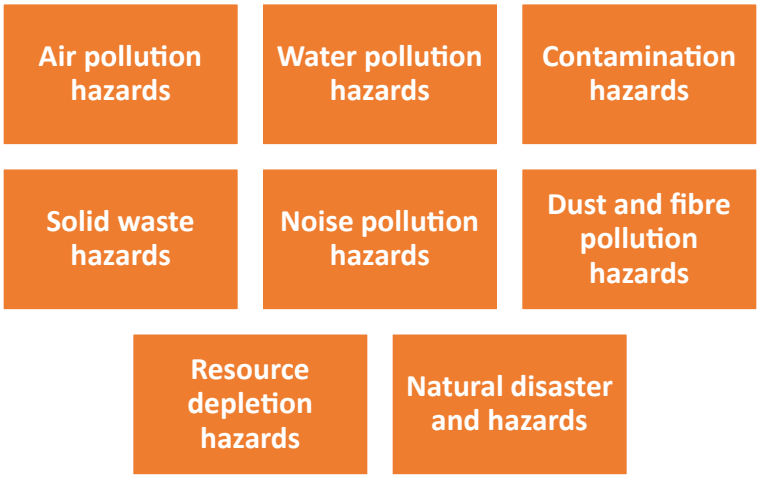


Fig. 6.1.10: Environmental hazard types

What is a workplace threat?

Workplace threat is any situation, act, or condition that may endanger the safety, security, health, or normal operations of employees and the workplace in the apparel industry. Identifying and responding to workplace threats helps prevent harm, protect assets, and ensure business continuity.

Fig. 6.1.11: Workplace threat control stages

The following are the main types of workplace threats:

- **Safety threats**

  Safety threats include fire, electrical, mechanical, equipment, and workplace hazards that may cause accidents, injuries, or property damage. They are controlled through safe work practices, equipment maintenance, and emergency preparedness.

- **Health threats**

  Health threats include chemical exposure, dust, excessive noise, poor ergonomics, biological hazards, and unhealthy work practices that may affect employee well-being. They are controlled through PPE, hygiene practices, ventilation, and occupational health measures.

- **Security threats**

  Security threats include theft, unauthorised access, vandalism, sabotage, workplace violence, and other incidents that affect employee safety and organisational assets. They are managed through access control, surveillance, reporting procedures, and emergency response.

- **Environmental threats**

  Environmental threats include chemical spills, pollution, improper waste disposal, resource wastage, and natural disasters that affect the workplace and surrounding environment. They are controlled through environmental management practices, waste management, pollution prevention, and disaster preparedness.

What are workplace emergencies?

Workplace emergencies are unexpected events or incidents that threaten the safety, health, security, or normal operations of employees and the workplace in the apparel industry. Responding promptly and following established emergency procedures helps minimise injuries, protect property, and ensure

business continuity. The workplace emergency management cycle involves preventing, preparing for, responding to, and recovering from workplace emergencies to protect employees, minimise damage, and restore normal operations.

Fig. 6.1.12: Emergency management cycle

The following are the main types of workplace emergencies:

- **Fire emergencies**

  Fire emergencies include fires, explosions, smoke incidents, and overheating of equipment that may endanger employees and damage property. They are managed through fire detection systems, emergency evacuation, firefighting equipment, and emergency response procedures.

- **Medical emergencies**

  Medical emergencies include injuries, sudden illness, chemical exposure, burns, and other health-related incidents requiring immediate assistance. They are managed through first aid, emergency medical services, incident reporting, and prompt medical treatment.

- **Equipment and utility emergencies**

  Equipment and utility emergencies include machine breakdowns, electrical failures, gas leaks, power outages, and other operational failures that disrupt production or create safety risks. They are managed through emergency shutdown procedures, equipment isolation, maintenance support, and timely reporting.

- **Natural and security emergencies**

  Natural and security emergencies include floods, earthquakes, storms, unauthorised access, workplace violence, and other incidents affecting employee safety and workplace security. They are managed through evacuation procedures, emergency communication, access control, and disaster preparedness plans.

Potential hazards, threats, and emergencies in apparel industry

The following are the main types of potential hazards, threats, and emergencies in the apparel industry:

- **Cuts and lacerations**

  Cuts and lacerations occur due to sharp cutting machines, scissors, knives, needles, or broken tools used during garment production. They are prevented through safe tool handling, machine guards, and the use of appropriate personal protective equipment.

Fig. 6.1.13: Cuts and laceration

- **Burns and scalds**

  Burns and scalds result from pressing equipment, steam irons, hot machine surfaces, electrical faults, or chemical exposure. They are prevented through safe equipment operation, temperature control, PPE, and emergency response procedures.

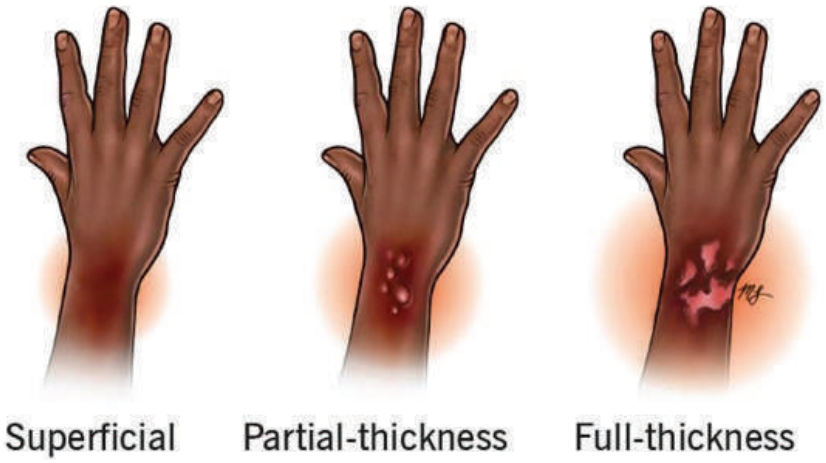


Fig. 6.1.14: Burns and scalds

- **Musculoskeletal injuries**

  Musculoskeletal injuries occur due to repetitive work, improper lifting, poor posture, or awkward workstation design. They are prevented through ergonomic workstations, safe material handling, stretching exercises, and correct working techniques.

Musculoskeletal injuries	Images
Strains	
Sprains	
Lower back injuries	
Neck and shoulder injuries	

Musculoskeletal injuries	Images
Knee injuries	

Table 6.1.2: Common workplace musculoskeletal injuries

- **Electric shock and fire injuries**

  Electric shock and fire injuries occur due to faulty electrical equipment, exposed wiring, overloaded circuits, or workplace fires. They are prevented through regular electrical inspections, equipment maintenance, emergency preparedness, and compliance with workplace safety procedures.

Common electrical shock and fire injuries	Images
Electric shock	
Electric burns	

Common electrical shock and fire injuries	Images
Thermal burns	
Smoke inhalation	
Fire-related eye injuries	

Table 6.1.3: Common electrical shock and fire injuries

What is hazard emergency management?

Workplace hazard emergency management involves identifying workplace hazards, managing emergencies, and following environmental management procedures to protect employees, property, and the environment. The apparel quality analyst uses the workplace hazard and emergency management checklist in accordance with the Occupational Safety, Health and Working Conditions (OSH) Code, 2020 and organisational environmental management requirements.

Location/venue: _____

Owner/User: _____ Date: ____/____/20____

Potential Hazard	Visually/ Physically Checked ✓	Findings	Hazards identified and action planned	Action Taken
Fire safety hazards (eg fuel storage, papers, heaters)				
Fire equipment in working order (eg fire extinguisher) and easily accessible				
Emergency evacuation (clear path, assembly area)				
Electrical hazards				
Injury hazards (eg floor surfaces, boxes inappropriately stores)				
Personal protection equipment in working order (eg. eye glasses)				
Chemicals and harmful substances stored appropriately, labeled, MSDS displayed etc				
Site safety check				
Other pre-course checks				

Fig. 6.1.15: Hazard and emergency management checklist

The following are the stages of workplace hazard emergency management:

- **Hazard identification and reporting**

  Workplace hazards such as fire risks, chemical spills, electrical faults, blocked exits, and unsafe conditions are identified and reported promptly. Timely reporting helps prevent accidents and supports effective risk control.

- **Emergency response and evacuation**

  Emergency procedures for fire, chemical exposure, equipment failure, and workplace accidents are followed according to organisational emergency plans. Safe evacuation and prompt emergency response minimise injuries and protect personnel.

- **Environmental management practices**

  Environmental management procedures such as waste segregation, spill control, pollution prevention, and resource conservation are followed during apparel manufacturing. These practices minimise environmental impact and ensure compliance with organisational environmental requirements.

- **Incident reporting and corrective actions**

  Workplace incidents, hazards, and environmental emergencies are documented, investigated, and reported according to organisational procedures. Corrective actions are implemented to prevent recurrence and improve workplace safety and environmental performance.

- **Accessible emergency preparedness**

  Emergency communication, evacuation procedures, assembly points, and assistance arrangements are made accessible for persons with disabilities during workplace emergencies. These measures are implemented in accordance with the Rights of Persons with Disabilities (RPwD) Act, 2016 to ensure safe, inclusive, and effective emergency management.

Emergency evacuation

Emergency evacuation is the organised and safe movement of employees from the workplace to designated assembly points during emergencies such as fire, chemical spills, or natural disasters. It helps protect lives, minimise injuries, and ensure a timely response in accordance with organisational emergency procedures.

LOCATION/AREA: ..... **DATE:** ...../..... **20**.....

EMERGENCY WARDEN NAME:.....

NATURE OF EMERGENCY: ☑

FIRE	☐	CHEMICAL SPILL	☐
GAS EMISSION/LEAK	☐	EXPLOSION	☐
ARMED HOLD UP	☐	BOMB THREAT	☐
OTHER:	☐ (Give Details).....		

RECORD OF TIMES / ACTIVITIES:

ALARM SOUNDED/HEARD	☐	Time: .....
EMERGENCY WARDEN RESPONDED	☐	Time: .....
EVACUATION COMMENCED	☐	Time: .....
AREA CHECKED	☐	Time: .....
EVACUATION COMPLETED	☐	Time: .....
ROLL CALL CONDUCTED	☐	Time: .....
EVACUATION REPORT TO CHIEF WARDEN	☐	Time: .....
ADVICE OF EMERGENCY BEING OVER	☐	Time: .....
RETURN TO WORK AREA	☐	Time: .....

EMERGENCY SERVICES:

POLICE	Notified	☐	Attended	☐
FIRE BRIGADE	Notified	☐	Attended	☐
AMBULANCE	Notified	☐	Attended	☐

OTHER SERVICES NOTIFED:

DEPT ENVIRONMENTAL CONTROL	Notified	☐	Attended	☐
WESTERN POWER	Notified	☐	Attended	☐
WATER AUTHORITY	Notified	☐	Attended	☐
OTHER (.....)	Notified	☐	Attended	☐

COMMENTS / OBSERVATIONS / OTHER ACTIVITIES (COMPLETE OVER PAGE IF NECESSARY):

Fig. 6.1.16: Emergency evacuation checklist

The following are the stages of emergency evacuation:

- **Evacuation planning and communication**

  An emergency evacuation plan, evacuation map, escape routes, emergency exits, and assembly points are prepared and communicated before emergencies occur. Emergency situations are identified promptly, alarms are activated, and employees receive clear evacuation instructions through approved communication systems.

Fig. 6.1.17: Emergency evacuation map

- **Safe and accessible evacuation**

  Employees stop work, safely shut down equipment where applicable, and evacuate through designated emergency exits.

Fig. 6.1.18: Emergency assembly point

Persons with disabilities are provided accessible routes, visual and audible alarms, evacuation assistance, and reasonable accommodation in accordance with the Rights of Persons with Disabilities (RPwD) Act, 2016.

Fig. 6.1.19: Emergency evacuation spot relevant for PwD

- **Assembly and emergency response**

  Employees assemble at the designated assembly point, where headcounts are conducted and missing persons are reported. First aid is provided, and emergency services respond according to organisational emergency procedures.

EMERGENCY & DISASTER PREPAREDNESS LIST

FEMA RECOMMENDED

☐	Batteries - for Radios; Cell Phones; Flashlights	☐	Moist Towelettes
☐	Battery Powered or Hand Crank Radio for Alerts	☐	Non-perishable food for several days
☐	Can Opener	☐	Water - One gallon per person, per day for
☐	Cell Phone Charger & Extra Battery	☐	several days
☐	Dust Mask, Duck Tape & Plastic Sheeting to	☐	Whistle to use to signal for help
☐	Section off Contaminated Areas	☐	Wrench or Pliers to turn off utilities
☐	Firsts Aid Kit -Bandages, Alcohol, Eye Wash,	☐	
☐	Tweezers, Antibacterial Cream, etc.	☐	
☐	Garbage Bags & Plastic Ties	☐	
☐	Local Map	☐	

ADDITIONAL ITEMS TO CONSIDER

☐	Allergy Medication	☐	Family Documents	☐	Matches/Lighter	☐	Shoes - All Weather
☐	Antacids	☐	Feminine Products	☐	Mess Kit	☐	Shovel
☐	Anti-diarrheal Meds	☐	Fire Extinguisher	☐	Pain Relievers	☐	Sleeping Bags
☐	Antibacterial Wipes	☐	First Aid Book	☐	Paper Towels	☐	Socks - Waterproof
☐	Backpack - Waterproof	☐	Flashlights	☐	Paper, Pens & Pencils	☐	Tent
☐	Bank Account Info	☐	Gas in Safety Can	☐	Paper/Plastic Cups	☐	Toothpaste
☐	Blankets	☐	Glasses/Contacts	☐	Paper/Plastic Plates	☐	Toothbrushes
☐	Books, Games & Toys	☐	Gloves	☐	Passwords	☐	Towels - Bath
☐	Cash - Bills & Coins	☐	Hand Sanitizer	☐	Pet Food, Bowl & Leash	☐	Towels - Kitchen
☐	Clothes - Extra Set	☐	Handsaw	☐	Pillows	☐	Vehicle Registration
☐	Coat - All Weather	☐	Infant Formula	☐	Plastic Tarp	☐	Washcloths
☐	Contact Lens Solution	☐	Insurance Policies	☐	Pots & Pans	☐	Water Canteen

☐	Diaper Rash Cream	☐	Knife	☐	Portable Burner	☐	
☐	Diapers	☐	Laptop/iPad	☐	Prescription Meds	☐	
☐	Disposable Utensils	☐	Laxatives	☐	Sewing Kit	☐	
☐	Driver's License	☐	Life Preserver/Jackets	☐	Soap	☐	

To assemble your kit, store items in airtight plastic bags and put your entire disaster supplies kit in one or two easy to carry containers such as plastic bins or a duffel bag.

Fig. 6.1.20: Emergency preparedness checklist

- **Incident reporting and recovery**

  The emergency is documented, investigated, and corrective actions are implemented before work resumes. Employees re-enter the workplace only after official clearance from authorised personnel.

Incident Report Form

Reported by	Location
Incident Time	Time Reported
Person Involved: Staff ☐ Members of the public ☐ Contractor ☐ Other ☐_____	
Address	
Phone	Email

Incident Details

What Happened
Activity at the time of the incident
Actions taken to make safe

Fig. 6.1.21: Incident report form

Accident and accident emergency

Accidents and accident emergencies are unplanned incidents that cause injury, illness, property or equipment damage, or disrupt apparel manufacturing operations. Prompt reporting, first aid, emergency response, evacuation where required, and corrective actions help minimise harm and prevent recurrence. The following are the stages of accident and accident emergency reporting:

Stage	Purpose	Procedure	Responsible authority
Accident identification and immediate response	Control the incident and prevent further injury.	Identify the accident, secure the area, provide first aid, and stop work if required.	Employee, First-aider, Supervisor

Stage	Purpose	Procedure	Responsible authority
Accident reporting and notification	Ensure timely reporting and emergency assistance.	Report the accident to the supervisor, safety officer, and organisational authorities; notify emergency services or statutory authorities where required.	Supervisor, Safety Officer, Emergency Services
Rescue and emergency coordination	Protect employees and manage emergency response.	Coordinate rescue, provide emergency assistance, evacuate employees safely, and assist persons with disabilities in accordance with the RPwD Act, 2016.	Emergency Response Team, Fire Department, Medical Services
Accident investigation and documentation	Identify causes and prevent recurrence.	Record the incident, collect witness statements, investigate the root cause, and implement corrective and preventive actions.	Safety Officer, Investigation Team, Management

Table 6.1.4: Accident reporting and response procedures

What is first-aid

First aid is the immediate care provided to an injured or ill person before professional medical assistance arrives. It helps preserve life, prevent the condition from worsening, and support recovery.

Components of a first-aid kit

A first-aid kit contains essential medical supplies such as adhesive bandages, sterile gauze, antiseptic solution, adhesive tape, scissors, gloves, burn dressing, triangular bandage, and a first-aid manual for emergency care. Keeping the kit complete, accessible, and regularly replenished ensures prompt and effective first-aid response.

Fig. 6.1.22: First-aid kit

Types of first-aid

The following are the different types of first aid for different types of first aid given to sudden accidents:

- **Bleeding first aid**

  Bleeding first aid involves controlling blood loss by applying direct pressure to the wound using a clean dressing or sterile gauze. Direct pressure is the application of firm, continuous pressure over the wound to control bleeding until medical help is available.

Fig. 6.1.23: bleeding first-aid

- **Burn first aid**

  Burn first aid involves immediately cooling the affected area with cool running water for at least 20 minutes and covering it with a sterile, non-stick dressing. Burn cooling reduces heat within the skin, limits tissue damage, and relieves pain.

Fig. 6.1.24: Burn first-aid

- **Electric shock first aid**

  Electric shock first aid involves disconnecting the power source safely before touching the injured person and checking for breathing and responsiveness. Safe electrical isolation involves switching off the electrical supply before rescue to prevent further injury.

Fig. 6.1.25: Electric shock first-aid

- **Unconscious person first aid**

  First aid for an unconscious person involves checking responsiveness and breathing and placing the person in the recovery position if breathing normally. The recovery position keeps the airway open and reduces the risk of choking while awaiting medical assistance.

Fig. 6.1.26: Fainting first-aid

- **Fracture and sprain first aid**

  First aid for fractures and sprains involves immobilising the injured area, avoiding unnecessary movement, and applying a splint or sling where appropriate. Immobilisation keeps the injured body part stable to prevent further damage until medical treatment is available.

Fig. 6.1.27: Fracture and sprain first-aid

- **Eye injury first aid**

  Eye injury first aid involves flushing the eye with clean water if exposed to dust or chemicals and protecting it from further damage. Eye irrigation gently removes contaminants to reduce irritation and minimise eye injury.

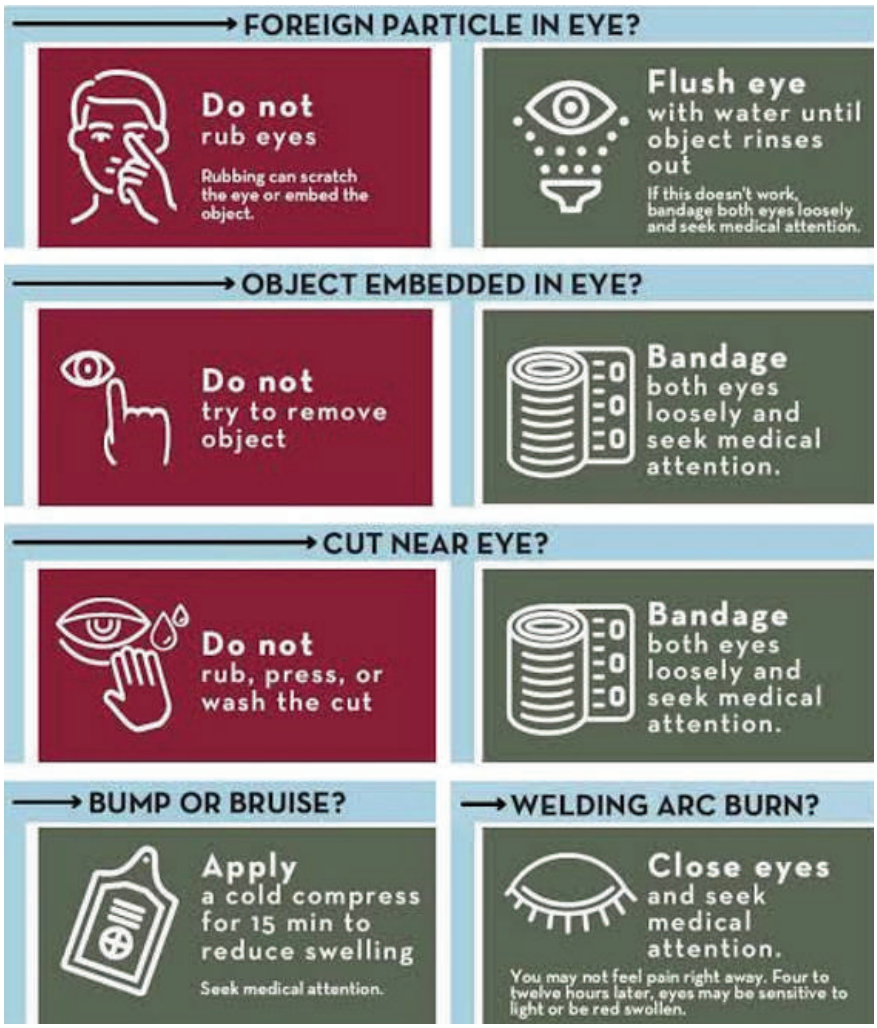


Fig. 6.1.28: Eye-injury first-aid

- **Choking first aid**

  Choking first aid involves encouraging the person to cough and performing back blows followed by abdominal thrusts if the airway remains blocked. Back blows and abdominal thrusts help dislodge the obstruction and restore normal breathing.

Fig. 6.1.29: Choking first-aid

- **Chemical exposure first aid**

  Chemical exposure first aid involves immediately rinsing the affected skin or eyes with plenty of clean water and removing contaminated clothing. Water flushing dilutes and removes hazardous chemicals to minimise tissue damage.

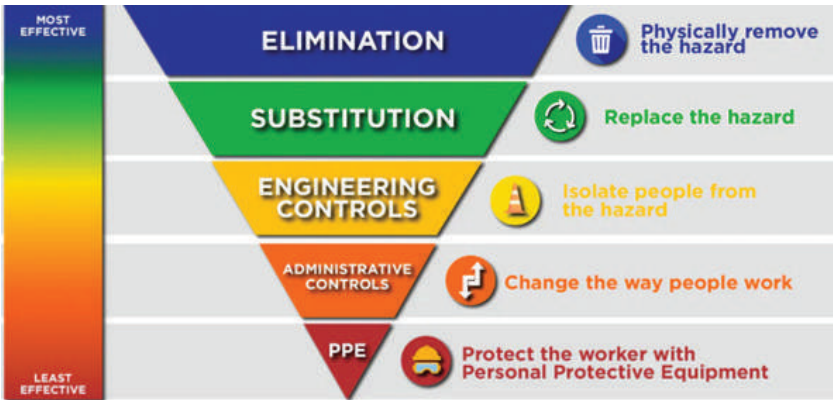


Fig. 6.1.30: Chemical exposure hazard

- **Heat exhaustion first aid**

  Heat exhaustion first aid involves moving the affected person to a cool place, providing water, and cooling the body. Active cooling lowers body temperature using cool water, fans, or damp cloths to prevent heat-related illness.

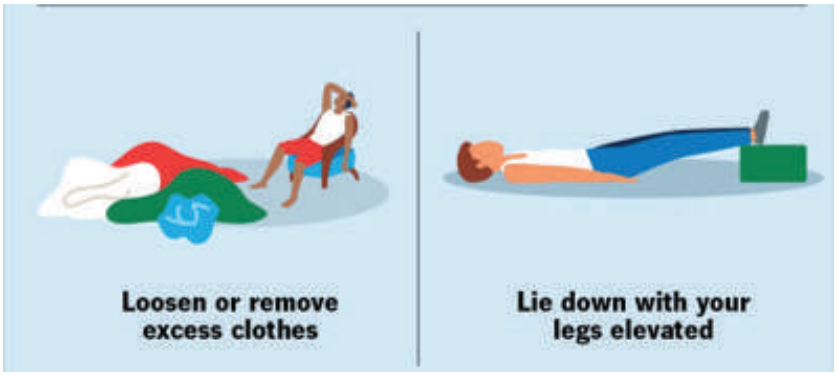


Fig. 6.1.31: Heat exposure hazard

- **Cardiac arrest first aid**

  Cardiac arrest first aid involves immediately calling emergency medical services and starting cardiopulmonary resuscitation (CPR) if the person is unresponsive and not breathing normally. Cardiopulmonary resuscitation (CPR) uses chest compressions, with rescue breaths where trained, to maintain blood circulation and oxygen supply until advanced medical care arrives.

Fig. 6.1.32: CPR stages

Fire emergency

A fire emergency is an unexpected fire or fire-related incident that threatens the safety of employees, equipment, property, or production activities in the apparel industry. It requires immediate alarm activation, safe evacuation, firefighting measures where appropriate, and prompt response according to organisational emergency procedures.

Fig. 6.1.33: Fire emergency

What is fire?

Fire is the rapid combustion of combustible materials that produces heat, flames, smoke, and gases. It can cause injuries, property damage, production disruption, and environmental harm if not controlled promptly. The fire triangle is a model that shows fire requires heat, fuel, and oxygen to ignite and continue burning, and removing any one of these elements extinguishes the fire.

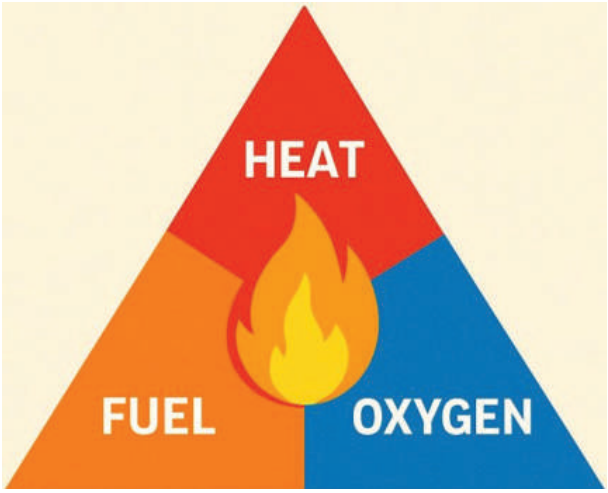


Fig. 6.1.34: Fire triangle

Types of fire

In India, the classification of fires is specified in Bureau of Indian Standards Standard IS 2190: Code of Practice for Selection, Installation and Maintenance of Portable First-Aid Fire Extinguishers, which aligns with internationally accepted fire classes such as the following:

Fire class	Description	Common source in apparel industry
Class A fire	Involves combustible materials such as fabric, cloth, paper, wood, rubber, and plastics.	Fabric rolls, garments, cartons, paper records, and packaging materials.
Class B fire	Involves flammable liquids such as oils, diesel, petrol, solvents, paints, adhesives, and lubricants.	Chemical storage, machine lubrication, printing, and finishing areas.
Class C fire	Involves flammable gases such as LPG, CNG, propane, and butane.	Gas cylinders, pipelines, and gas-operated equipment.
Class D fire	Involves combustible metals such as magnesium, sodium, potassium, aluminium powder, and titanium.	Rare in apparel manufacturing; may occur in specialised industrial processes.
Electrical fire	Involves energised electrical equipment; under BIS IS 2190, power is isolated before extinguishing and the fire is then classified by the burning material.	Sewing machines, cutting machines, motors, switchboards, electrical panels, and wiring.

Table 6.1.5: Classification of fire types

Fire extinguisher and types

A fire extinguisher is a portable fire protection device used to control or extinguish small fires during the early stages of an emergency. It helps prevent the spread of fire, protect life and property, and support emergency response when used according to the appropriate fire class.

Parts of a fire extinguisher

A fire extinguisher is a portable fire protection device used to control or extinguish small fires during the early stages of an emergency. It helps prevent the spread of fire, protect life and property, and support emergency response when used according to the appropriate fire class.

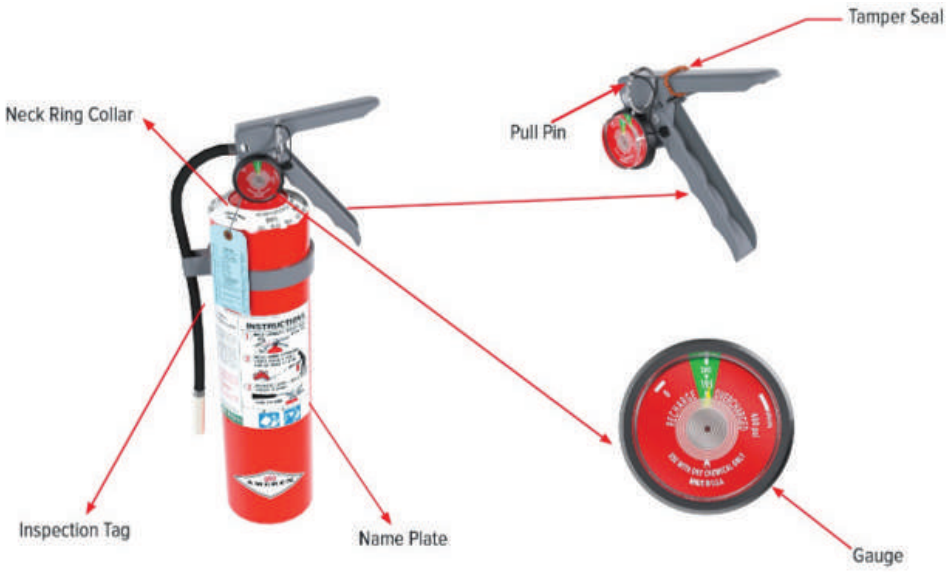


Fig. 6.1.35: Parts of a fire extinguisher

Types of fire extinguisher

According to Bureau of Indian Standards IS 2190: Code of Practice for Selection, Installation and Maintenance of Portable First-Aid Fire Extinguishers, portable fire extinguishers are selected based on the class of fire they are intended to extinguish such as follows:

- **Water fire extinguisher**

  Water fire extinguishers are used for Class A fires involving ordinary combustible materials such as wood, paper, cloth, and textiles. They extinguish fire by cooling the burning material and should not be used on electrical or flammable liquid fires.

Fig. 6.1.36: Water-based fire extinguisher

- **Foam fire extinguisher**

  Foam fire extinguishers are used for Class A and Class B fires involving combustible materials and flammable liquids. They extinguish fire by forming a foam blanket that cools the surface and prevents oxygen from reaching the fuel.

Fig. 6.1.37: Foam-based fire extinguisher

- **Dry powder (DCP) fire extinguisher**

  Dry powder fire extinguishers are suitable for Class A, Class B, Class C, and electrical fires. They extinguish fire by interrupting the combustion process and are commonly used in apparel manufacturing due to their versatility.

Fig. 6.1.38: DCP fire extinguisher

- **Carbon dioxide (CO_2) fire extinguisher**

  Carbon dioxide fire extinguishers are used for electrical fires and Class B fires involving flammable liquids. They extinguish fire by displacing oxygen without leaving any residue, making them suitable for electrical equipment.

Fig. 6.1.39: Carbon dioxide fire extinguisher

- **Class D metal fire extinguisher**

  Class D fire extinguishers are specially designed for Class D fires involving combustible metals such as magnesium, sodium, potassium, and aluminium powder. They extinguish fire using specialised dry powder agents formulated for metal fires.

Fig. 6.1.40: Class-D metal fire extinguisher

What is emergency shutdown

Emergency shutdown is the immediate and controlled stopping of machinery, equipment, utilities, or production processes during an emergency to prevent injuries, equipment damage, or the spread of hazards. It helps protect employees, minimise risks, and ensure safe evacuation in accordance with organisational emergency procedures. An emergency shutdown system is a safety system that automatically or manually stops machinery, equipment, or production processes during an emergency to prevent injuries, equipment damage, and the escalation of hazards.

Fig. 6.1.41: Emergency shutdown system

Organisational procedures for emergency shutdown

The Occupational Safety, Health and Working Conditions (OSH) Code, 2020 requires employers to establish emergency shutdown procedures to safely stop operations, control hazards, and protect employees during workplace emergencies. The following are the common organisational procedures for emergency shutdown:

- **Emergency identification**

  Fire, electrical faults, chemical spills, equipment failures, or other hazards are identified promptly, and authorised personnel initiate the emergency shutdown.

- **Safe system shutdown**

  Machinery, utilities, and electrical systems are shut down using approved procedures, and energy sources are safely isolated to prevent further hazards.

- **Evacuation and emergency response**

  Employees evacuate through designated routes to assembly points, while persons with disabilities are provided reasonable accommodation in accordance with the Rights of Persons with Disabilities (RPwD) Act, 2016. Emergency teams provide first aid, firefighting, rescue, and coordinate with external emergency services where required.

- **Incident reporting and recovery**

  The incident is documented, corrective actions are implemented, and operations resume only after authorised safety clearance.

6.1.4 Health Hygiene Safe Work Practices

Health hygiene safe work practices involve maintaining personal health, workplace hygiene, and safe habits to prevent illness, injuries, and occupational health risks in apparel manufacturing. The apparel quality analyst uses the health, hygiene, and safe work practices checklist in accordance with the Occupational Safety, Health and Working Conditions (OSH) Code, 2020 and organisational health and hygiene requirements.

The following are the stages of health, hygiene safe work practices:

- **Good hygiene practices (GHP)**

  Good hygiene practices involve maintaining both personal hygiene and workplace hygiene by following cleanliness and sanitation procedures during work. These practices help prevent contamination, reduce the spread of illness, and maintain a safe, healthy, and hygienic workplace.

Fig. 6.1.42: Good hygiene practices (GHP)

- **Healthy lifestyle practices**

  Healthy habits such as balanced nutrition, regular physical activity, adequate rest, and stress management are encouraged to maintain physical and mental well-being. A healthy lifestyle improves work performance, concentration, and overall productivity.

Fig. 6.1.43: Healthy lifestyle practices

- **Substance abuse prevention**

  The harmful effects of alcohol, tobacco, and drugs on health, safety, judgment, and workplace performance are recognised and avoided. Employees are encouraged to remain free from intoxicants to ensure safe and responsible working practices.

Intoxicant	Ill-effects	Methods to reduce dependency
Alcohol	Impairs judgement, slows reaction time, reduces coordination, increases accident risk, and affects productivity and health.	Seek counselling, participate in de-addiction programmes, avoid triggers, and adopt healthy lifestyle habits.
Tobacco	Causes respiratory diseases, heart disease, cancer, reduced stamina, and passive smoking risks in the workplace.	Use tobacco cessation programmes, nicotine replacement therapy under medical guidance, and avoid tobacco use at work.
Drugs	Impair concentration, decision-making, coordination, and behaviour, increasing the risk of accidents and poor work performance.	Seek professional medical treatment, rehabilitation services, counselling, and peer or family support.

Intoxicant	Ill-effects	Methods to reduce dependency
Other intoxicants	Reduce alertness, impair physical and mental performance, and increase the likelihood of workplace injuries and unsafe behaviour.	Maintain a healthy lifestyle, manage stress through positive activities, and seek timely professional support to prevent dependency.

Table 6.1.5: Effects of intoxicants and prevention

- **Safe workplace behaviour**

  Safe work habits such as maintaining cleanliness, following organisational procedures, using personal protective equipment, and practising good housekeeping are followed during apparel manufacturing. These practices reduce workplace hazards and support a safe and healthy work environment.

Fig. 6.1.44: Safe workplace behaviour categories

- **Mitigating risks in owning action**

  Owning actions, such as maintaining clean workstations, following organisational safety procedures, and correctly using personal protective equipment, are strictly practiced to uphold individual accountability. These deliberate habits significantly minimise physical hazards, directly supporting a secure and healthy work environment for both self and others.

Fig. 6.1.45: Mitigating stages by owning actions

- **Safety signage and symbol implementation**

  Safety signage and symbol implementation involve displaying standard safety signs and symbols to communicate hazards, mandatory precautions, emergency information, and safe work practices in the workplace. They help prevent accidents, guide emergency response, and ensure compliance with workplace safety regulations.

Categories	Sign Meaning (Code)			
Mandatory signs	 Wear Safety Helmet (M1)	 Wear Protective Footwear (M2)	 Wear Safety Harness (M3)	 Wear Eye Protection (M4)
Prohibition signs	 No Smoking (P5)	 No Naked Flames (P6)	 Do Not Use This Lift (P7)	 No Entry (P8)
Emergency signs	 First Aid (E9)	 Drinking Water (E10)	 Emergency Telephone (E11)	 Emergency Stop (E12)

Fig. 6.1.46: Safety signage and symbols

- **Safety and emergency numbers usage**

  Safety and emergency numbers usage involves knowing and using the appropriate emergency contact numbers to report accidents, fires, medical emergencies, and other workplace incidents promptly. Timely communication with the relevant emergency services helps minimise risks, protect lives, and ensure an effective emergency response.

Emergency service	Emergency number	Purpose
National Emergency Response Support System (ERSS)	112	Single emergency number for police, fire, and ambulance services.
Fire and Rescue Service	101	Report fires, explosions, and rescue emergencies.
Ambulance Service	108	Medical emergencies and ambulance assistance.
Police	100	Report crimes, violence, theft, and law-and-order emergencies.
Women Helpline	1091	Assistance for women in distress and emergencies.
Child Helpline	1098	Emergency support for children in need of care and protection.
Disaster Management / Relief	1078	Assistance during natural disasters and major emergencies (where operational).
State/District Emergency Control Room	1077	Emergency coordination during disasters at the district or state level.

Table 6.1.6: Important Indian emergency contact numbers

- **Inclusive health support**

  Health, hygiene, and workplace facilities are made accessible to persons with disabilities through appropriate support and reasonable accommodation. These measures are implemented in accordance with the Rights of Persons with Disabilities (RPwD) Act, 2016 to promote an inclusive, healthy, and safe workplace.

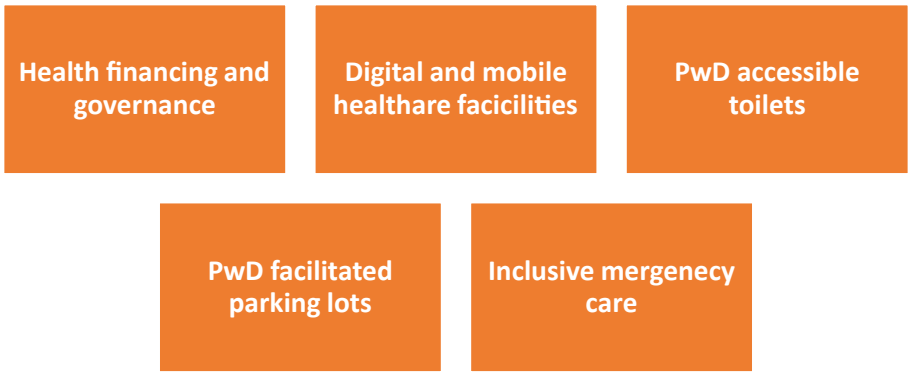


Fig. 6.1.47: Inclusive health support components

6.1.5 Quality Standards Legal Compliance Procedures

Quality standards and legal compliance procedures involve following applicable quality standards, legal requirements, and organisational procedures during apparel manufacturing. They help ensure regulatory compliance, consistent product quality, and adherence to customer and industry requirements. The following are the different compliance standards practised in the apparel industry:

Compliance area	Relevant Indian law / standard	Compliance procedure
Product quality	Bureau of Indian Standards (BIS) Act, 2016	Verify garments against approved specifications, measurements, workmanship, and applicable BIS standards.
Workplace health and safety	Occupational Safety, Health and Working Conditions (OSH) Code, 2020	Follow safety procedures, use PPE, inspect equipment, and report workplace hazards.
Environmental management	Environment (Protection) Act, 1986	Segregate waste, prevent pollution, conserve resources, and follow environmental procedures.
Chemical safety	Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989	Handle, store, label, and dispose of chemicals according to safety requirements.
Labour welfare	Code on Wages, 2019 and Code on Social Security, 2020	Comply with organisational policies on wages, working conditions, and employee welfare.
Accessibility and inclusion	Rights of Persons with Disabilities (RPwD) Act, 2016	Provide accessible workplaces, reasonable accommodation, and safe evacuation for persons with disabilities.
Quality management	ISO 9001:2015 Quality Management System	Maintain quality records, implement corrective actions, and ensure process traceability.
Persons with disabilities (PwD) inclusion	Persons with disabilities (PwD) inclusion	Persons with disabilities (PwD) inclusion

Table 6.1.7: Apparel quality compliance requirements

UNIT 6.2: Equipment Operations and Documentation

Unit Objectives

By the end of this unit, the participants will be able to:

1. Outline the procedures for obtaining work instructions, interpreting job cards, clarifying task requirements, and achieving assigned work targets.
2. Describe the methods for inspecting tools, equipment, work areas, and finished products to ensure safety, operational readiness, and quality compliance.
3. Prepare workplace records, forms, and reports on equipment status, safety observations, defects, and production activities.
4. Explain the procedures for reporting defective tools, machine malfunctions, workplace hazards, and quality issues to the appropriate personnel.

6.2.1 Work Instructions Sheets

Work instruction sheets provide procedures for obtaining work instructions, interpreting job cards, clarifying task requirements, and completing assigned work targets. They help apparel quality analysts perform tasks correctly, maintain process compliance, and achieve production and quality objectives. They are of the following types:

- **Work ticket**

  A work ticket is a production document that contains garment style details, bundle information, operation sequence, quantity, and production specifications. The apparel quality analyst obtains and verifies the work ticket to confirm production details, batch identification, and inspection requirements before starting quality checks. The verified information is used to carry out inspections and quality control activities in line with the responsibilities of the job role.

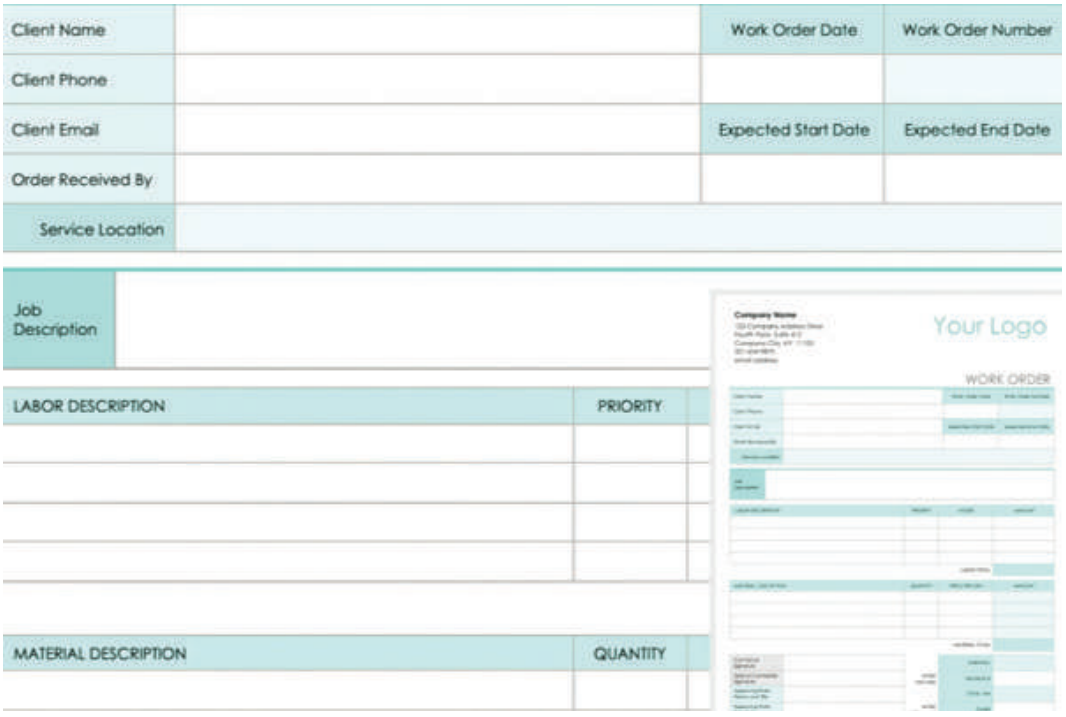


Fig. 6.2.1: Work ticket

- **Job card**

  A job card is a work instruction document that specifies the assigned task, process requirements, quality standards, production targets, and operator details. The apparel quality analyst obtains and checks the job card to understand inspection requirements, quality specifications, and assigned responsibilities before performing the task. The verified information is used to carry out inspection and quality assurance functions in accordance with the job role and organisational procedures.

Job card Number		Requested By
Department		Completed By
Date Received		Permit Required(Y/N)
Date Completed		Permit Number
Time Started		
Time Completed		

TYPE OF WORK	REMARKS	TOOLS REQUIRED

Job card Number		Requested By
Department		Completed By
Date Received		Permit Required(Y/N)
Date Completed		Permit Number
Time Started		
Time Completed		

TYPE OF WORK	REMARKS	TOOLS REQUIRED

Maintenance Signature _____

Line Manager Signature _____

Fig. 6.2.2: Job card

What are work execution and documentation procedures?

Work execution and documentation procedures are the processes of performing assigned tasks according to work instructions, production targets, and organisational requirements while maintaining workplace safety and quality standards. They ensure accurate record-keeping, production traceability, effective communication, and compliance with organisational procedures. The following are the stages:

Practice area	Description
Job task execution practices	Obtain and verify work ticket or job card details and perform assigned tasks according to job role responsibilities. Clarify instructions when required to ensure correct task execution.

Practice area	Description
Work planning and completion procedures	Review work instructions, confirm targets with supervisors, and follow special instructions before starting tasks. Complete work safely and ensure the workplace is left secure after completion.
Production task management practices	Carry out operations at the required pace to maintain workflow and achieve production targets. Monitor task progress to minimise delays and improve production efficiency.
Work instruction and reporting procedures	Follow approved work instructions and complete required forms, records, and documentation. Maintain accurate reporting to support communication, traceability, and compliance.
Work target achievement practices	Agree, review, and monitor work targets with supervisors to achieve planned output and quality requirements. Ensure tasks are completed within defined timelines and organisational standards.

Table 6.2.1: Work execution and completion practices

6.2.2 Tools Equipment Workplace Inspection

Tools, equipment, and the work area to ensure they are safe, functional, and suitable for apparel manufacturing activities. It helps apparel quality analysts maintain workplace safety, prevent defects, and ensure uninterrupted production. The following are the components of tools, equipment and workplace inspection for proper functions:

- **Work area inspection**

  Work area inspection involves checking the workplace to ensure it is clean, hazard-free, and ready for apparel manufacturing activities. It helps maintain workplace safety, prevent accidents, and ensure uninterrupted production.

Fig. 6.2.3: Production work area

The following table outlines the work area inspection procedures for the main work areas in apparel manufacturing:

Work area	Work area inspection procedure
Fabric inspection and storage area	Ensure the area is clean, well-lit, and free from hazards. Set up the fabric inspection machine, inspection table, and storage racks according to the inspection requirements.
Cutting and preparation area	Ensure cutting tables, cutting machines, spreading equipment, and surrounding areas are clean, safe, and free from obstructions. Verify machine settings and pattern availability before cutting operations.
Sewing and production area	Ensure sewing workstations, machines, electrical connections, and operator areas are safe and organised. Verify machine readiness and remove any unsafe conditions before production.
Finishing and packing area	Ensure pressing, trimming, finishing, and packing equipment are clean, functional, and safely arranged. Verify workstations and equipment before garment finishing and packing activities.
Quality inspection and testing area	Ensure inspection tables, measuring tools, lighting, and testing equipment are clean, calibrated, and ready for inspection. Remove hazards and verify inspection equipment before quality evaluation.
Storage and dispatch area	Ensure storage racks, packing materials, dispatch areas, and access routes are clean, organised, and free from hazards. Verify safe handling equipment and proper storage conditions before dispatch.

Table 6.2.2: Apparel work area inspection procedures

- **Safe tool operation**

  Safe tool operation involves selecting, inspecting, and using the correct tools and equipment according to manufacturer and organisational procedures. It helps prevent injuries, protect equipment, and maintain consistent production quality. The following table outlines the safe tool operation and inspection procedures for commonly used apparel manufacturing equipment:

Equipment	Safe tool operation and inspection procedure
Cutting machine	Verify blade sharpness, guard condition, alignment, and emergency stop before operation. Operate with appropriate PPE and inspect the machine for safe cutting performance after use.
Sewing machine	Check needle condition, thread tension, stitch settings, and safety guards before use. Operate according to manufacturer instructions and inspect for smooth stitching and safe functioning.
Overlock machine	Verify thread path, knife condition, stitch formation, and protective guards before operation. Inspect seam quality and machine condition to ensure safe and consistent performance.
Flatlock machine	Check needle, looper, thread tension, and machine settings before use. Inspect seam appearance and machine operation to maintain safety and quality.

Equipment	Safe tool operation and inspection procedure
Button attaching machine	Verify button attachment settings, needle condition, and machine alignment before operation. Inspect button security and machine performance after use.
Buttonhole machine	Check knife condition, stitch density, buttonhole dimensions, and safety devices before operation. Inspect buttonhole quality and machine condition during production.
Zipper attaching machine	Verify zipper guide, needle, stitch settings, and machine alignment before use. Inspect zipper attachment quality and safe machine operation throughout production.
Pressing and finishing machine	Check temperature, pressure, steam settings, and electrical connections before operation. Inspect controls and safety devices to prevent burns and ensure proper garment finishing.
Inspection machine	Verify lighting, rollers, fabric movement, and electrical components before use. Inspect machine performance regularly to ensure accurate defect detection and safe operation.

Table 6.2.3: Apparel equipment operation and inspection procedures

6.2.3 Workplace Records Forms Reports

Workplace records, forms, and reports are documents used to record production activities, inspection findings, quality data, equipment status, and workplace incidents in apparel manufacturing. They help apparel quality analysts maintain traceability, ensure process compliance, and support effective communication and decision-making.

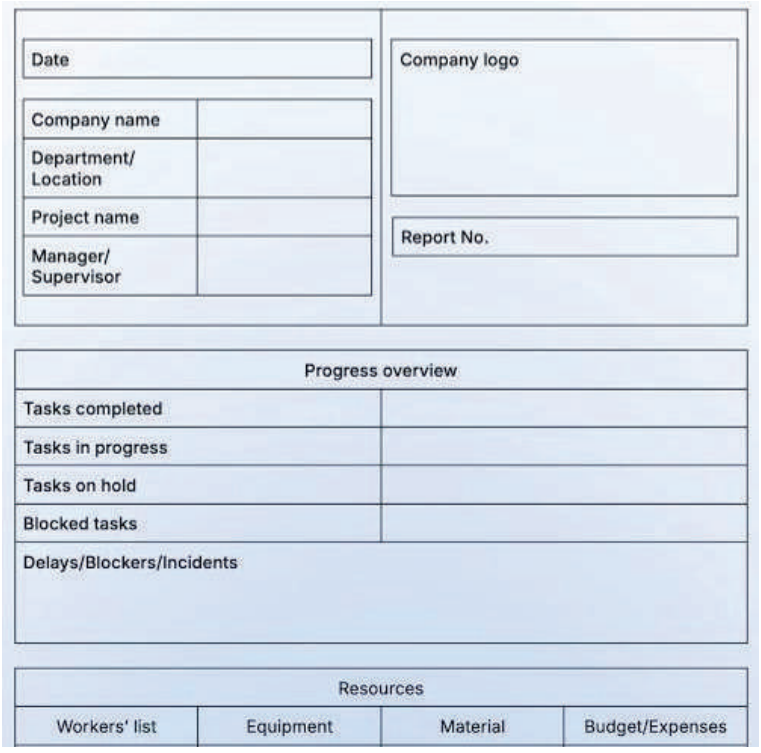


Fig. 6.2.4: Workplace record sample template

The following are the stages of maintaining workplace records, forms, and reports:

- **Work planning and preparation**

  Before starting work, the work instruction sheet is obtained to outline work planning and preparation and assigned tasks. It ensures materials, tools, equipment, and resources are ready for uninterrupted production.

- **Continuous workflow maintenance**

  During production, the production monitoring sheet is used to record continuous workflow maintenance and operational progress. It helps maintain continuous workflow, minimise delays, and improve productivity.

- **Production target achievement**

  At scheduled intervals, the hourly production report is used to record production target achievement against planned output. It helps monitor productivity, identify deviations, and ensure timely target achievement.

- **Quality and process monitoring**

  Throughout production, the inspection report is used to record quality and process monitoring findings, including defects, measurements, and quality observations. It verifies quality compliance, supports defect prevention, and maintains traceable quality records.

- **Work completion and reporting**

  After task completion, the production completion report is used to record work completion and reporting details, including completed quantities and inspection status. It supports production traceability, performance evaluation, and continuous improvement.

6.2.4 Defect Hazard Reporting Procedures

A defect hazard is a product, process, or workplace defect that may compromise garment quality, worker safety, or production efficiency if left uncorrected. Defect hazard reporting is the process of identifying, documenting, and communicating quality defects or workplace hazards to enable timely corrective and preventive actions. The following are the types of defect reporting forms:

- **Defect reports**

  Defect reports are quality records used to document garment defects such as fabric faults, stitching errors, measurement variations, and finishing issues identified during inspection. They help apparel quality analysts track defects, analyse trends, and implement corrective actions.

Project Name		Program Manager	
Defect No.	**Date Created**	**Created By**	**Defect Description**
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Fig. 6.2.5: Defect report sample template

- **Non-conformance reports (NCRs)**

  Non-conformance reports (NCRs) are formal quality documents used to record deviations from approved specifications, quality standards, or production requirements. They help identify the cause of non-conformities, assign corrective actions, and ensure compliance with quality requirements.

NCR #	**Client:**		**File No**	
Function/Area/Process:			**Site:**	
Std. and Clause No(s):				
Section 1- Details of non-conformity:				
Description				
Auditor :		Auditee representative acknowledgement:		Category:
Date:				
Section 2- Auditee Proposed Action Plan **(Attach separate sheet if required)**				
Root Cause analysis (how/why did this happen?):				
Correction (fix now) with completion dates:				
Corrective Action (to prevent recurrence) with completion dates:				
"Auditor" review and acceptance of Corrective Action Plan:				
Auditee representative:			Date:	
Section 3- Details of "Auditor" verification of Auditee implementation of action plan				
Section 4- NCR closed out by "Auditor" on (date):		**"Auditor" Team Leader name:**		

Fig. 6.2.6: Non-conformance report

The following are the procedures of defect hazard reporting:

Stage	Defect hazard type	Reporting and resolution procedure
Defect identification	Fabric defects, stitching defects, measurement variations, finishing defects, and non-conformities	Visual inspection is performed to identify defects, record defect details, and report quality deviations.

Stage	Defect hazard type	Reporting and resolution procedure
Defect documentation	Product defects, process defects, and repeated quality issues	Defects are recorded using defect reports, inspection sheets, and non-conformance reports for corrective action.
Defect assessment	Critical defects, safety hazards, and major non-conformities	Defects are evaluated based on severity and impact, and critical issues are escalated for resolution.
Root cause analysis	Machine defects, material issues, and process variations	Defect causes are analysed, and corrective and preventive actions are implemented to avoid recurrence.
Verification and closure	Recurring defects and unresolved quality issues	Corrective actions are verified through re-inspection, and defect records are closed after compliance confirmation.
Irreversible service fault reporting	Irreparable machine faults, equipment breakdowns, and critical service malfunctions.	Faults that cannot be rectified are immediately reported to the supervisor or maintenance team using the prescribed reporting procedure for repair or replacement.

Table 6.2.4: Defect hazard reporting procedures

UNIT 6.3: Quality Environment and Sustainability

Unit Objectives

By the end of this unit, the participants will be able to:

1. Discuss the impact of contamination, including machine oil, dirt, and improper handling, on garment quality and production.
2. Compare methods of waste reduction, material reuse, and safe waste disposal to support sustainable manufacturing practices.
3. Elaborate on the role of workplace safety, environmental responsibility, proper documentation, and housekeeping in improving productivity, product quality, and employee well-being.

6.3.1 Contamination Effects on Garment Quality

Garment contamination refers to the presence of unwanted substances, particles, or foreign materials on fabrics, trims, or finished garments during manufacturing and handling. It affects garment appearance, hygiene, performance, and customer acceptance by causing defects, quality failures, and product rejection. The following are the different types of contamination affecting garment quality:

- **Oil and grease contamination**

  Oil and grease contamination occurs when machine lubricants, handling oils, or maintenance residues come into contact with fabrics or garments. It causes stains, discolouration, and poor appearance, affecting garment cleanliness and final quality.

Fig. 6.3.1: Oil and grease contamination

- **Dust and fibre contamination**

  Dust and fibre contamination occurs due to airborne particles, loose fibres, and poor workplace cleanliness during production. It affects garment surface appearance, creates visible marks, and reduces product presentation quality.

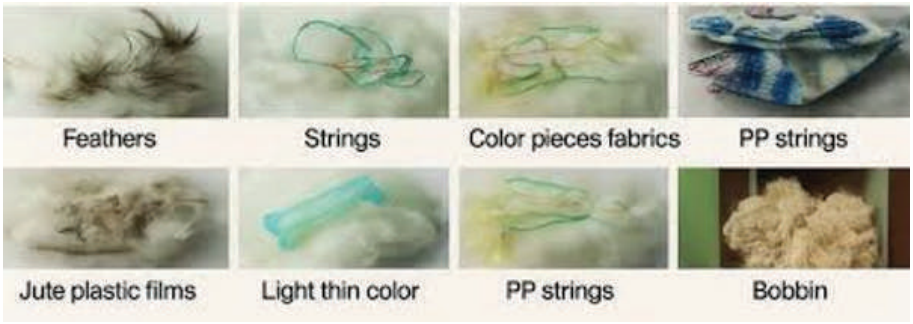


Fig. 6.3.2.: Dust and fibre contamination in fabric

- **Chemical contamination**

  Chemical contamination occurs when dyes, cleaning agents, finishing chemicals, or other substances are incorrectly handled during production. It may cause colour changes, fabric damage, skin irritation risks, and non-compliance with quality requirements.

Fig. 6.3.3: Chemical (dye) contamination on fabric

- **Water and moisture contamination**

  Water and moisture contamination occurs due to improper storage, humidity, or exposure to wet conditions. It can cause mildew, odour, colour bleeding, and fabric deterioration, reducing garment durability and acceptance.

Fig. 6.3.4: Water and moisture contamination on fabric

- **Foreign material contamination**

  Foreign material contamination occurs when unwanted objects such as metal pieces, threads, packaging materials, or personal items enter the garment production process. It affects garment safety, appearance, and customer satisfaction.

Fig. 6.3.5: Foreign material contamination on fabric

- **Biological contamination**

  Biological contamination occurs due to microorganisms, sweat, dirt, or improper hygiene practices during handling and storage. It can cause unpleasant odours, hygiene issues, and reduced garment quality.

Fig. 6.3.6: Biological contamination on fabric

6.3.2 Waste Reduction and Material Reuse

Waste reduction and material reuse refer to practices that minimise the generation of waste and maximise the use of available resources by reusing, recycling, or repurposing materials. These practices help conserve natural resources, reduce environmental impact, lower operational costs, and promote sustainable resource management. A suitable model for Waste Reduction and Material Reuse is the

3R Model – Reduce, Reuse, and Recycle. Reduce minimises waste through efficient material use, reuse extends material life by using resources again, and recycle converts waste into reusable materials to conserve resources and reduce environmental impact.

Fig. 6.3.7: 3R Model - Reduce, reuse, and recycle

The following are the different types of materials used in the apparel industry, and the methods to reduce waste and reuse the materials:

- **Fabric materials**

  Fabric waste is reduced by accurate pattern planning, marker optimisation, digital cutting, and efficient fabric utilisation during cutting operations. Fabric scraps and leftover materials are reused for sampling, accessories, patchwork, smaller garment components, or recycled into new textile products.

Fabric waste	Waste reduction method	Waste reduction and material reuse practice
	Accurate pattern planning	Arrange pattern pieces efficiently to minimise fabric waste and reuse fabric scraps for sampling and small garment components.
	Marker optimisation	Optimise marker layouts to maximise fabric utilisation and use leftover fabric for accessories and patchwork products.
	Digital cutting	Use computer-controlled cutting to improve cutting accuracy, reduce waste, and recycle usable off-cuts into new textile products.
	Efficient fabric utilisation	Plan fabric usage effectively to minimise wastage and repurpose leftover materials for secondary production or authorised recycling.
	Waste reduction method	Waste reduction and material reuse practice

Table 6.3.1: Fabric waste reduction practices

- **Trims and accessories**

  Trim waste is reduced by accurate consumption planning, controlled issuing, and proper inventory management of buttons, zippers, labels, and threads. Unused trims are reused in sample development, repair activities, or future production orders where specifications match.

Trim and accessory waste	Waste reduction method	Waste reduction and material reuse practice
	Accurate consumption planning	Estimate trim requirements accurately to minimise wastage and reuse unused trims for sample development and repair activities.
	Controlled issuing	Issue only the required quantity of trims to reduce excess consumption and reuse remaining trims in future production where specifications match.
	Proper inventory management	Monitor stock levels of buttons, zippers, labels, and threads to prevent overstocking and utilise available trims efficiently.
	Trim segregation and storage	Segregate and store reusable trims properly to maintain quality and facilitate reuse in subsequent production orders.

Table 6.3.2: Trim and accessory waste reduction practices

- **Packaging materials**

  Packaging waste is reduced by using the required quantity of cartons, polybags, tags, and packing materials through proper planning and standardised packing methods. Packaging materials such as cartons, plastic containers, and bags are reused for storage, transportation, or internal material handling

Packaging materials waste	Waste reduction method	Waste reduction and material reuse practice
	Accurate packaging planning	Plan packaging requirements accurately to minimise wastage and optimise the use of cartons, polybags, tags, and other packing materials.

Packaging materials waste	Waste reduction method	Waste reduction and material reuse practice
	Standardised packing methods	Follow standard packing procedures to reduce excess packaging material consumption and improve packing efficiency.
	Controlled material usage	Issue only the required quantity of packaging materials and minimise unnecessary consumption during packing operations.
	Packaging material reuse	Reuse cartons, plastic containers, and bags for storage, transportation, and internal material handling wherever suitable.

Table 6.3.3: Packaging waste reduction practices

- **Cutting waste and fabric scraps**

  Cutting waste is reduced through computerised marker planning, nesting techniques, and optimisation of cutting layouts to minimise leftover fabric. Suitable fabric scraps are reused for small garment parts, testing, cleaning cloths, or converted into recycled textile materials.

Cutting waste and fabric scraps	Waste reduction method	Waste reduction and material reuse practice
	Computerised marker planning	Use computerised marker planning to minimise cutting waste and maximise fabric utilisation.
	Nesting techniques	Arrange pattern pieces efficiently to reduce leftover fabric during cutting operations.
	Cutting layout optimisation	Optimise cutting layouts to minimise fabric wastage and improve material utilisation.
	Fabric scrap reuse	Reuse suitable fabric scraps for small garment parts, testing, cleaning cloths, or recycling into textile materials.

Table 6.3.4: Cutting waste and fabric scrap reduction practices

- **Paper and documentation materials**

  Paper waste is reduced by using digital records, electronic quality reports, and online documentation systems instead of unnecessary printing. Used paper materials are reused for internal notes, drafts, or recycled through authorised waste management systems.

Paper and documentation materials waste	Waste reduction method	Waste reduction and material reuse practice
	Digital record management	Maintain digital records to minimise paper consumption during documentation and reporting.
	Electronic documentation	Use electronic quality reports and online documentation systems instead of unnecessary printing.
	Controlled paper usage	Print only when required and optimise paper use for official documentation.
	Paper reuse and recycling	Reuse paper for internal notes and drafts, and recycle used paper through authorised waste management systems.

Table 6.3.5: Paper and documentation waste reduction practices

- **Chemical and processing materials**

  The Chemical Stock Bin Card records chemical receipts, issues, and stock balances, supporting efficient chemical use, container reuse where permitted, and environmentally compliant recycling or disposal.

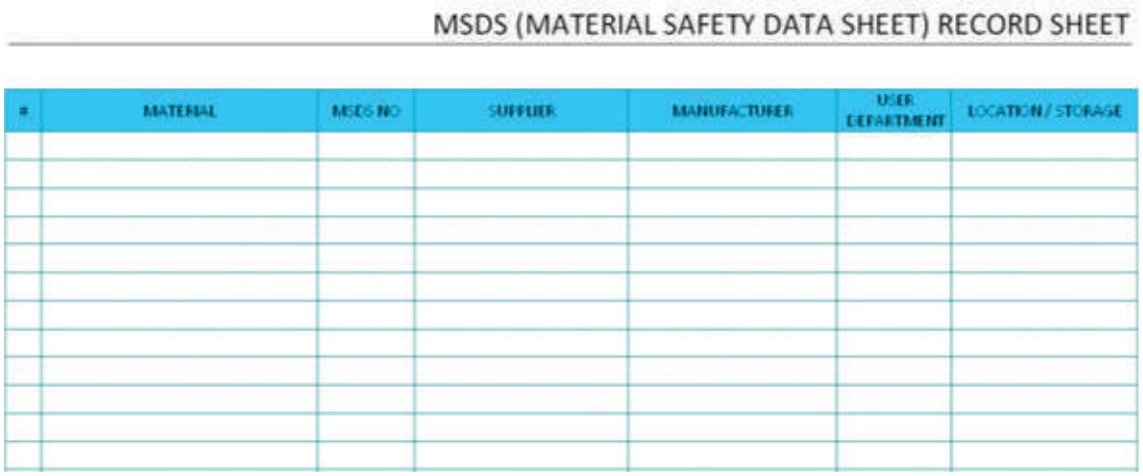
Bin Card

Material Nam: Maximum Stock level
Material Code: Minimum Stock Level
Location Reorder Level

Date	Receipt		Issue		Balance	Name
	GRN #	Qty	Request #	Qty		

Fig. 6.3.8: Chemical stock bin card

The Material Safety Data Sheet (MSDS) provides instructions for the safe handling, storage, use, and disposal of chemicals, helping prevent spills, overuse, and contamination. It supports waste reduction, efficient material utilisation, safe container reuse where permitted, and environmentally compliant disposal.


MSDS (MATERIAL SAFETY DATA SHEET) RECORD SHEET

#	MATERIAL	MSDS NO	SUPPLIER	MANUFACTURER	USER DEPARTMENT	LOCATION / STORAGE

Fig. 6.3.9: Material safety data sheet (MSDS)

Chemical waste is minimised through controlled usage, accurate measurement, and inventory monitoring using a Chemical Stock Bin Card during dyeing, printing, and finishing operations.

Chemical category	Examples	Chemical waste management practice
Dyes	Reactive dyes, disperse dyes, pigment dyes	Minimise waste through controlled usage, accurate measurement, and inventory monitoring using a Chemical Stock Bin Card. Store and handle chemicals according to the Material Safety Data Sheet (MSDS).
Printing chemicals	Printing paste, pigments, binders, thickeners	Prepare only the required quantity, monitor stock using a Chemical Stock Bin Card, and follow MSDS instructions for handling and storage.
Bleaching chemicals	Hydrogen peroxide, sodium hypochlorite	Use controlled dosing, maintain stock records through a Chemical Stock Bin Card, and store safely according to the MSDS.
Finishing chemicals	Softeners, resins, water repellents, silicone finishes	Optimise chemical application, prepare only the required quantity, maintain inventory using a Chemical Stock Bin Card, and follow MSDS requirements.
Cleaning chemicals	Detergents, stain removers, machine cleaners	Use measured quantities, avoid excess consumption, monitor inventory through a Chemical Stock Bin Card, and comply with MSDS guidelines.
Solvents	Acetone, isopropyl alcohol, cleaning solvents	Dispense controlled quantities, keep containers sealed, maintain stock records using a Chemical Stock Bin Card, and handle according to the MSDS.

Chemical category	Examples	Chemical waste management practice
Adhesives	Fabric glue, bonding adhesive, hot-melt adhesive	Apply only the required amount, monitor inventory with a Chemical Stock Bin Card, and store in accordance with MSDS instructions.
Lubricants and machine oils	Sewing machine oil, gear oil, lubricating grease	Use measured quantities during maintenance, prevent leakage, maintain stock through a Chemical Stock Bin Card, and store safely following the MSDS.

Table 6.3.6: Chemical waste reduction practices

6.3.3 Workplace Safety Environmental Responsibility

Workplace safety environmental responsibility involves following safety practices and environmental procedures to protect employees, resources, and the surrounding environment during apparel manufacturing. It helps prevent workplace hazards, reduce environmental impact, ensure regulatory compliance, and promote sustainable production practices.

Fig. 6.3.10: Workplace safety and environmental responsibility checklist sample template

The following are the different methods of ensuring workplace safety and maintaining environmental responsibility:

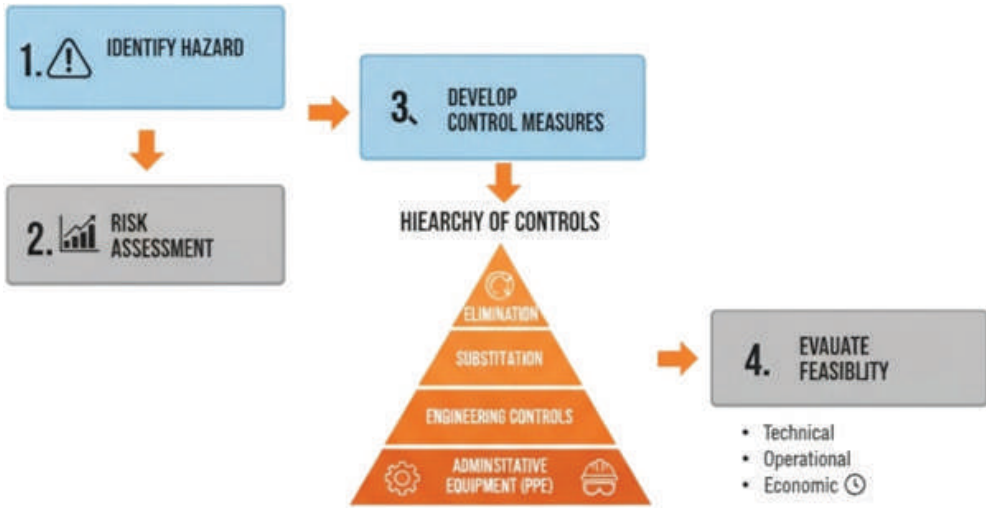
- **Work area safety preparation**

  The work area is inspected to identify hazards, remove obstructions, and ensure safe workplace conditions before starting operations. Equipment, machinery, tools, and materials are arranged according to organisational procedures and manufacturer requirements to support safe work practices.

Fig. 6.3.11: workspace safety identifiers

- **Hazard reporting and control**

  Workplace risks, equipment malfunctions, and safety concerns are promptly reported through organisational reporting procedures. Supervisors or authorised personnel are consulted for clarification and corrective actions when hazards cannot be resolved independently.



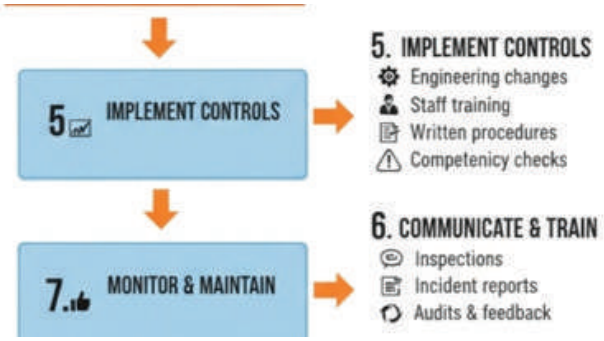


Fig. 6.3.12: Hazard reporting process

- **Emergency response and safety management**

  Emergency response, communication, evacuation, workplace risk management, and waste disposal are carried out according to organisational procedures to protect employees, control hazards, and ensure accessible emergency support for persons with disabilities. Regular safety inspections, prompt reporting, corrective actions, and safe work practices maintain workplace safety, regulatory compliance, and continuous improvement.

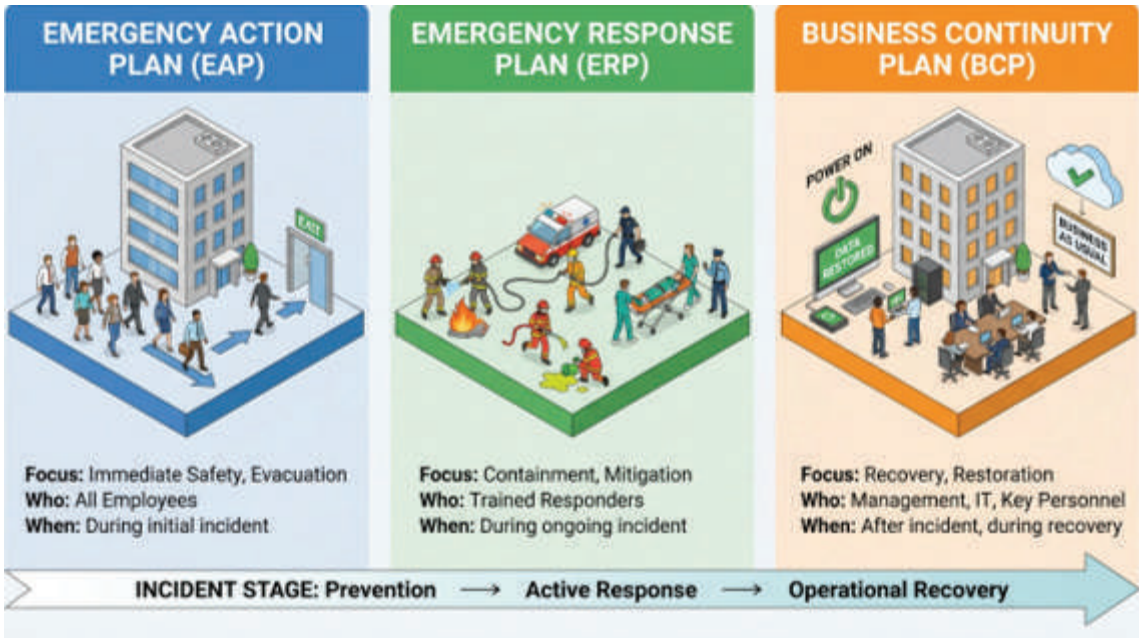


Fig. 6.3.13: Emergency response management

- **Emergency mock drill and simulations**

  Emergency mock drills and simulations are planned practice exercises conducted to prepare employees for responding to workplace emergencies such as fire, accidents, equipment failures, and evacuations. They help employees understand emergency procedures, improve response time, and ensure safe evacuation in accordance with organisational safety requirements.

Attach to this form a list of all staff who participated in the drill, and any visitors participating.

Time Alarm Sounded: 9.45 am	Time Drill Concluded: 10.00 am	Time to Evacuate: (fire evacuation drills only)

Type of Drill:	Notification / Alert Method:	Weather Conditions:
☐ Fire / Evacuation ☐ Lockdown ☐ Modified Lockdown ☐ Shelter-in-Place ☐ Earthquake ☐ Tsunami ☐ Medical Emergency ☐ Weather Emergency ☐ Other: _____	☐ Bell or Buzzer ☐ Enhanced Alert System ☐ Intercom ☐ Phone ☐ Voice Notification ☐ Siren ☐ Other: _____	☐ Clear ☐ Cloudy ☐ Raining ☐ Rain and wind ☐ Windy ☐ Snow / Sleet ☐ Hail
Participants: (check all that apply)	**Situation at Start of Drill:**	
☐ Senior Management ☐ Safety Personnel ☐ Employees/Staff ☐ Security Officers ☐ Law Enforcement ☐ Fire Department ☐ Emergency Medical Services ☐ Other _____	☐ Before Business Hours ☐ During Business Hours ☐ Peak Business Hours ☐ Lunch Time ☐ After Business Hours ☐ Other: _____ _____	
Management previously trained on emergency procedures this year?	**Employees previously trained on emergency procedures this year?**	
☐ Yes ☐ No	☐ Yes ☐ No	

Prepared By	Approved By

Fig. 6.3.14: Type of mock drills and learning simulations

Summary

- Safe work practices ensure the proper operation, cleaning, maintenance, and storage of tools, equipment, and machinery.
- Workplace health, safety, environmental, and organisational procedures help maintain a safe and efficient working environment.
- Contamination from machine oil, dirt, and improper handling can reduce garment quality and increase production defects.
- Workplace hazards, accidents, and emergencies must be identified and managed through proper response, evacuation, and reporting procedures.
- Work instructions and job cards help employees understand task requirements and achieve production targets.
- Regular inspection of tools, equipment, work areas, and finished products ensures safety, operational readiness, and quality compliance.
- Workplace records, inspection forms, and reports support equipment monitoring, defect tracking, and production documentation.
- Waste reduction, material reuse, and safe waste disposal promote sustainable and environmentally responsible manufacturing.
- Good health, personal hygiene, and safe work habits improve employee well-being and workplace safety.
- Defective tools, machine malfunctions, workplace hazards, and quality issues should be reported promptly to the appropriate personnel.
- Following organisational quality standards, legal requirements, and standard operating procedures ensures safe and efficient production.
- Workplace safety, environmental responsibility, proper documentation, and good housekeeping improve productivity, product quality, and employee well-being.

Exercise

Multiple-choice Question:

1. Why are safe work practices important in the apparel workplace?
   a. To increase production costs
   b. To ensure safe operation of tools and equipment
   c. To reduce worker attendance
   d. To increase paperwork

2. What can contaminate garments during production?
   a. Machine oil and dirt
   b. Correct stitching
   c. Proper handling
   d. Clean workstations

3. Why are tools and equipment inspected regularly?
   a. To improve advertising
   b. To ensure safety and quality compliance
   c. To reduce employee training
   d. To increase production delays

4. What is the purpose of workplace records and reports?
   a. To monitor safety, defects, and production activities
   b. To calculate employee salaries
   c. To prepare marketing plans
   d. To record customer complaints only

5. Why should organisational quality standards and SOPs be followed?
   a. To increase production waste
   b. To ensure safe and efficient production
   c. To reduce quality inspections
   d. To increase machine breakdowns

Descriptive Questions:

1. Explain the importance of safe work practices and workplace health and safety procedures in apparel manufacturing.
2. Describe the effects of contamination, workplace hazards, and emergency response procedures on production quality and safety.
3. Explain the importance of work instructions, job cards, workplace inspections, and production records in maintaining quality and safety.
4. Describe the methods of waste reduction, material reuse, and safe waste disposal in sustainable apparel manufacturing.
5. Explain the importance of organisational quality standards, workplace reporting, housekeeping, and personal hygiene in ensuring safe and efficient production.

Notes

Scan the QR codes or click on the link to watch the related videos

https://youtu.be/wn57gucIK5o

Workplace hazard emergency management

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
RE IMAGINE FUTURE

7. Adhere to Industry, Regulatory, and Organisational Standards And Embrace Environmentally Sustainable Practices

APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

Unit 7.1 - Professional Conduct and Workplace Compliance

Unit 7.2 - Legal Compliance and Sustainable Practices

Unit 7.3 - Sustainable Resource and Waste Management

AMH/N0621

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Explain the importance of punctuality, attendance, discipline, and ethical conduct in maintaining professional standards in the apparel industry.
2. Outline the importance of workplace punctuality, attendance, and discipline for maintaining productivity and organisational efficiency.
3. Describe organisational policies, customer-specific requirements, legal regulations, and reporting procedures applicable to apparel manufacturing.
4. Elaborate on customer-specific requirements, buyer expectations, and the procedures for communicating with supervisors and authorised personnel to clarify work instructions.
5. Discuss the importance of values, ethics, accountability, and working within the limits of personal responsibility.
6. Highlight the limits of personal responsibility, self-authority, teamwork, supervisor coordination, and organisational escalation procedures.
7. Outline legal, regulatory, environmental, and customer compliance requirements relevant to apparel production and quality management.
8. Outline the procedures for reporting deviations, seeking clarifications, and complying with organisational policies and regulatory requirements.
9. Highlight the importance of green jobs, sustainable workplace practices, and environmental responsibility in the apparel sector.
10. Explain methods for optimising the use of materials, conserving energy, and reducing resource wastage during production.
11. Highlight energy conservation practices, efficient equipment operation, and machine shutdown procedures for promoting a sustainable workplace.
12. Prepare and implement appropriate procedures for the segregation, handling, storage, and disposal of waste materials in accordance with organisational and environmental guidelines.
13. Elaborate on safe and sustainable workplace practices, including switching off equipment when not in use and supporting organisational green initiatives.
14. Elaborate on the role of ethical behaviour, regulatory compliance, and sustainable resource management in improving organisational performance, environmental protection, and customer satisfaction.

UNIT 7.1: Professional Conduct and Workplace Compliance

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the importance of punctuality, attendance, discipline, and ethical conduct in maintaining professionalism in the apparel industry.
2. Describe organisational policies, customer requirements, legal regulations, and reporting procedures followed in apparel manufacturing.
3. Discuss the importance of values, ethics, accountability, and working within assigned responsibilities.
4. Outline the procedures for reporting deviations, seeking clarification, and complying with organisational policies and regulatory requirements.
5. Outline the importance of workplace punctuality, attendance, and discipline in maintaining productivity and organisational performance.
6. Elaborate on customer-specific requirements, buyer expectations, and communication with supervisors and authorised personnel to clarify work instructions.
7. Highlight the limits of personal responsibility, self-authority, teamwork, supervisor support, and organisational escalation procedures.

7.1.1 Professional Conduct and Workplace Discipline

Professional conduct and workplace discipline refer to demonstrating ethical behaviour, maintaining professionalism, following organisational rules, and performing assigned duties responsibly in the apparel industry. They promote a safe, productive, and respectful workplace while ensuring compliance with organisational standards and quality requirements.

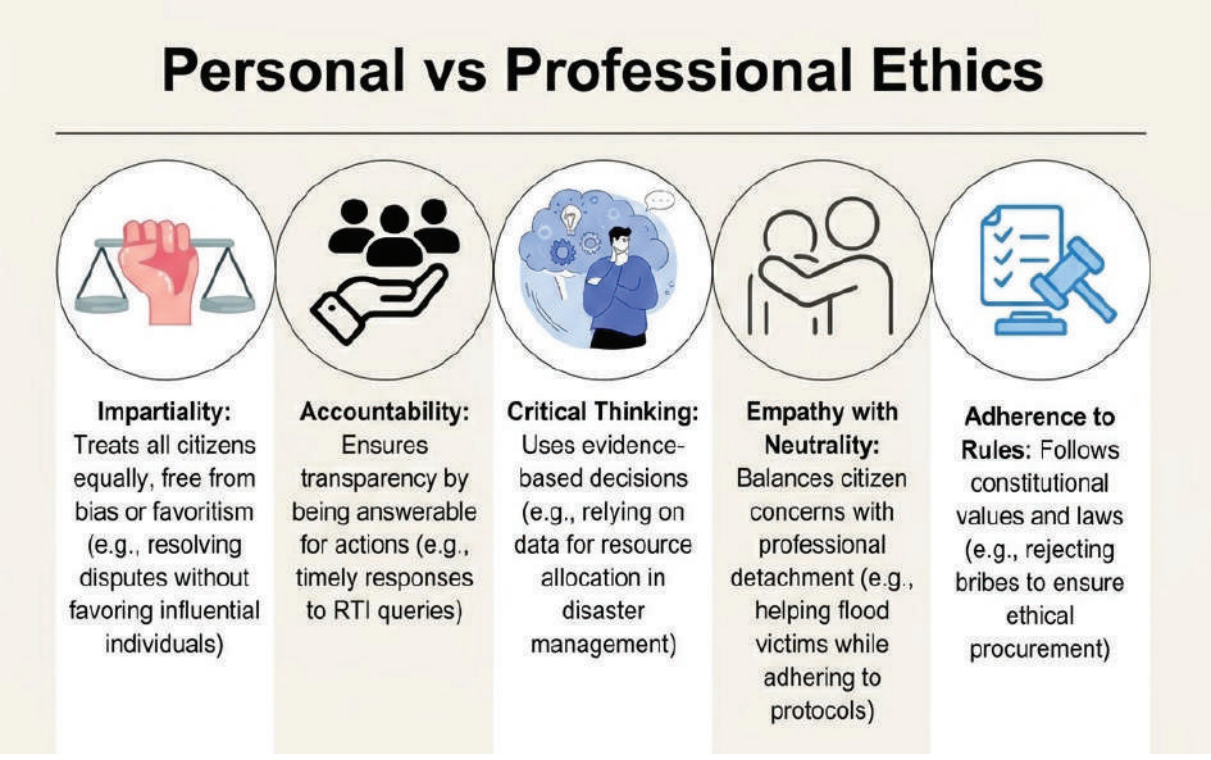


Fig. 7.1.1: Professional conduct and workplace discipline

The following are the key parameters of professional conduct and workplace discipline:

- **Professional behaviour and ethics**

  Employees demonstrate honesty, integrity, respect, professionalism, and ethical conduct while performing their assigned duties.

- **Workplace discipline and responsibility**

  Organisational rules, standard operating procedures, and work instructions are followed, and employees remain accountable for their assigned responsibilities.

- **Quality, productivity, and compliance**

  Work is completed efficiently while meeting production targets, quality standards, safety procedures, and legal and organisational requirements.

- **Communication and teamwork**

  Employees communicate effectively with supervisors and colleagues, cooperate as a team, and report work-related issues through appropriate channels.

- **Continuous learning and improvement**

  Employees seek feedback, enhance their skills, and adopt improved work practices to support organisational performance and continuous improvement.

7.1.2 Organisational Policies Legal Requirements

Organisational policies and legal requirements are the rules, procedures, and statutory obligations that guide safe, ethical, and compliant operations in the apparel industry. Adhering to these requirements ensures regulatory compliance, product quality, employee safety, and efficient workplace operations.

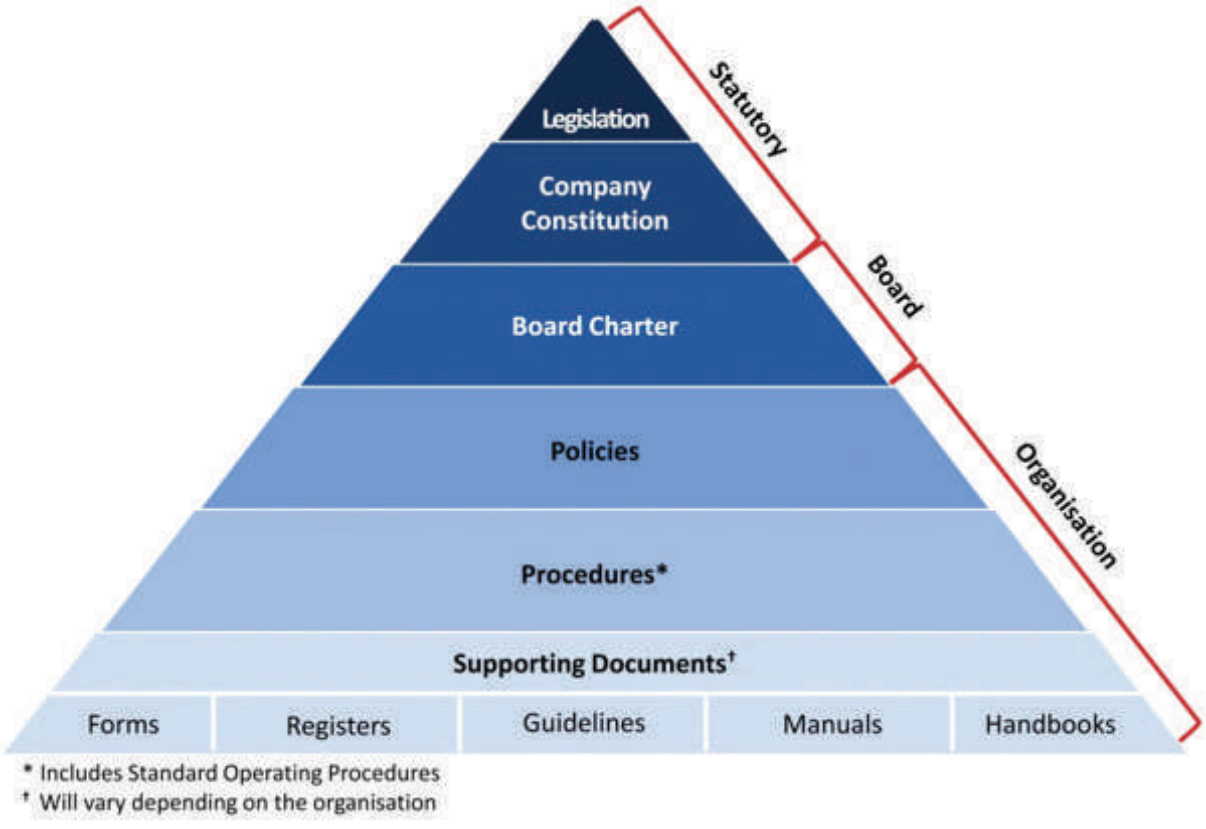


Fig. 7.1.2: Policy and procedure pyramid

The following are the key parameters of organisational policies and legal requirements:

- **Organisational policies**

  Employees follow organisational rules, standard operating procedures, and work instructions while performing assigned tasks.

- **Legal and regulatory compliance**

  Applicable laws, regulations, and industry standards are followed to ensure safe, ethical, and lawful operations.

- **Customer requirements**

  Customer specifications, buyer requirements, and contractual obligations are complied with during production and quality inspection.

- **Workplace safety and quality**

  Safety procedures, quality standards, and environmental requirements are followed throughout the manufacturing process.

- **Policy awareness and clarification**

  Employees seek clarification from supervisors or authorised personnel whenever policies, procedures, or work instructions are unclear.

7.1.3 Values, Ethics, and Accountability

Values, ethics, and accountability refer to the principles of honesty, integrity, fairness, responsibility, and professional behaviour followed while performing work in the apparel industry. They promote trust, transparency, teamwork, and responsible decision-making across the organisation.

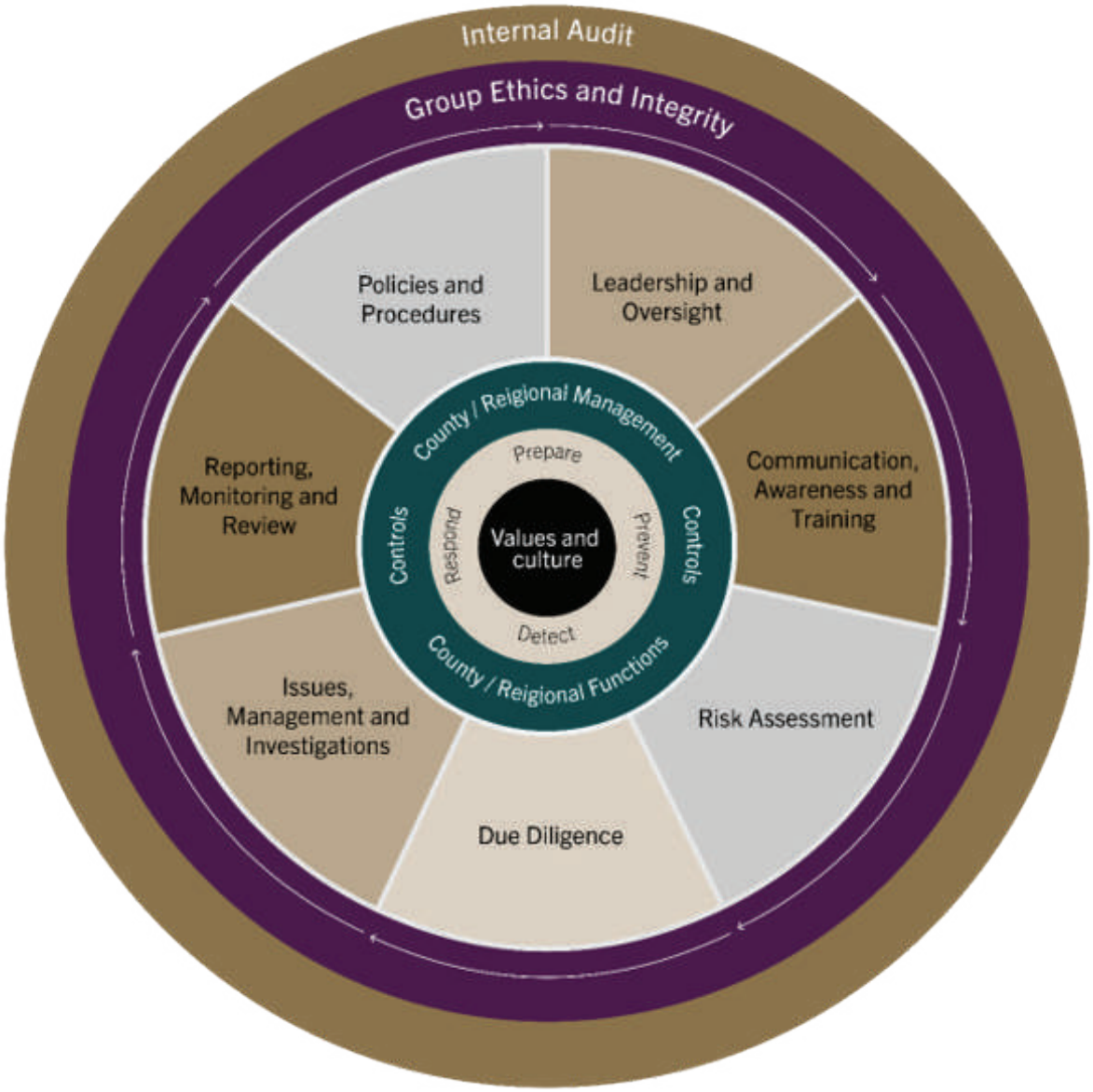


Fig. 7.1.3: Values, ethics, and accountability framework

The following are the key parameters of values, ethics, and accountability:

- **Integrity and honesty**
  Employees perform their duties truthfully, fairly, and in accordance with organisational values.
- **Responsibility and accountability**
  Employees take ownership of assigned tasks and remain accountable for their work and decisions.
- **Professional ethics**
  Confidentiality, impartiality, respect, and ethical behaviour are maintained while interacting with colleagues and customers.
- **Self-authority and escalation**
  Employees work within the limits of their authority and report issues requiring higher-level decisions.

- **Teamwork and organisational support**

  Employees cooperate with supervisors and team members to achieve organisational goals and maintain workplace discipline.

7.1.4 Deviation Reporting Compliance Procedures

Deviation reporting and compliance procedures involve identifying, reporting, documenting, and correcting deviations from organisational policies, quality standards, legal requirements, or work instructions. They help maintain compliance, prevent recurrence, and support continuous improvement.

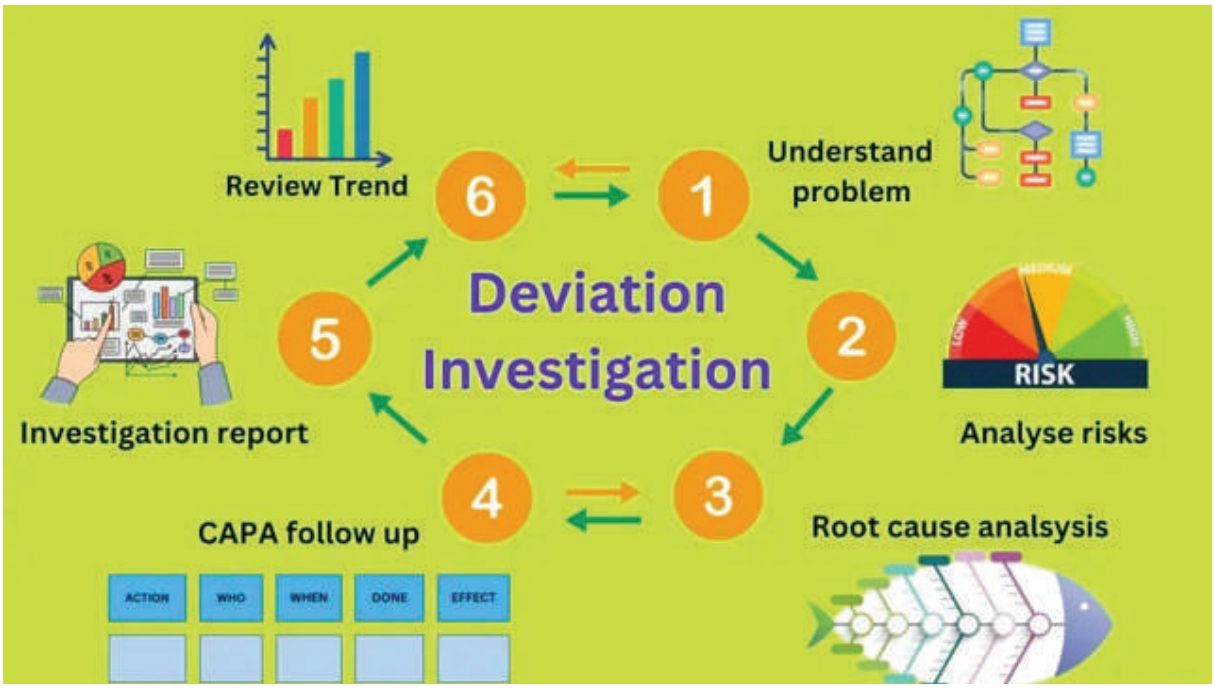


Fig. 7.1.4: Deviation investigation report format

The following are the key parameters of deviation reporting and compliance procedures:

- **Deviation identification**

  Quality, safety, process, or regulatory deviations are identified promptly during work activities.

- **Reporting procedures**

  Deviations are reported immediately to supervisors or authorised personnel according to organisational procedures.

- **Documentation and records**

  Deviation details are accurately recorded using approved reports, forms, and compliance records.

- **Corrective actions**

  Appropriate corrective and preventive actions are implemented to eliminate the cause of deviations.

- **Compliance verification**

  Completed corrective actions are verified to ensure compliance with organisational, customer, and legal requirements.

7.1.5 Workplace Punctuality and Attendance

Workplace punctuality and attendance refer to reporting for work on time, maintaining regular attendance, and adhering to scheduled working hours in accordance with organisational requirements. They support uninterrupted production, effective teamwork, and improved organisational performance. An ideal log to track these standards is a Daily Shift Attendance and Time-In Sheet, which can be summarised as a structured tracking tool that documents exact arrival times, break durations, and daily attendance to ensure operational continuity, team synchronisation, and strict compliance with organisational hours.

Date	Shift	Emp. ID	Employee Name	Time		Signature
				In	Out	

Fig. 7.1.5: Daily shift attendance and time sheet

The following are the key parameters of workplace punctuality and attendance:

- **Timely reporting**
  Employees report to the workplace on time and are prepared to begin assigned duties as scheduled.
- **Regular attendance**
  Consistent attendance is maintained to support production continuity and operational efficiency.
- **Work schedule compliance**
  Working hours, shift timings, breaks, and leave procedures are followed according to organisational policies.

- **Productivity and coordination**

  Punctuality and attendance contribute to efficient workflow, teamwork, and timely achievement of production targets.

- **Professional responsibility**

  Employees inform supervisors of absences or delays through the prescribed organisational communication procedures.

7.1.6 Customer Requirements and Communication

Customer requirements and communication involve understanding buyer specifications, meeting customer quality standards, and clarifying work instructions to ensure accurate production. The Customer Requirement and Communication Record documents buyer specifications, work instructions, and approvals to ensure production accuracy, traceability, and compliance.

COMPANY NAME AND ADDRESS

NAME AND TITLE

TIME OF CALL	FROM/TO	NAME	DURATION OF CALL	CONTACT NUMBER	ACTION TO BE TAKEN	NOTES

Fig. 7.1.6: Customer communication record

The following are the key parameters of customer requirements and communication:

- **Customer-specific requirements**

  Customer specifications, technical requirements, and quality expectations are understood before commencing work.

- **Work instruction clarification**

  Supervisors or authorised personnel are consulted whenever work instructions, specifications, or procedures are unclear.

- **Buyer expectations**

  Products are manufactured and inspected according to buyer requirements, approved samples, and quality standards.

- **Effective communication**

  Work-related information, changes, and concerns are communicated accurately through authorised organisational channels.

- **Compliance and documentation**

  Customer requirements, approvals, and communication records are documented to maintain traceability and compliance.

7.1.7 Roles, Responsibilities, and Escalation

Roles, responsibilities, and escalation involve performing assigned duties within the limits of personal authority, supporting supervisors and team members, and reporting issues through the prescribed organisational hierarchy. The Roles and Escalation Register documents assigned responsibilities, reporting hierarchy, escalation actions, and supervisory decisions to ensure accountability, timely issue resolution, and compliance.

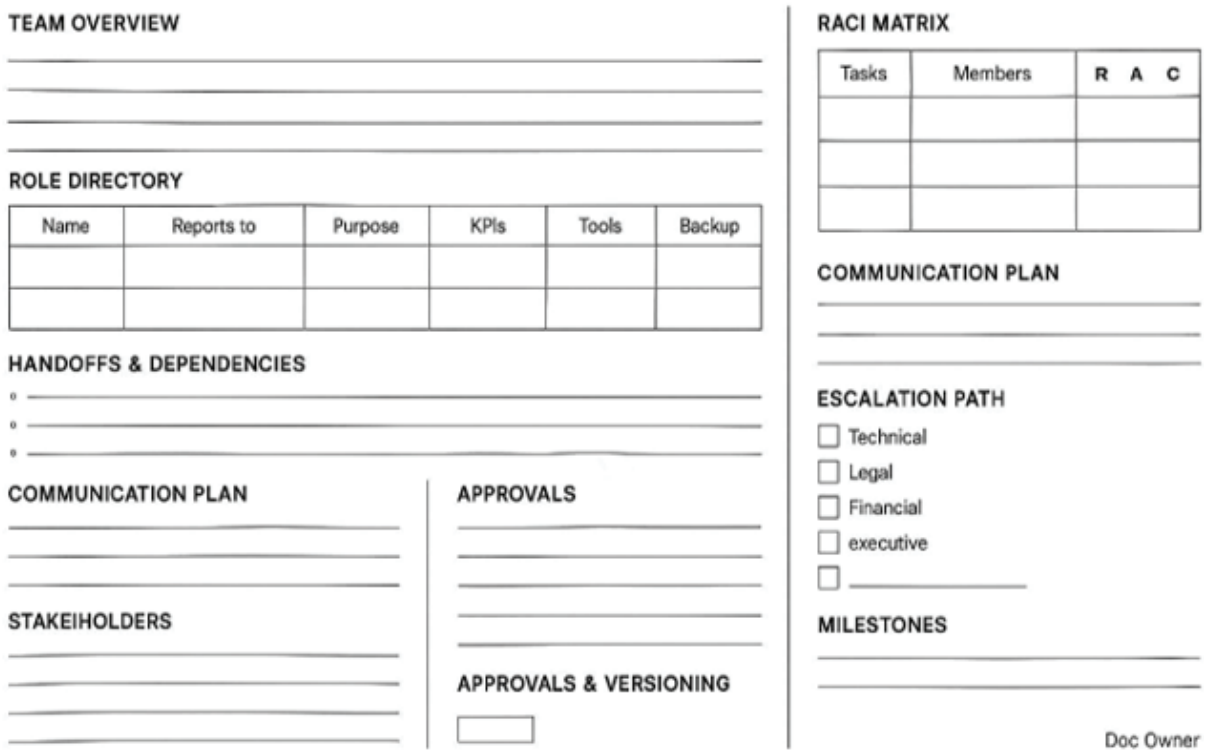


Fig. 7.1.7: Roles and escalation register

The following are the key parameters of roles, responsibilities, and escalation:

- **Roles and responsibilities**

  Employees perform assigned duties according to their job role and organisational responsibilities.

- **Limits of self-authority**

  Decisions are made within the scope of authorised responsibilities, and matters beyond authority are escalated appropriately.

- **Supervisor and team support**

  Employees cooperate with supervisors and team members to implement organisational policies and achieve work objectives.

- **Escalation procedures**

  Operational, quality, safety, or compliance issues are reported promptly through the prescribed reporting hierarchy.

- **Accountability and coordination**

  Employees maintain accountability for their work while supporting effective teamwork and organisational coordination.

UNIT 7.2: Legal Compliance and Sustainable Practices

Unit Objectives

By the end of this unit, the participants will be able to:

1. Outline the legal, regulatory, environmental, and customer compliance requirements for apparel production and quality management.
2. Elaborate on how ethical behaviour, regulatory compliance, and sustainable resource management drive organisational performance, environmental protection, and customer satisfaction.

7.2.1 Legal Regulatory Compliance Requirements

Legal and regulatory compliance requirements involve complying with applicable laws, regulations, industry standards, and organisational policies governing apparel manufacturing and quality management. A structured compliance record documents legal requirements, compliance status, inspections, corrective actions, and verification activities to ensure regulatory conformity, product quality, and safe operations. The following are the key parameters of legal regulatory compliance requirements:

Compliance aspect	Description
Legal compliance	Applicable laws, regulations, and statutory requirements are followed during all work activities.
Organisational compliance	Organisational policies, standard operating procedures, and work instructions are implemented consistently.
Customer and industry standards	Customer specifications, quality standards, and industry requirements are complied with throughout production.
Regulatory reporting	Legal or regulatory deviations are reported promptly according to organisational procedures.
Compliance verification	Compliance activities are monitored, documented, and verified to maintain regulatory conformity.

Table 7.2.1: Legal regulatory compliance requirements

7.2.2 Ethical Compliance Sustainable Resource Management

Ethical compliance and sustainable resource management involve performing work with integrity while using materials, energy, water, and other resources responsibly to minimise environmental impact. A structured sustainability record documents resource consumption, conservation measures, ethical compliance, and improvement actions to support resource efficiency, environmental responsibility, and regulatory compliance. The following are the key parameters of ethical compliance and sustainable resource management:

Management aspect	Description
Ethical compliance	Employees perform their duties with honesty, integrity, fairness, and accountability.
Responsible resource utilisation	Materials, energy, water, and workplace resources are used efficiently to minimise wastage.
Environmental responsibility	Sustainable work practices are followed to reduce pollution, conserve resources, and protect the environment.
Organisational sustainability practices	Greening solutions, environmental policies, and sustainability procedures are implemented during work activities.
Continuous resource improvement	Resource utilisation is monitored and improved through conservation practices and continuous improvement initiatives.

Table 7.2.2: Ethical sustainable resource management

UNIT 7.3: Sustainable Resource and Waste Management

Unit Objectives

By the end of this unit, the participants will be able to:

1. Highlight the importance of green jobs, sustainable work practices, and environmental responsibility in the apparel industry.
2. Explain methods for optimising material usage, conserving energy, and minimising resource wastage during production.
3. Prepare procedures for the segregation, handling, storage, and disposal of waste in accordance with organisational and environmental guidelines.
4. Elaborate on safe and sustainable workplace practices, including switching off equipment when not in use and supporting organisational green initiatives.
5. Highlight energy conservation practices, efficient equipment operation, and the importance of switching off machines when not in use to promote a sustainable workplace.

7.3.1 Green Jobs Sustainable Workplace Practices

Green jobs and sustainable workplace practices involve performing work in ways that conserve natural resources, reduce environmental impact, and support sustainable development in the apparel industry. They promote responsible resource use, waste reduction, energy efficiency, environmental compliance, and long-term organisational sustainability.

Fig. 7.3.1: Green job and sustainability components in workplace

The following are the different types of green jobs and sustainable workplace practices in the apparel industry that an apparel quality analyst must be well aware of:

Green job type	Green job role	Sustainable workplace practices	Example
Sustainable quality management	Ensures garment quality while reducing defects, rework, and material wastage.	Conduct first-time-right inspections, prevent defects, maintain quality records, and improve processes.	Quality Control Orders (QCOs) under the BIS Act, 2016.
Sustainable manufacturing	Improves production efficiency while reducing resource use and waste.	Optimise production, minimise fabric wastage, improve machine efficiency, and reduce rework.	SAMARTH (Scheme for Capacity Building in Textiles).
Resource and energy management	Conserves energy, water, and other production resources.	Switch off idle machines, use energy-efficient equipment, conserve water, and monitor resource use.	Perform, Achieve and Trade (PAT) Scheme of the Bureau of Energy Efficiency (BEE).
Waste and recycling management	Reduces production waste through segregation, reuse, and recycling.	Segregate waste, reuse fabric remnants, recycle materials, and follow approved disposal methods.	Solid Waste Management Rules, 2016.
Environmental compliance management	Ensures compliance with environmental laws and pollution control requirements.	Prevent pollution, handle chemicals safely, control emissions, and maintain compliance records.	Environment (Protection) Act, 1986.
Sustainable supply chain management	Promotes responsible sourcing and supply chain traceability.	Source sustainable materials, verify supplier compliance, reduce packaging waste, and maintain traceability.	National Technical Textiles Mission (NTTM).

Table 7.3.1: Green jobs and sustainable apparel workplace practices overview

7.3.2 Material Energy Resource Optimisation

Material, energy, and resource optimisation involve using raw materials, utilities, and production resources efficiently to minimise waste and improve productivity in the apparel industry through an MRP checklist:

MATERIAL REQUIREMENT PLANNING (MRP)

Company Name:	
MRP Date:	
Planner Name:	
Contact Information:	

MATERIALS LIST

Material ID	Material Name	Unit of Measure	Initial Inventory	Lead Time (days)	Safety Stock

Fig. 7.3.2: MRP checklist

On the same note as above, an optimised energy management system reduces production costs, conserves natural resources, improves operational efficiency, and supports sustainable manufacturing.

Fig. 7.3.3: Optimised energy management system benefits

The following are the key methods of material, energy, and resource optimisation in the apparel industry:

Optimisation method	Purpose	Optimisation practices	Example
Material optimisation	Reduces fabric and trim wastage.	Optimise marker planning, minimise cutting waste, and reuse usable remnants.	Fabric marker optimisation software.
Energy optimisation	Reduces electricity and fuel consumption.	Switch off idle machines, use energy-efficient equipment, and monitor energy use.	PAT Scheme of the Bureau of Energy Efficiency (BEE).
Water optimisation	Conserves water during production.	Prevent leaks, recycle water where applicable, and minimise unnecessary usage.	Water conservation initiatives under textile processing units.
Equipment optimisation	Improves equipment efficiency and productivity.	Perform preventive maintenance and operate machines according to manufacturer guidelines.	Preventive maintenance schedules.
Resource monitoring	Tracks resource consumption and wastage.	Maintain resource records and analyse consumption trends.	Energy and material consumption registers.

Table 7.3.2: Material energy resource optimisation methods

7.3.3 Waste Segregation Handling Disposal Procedures

Waste segregation, handling, and disposal procedures involve identifying, separating, storing, transporting, and disposing of different waste streams according to organisational and environmental requirements. Proper waste management reduces pollution, improves workplace safety, supports recycling, and ensures environmental compliance.

Fig. 7.3.4: Waste segregation bins for safe waste handling

The following are the key waste segregation, handling, and disposal procedures in the apparel industry:

Waste category	Handling procedure	Disposal procedure	Example
Fabric waste	Segregate by material type and store separately.	Reuse or recycle through authorised recyclers.	Cotton fabric off-cuts.
Paper and packaging waste	Collect in designated bins and keep dry.	Send for paper or cardboard recycling.	Cartons and paper rolls.
Plastic waste	Separate clean plastic materials from other waste.	Recycle through authorised recycling agencies.	Polybags and plastic packaging.
Chemical waste	Store in labelled containers using safety procedures.	Dispose of through authorised hazardous waste handlers.	Solvents and chemical containers.
Electronic waste	Collect separately without damage or dismantling.	Dispose through authorised e-waste recyclers.	Electrical components and electronic devices.

Table 7.3.3: Waste segregation handling disposal procedures

7.3.4 Safe Sustainable Workplace Practices

Safe and sustainable workplace practices involve performing work safely while minimising environmental impact through responsible use of materials, equipment, and workplace resources. They improve employee safety, environmental protection, operational efficiency, and regulatory compliance.

Fig. 7.3.5: Workplace sustainability practices

The following are the key safe and sustainable workplace practices in the apparel industry:

Workplace practice	Purpose	Safe and sustainable practices	Example
Safe machine operation	Prevents accidents and equipment damage.	Operate machines safely and follow standard operating procedures.	Sewing and cutting machine operation.
Resource conservation	Reduces unnecessary resource consumption.	Use materials, water, and energy efficiently.	Controlled fabric utilisation.
Pollution prevention	Minimises environmental impact.	Prevent spills, control emissions, and manage waste properly.	Chemical handling procedures.
Workplace housekeeping	Maintains a clean and safe workplace.	Remove obstructions, clean work areas, and organise materials.	Daily housekeeping checklist.
Regulatory compliance	Ensures legal and organisational compliance.	Follow safety, environmental, and quality requirements.	OSH Code, 2020 workplace practices.
Workplace practice	Purpose	Safe and sustainable practices	Example

Table 7.3.4: Safe, sustainable workplace practices

7.3.5 Energy Conservation Practices

Energy conservation practices involve reducing energy consumption through efficient operation of machinery, equipment, lighting, and utilities during apparel manufacturing. They lower operating costs, reduce environmental impact, and improve organisational sustainability.

Fig. 7.3.6: Workplace energy conservation stages

The four Ps of energy conservation are to prevent energy wastage, plan efficient resource use, perform energy-efficient operations, and promote continuous energy-saving practices across the workplace, in accordance with an energy conservation pyramid. The energy conservation pyramid is a hierarchy that prioritises reducing energy demand first, improving energy efficiency second, and using renewable energy last to achieve sustainable workplace energy management.

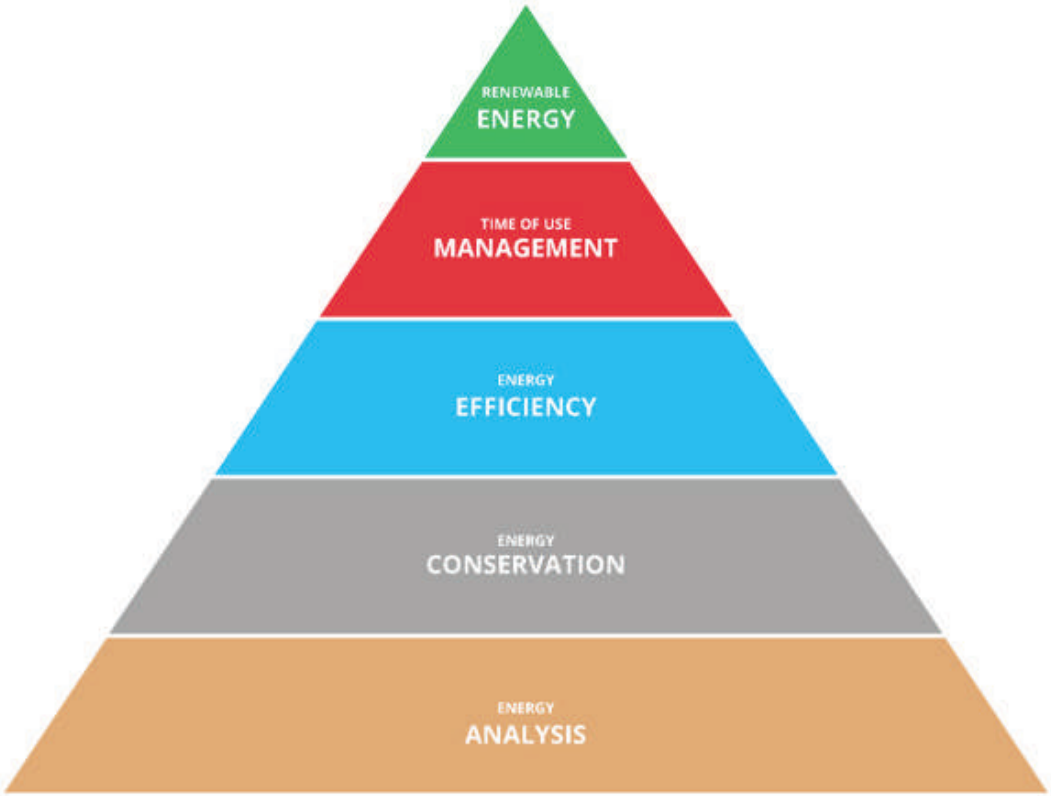


Fig. 7.3.7: Energy conservation pyramid

The following are the key energy conservation practices in the apparel industry:

Energy conservation practice	Purpose	Conservation practices	Example
Machine shutdown	Eliminates unnecessary energy consumption.	Switch off machines when not in use.	The sewing machine shut down after work.
Efficient equipment operation	Improves equipment performance with lower energy use.	Operate machines according to recommended settings.	Energy-efficient sewing machines.
Lighting management	Reduces electricity consumption.	Switch off unnecessary lights and maximise natural lighting.	LED lighting systems.
Preventive maintenance	Maintains equipment efficiency.	Inspect and maintain machines regularly.	Preventive maintenance programme.

Energy conservation practice	Purpose	Conservation practices	Example
Energy monitoring	Tracks and controls energy consumption.	Record energy usage and implement improvement measures.	Energy consumption monitoring register.
Energy conservation practice	Purpose	Conservation practices	Example

Table 7.3.5: Energy conservation workplace practices

Summary

- Punctuality, attendance, discipline, and ethical conduct are essential for maintaining professionalism in the apparel industry.
- Organisational policies, customer requirements, legal regulations, and reporting procedures guide safe and compliant apparel manufacturing.
- Values, ethics, accountability, and personal responsibility promote responsible workplace behaviour.
- Legal, regulatory, environmental, and customer compliance requirements ensure quality and regulatory conformity.
- Deviations from procedures should be reported promptly and handled according to organisational policies.
- Green jobs, sustainable workplace practices, and environmental responsibility support sustainable industrial development.
- Efficient use of materials, energy conservation, and resource optimisation reduces production costs and environmental impact.
- Proper segregation, handling, storage, and disposal of waste support environmental protection and regulatory compliance.
- Safe and sustainable workplace practices, including responsible equipment use, improve workplace efficiency and safety.
- Ethical behaviour and regulatory compliance strengthen organisational performance and customer confidence.
- Sustainable resource management helps protect the environment while improving operational efficiency.
- Following professional ethics, regulatory standards, and sustainable practices enhances product quality, productivity, and customer satisfaction.

Exercise

Multiple-choice Question:

1. Why are punctuality and discipline important in the apparel industry?
   a. To increase paperwork
   b. To maintain professional standards
   c. To reduce production quality
   d. To increase production costs

2. Why should organisational policies and legal regulations be followed?
   a. To ensure compliance and quality production
   b. To reduce employee attendance
   c. To increase waste generation
   d. To avoid quality inspections

3. What is the purpose of waste segregation in apparel manufacturing?
   a. To increase production waste
   b. To support safe disposal and environmental protection
   c. To reduce product quality
   d. To increase storage costs

4. Which practice helps conserve resources during production?
   a. Excess material usage
   b. Energy conservation and material optimisation
   c. Improper waste disposal
   d. Continuous machine operation when idle

5. How do ethical behaviour and regulatory compliance benefit an organisation?
   a. By increasing defects
   b. By improving organisational performance and customer satisfaction
   c. By reducing accountability
   d. By increasing production delays

Descriptive Questions:

1. Explain the importance of professional ethics, discipline, and organisational policies in the apparel industry.
2. Describe the role of legal, regulatory, environmental, and customer compliance in apparel manufacturing.
3. Explain methods for conserving materials, saving energy, and managing waste during production.
4. Describe the procedures for waste segregation, handling, storage, and disposal.
5. Explain how ethical behaviour, regulatory compliance, and sustainable workplace practices improve organisational performance and environmental protection.

Notes

Scan the QR codes or click on the link to watch the related videos

https://youtu.be/O1qTFFF0zd8

Waste segregation, handling, and disposal procedures

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8. Employability Skills

DGT/VSQ/N0102

Employability Skills is available at the following location

https://www.skillindiadigital.gov.in/content/list

Employability Skills

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9. Annexure

Module No.	Unit No.	Topic Name	Page No	Link for QR Code (s)	QR code (s)
Module 1: Introduction and Orientation to Apparel Inventory Data Analyst	Unit 1.1 Introduction to the Apparel Industry and the Role of an Apparel Inventory Data Analyst	1.1.2 Role of an Apparel Inventory Data Analyst	18	https://youtu.be/-f7CjpHlbH9Q-?si=Q05f1X4-uW0p64cIK	What is the role of an Inventory Analyst?
Module 2: Understand and Analyse Merchandise Concepts and Mix Planning in Domestic Retail Apparel	Unit 2.1 Fundamentals of Apparel Merchandise Planning	2.1.1 Apparel Merchandising and its Principles	39	https://youtu.be/-rcYQ57Bxa-CY-?si=iniQVk-FBlS7EwLc8	Garments Costing for Merchandiser
	Unit 2.2: Merchandise Planning, Analysis and Reporting	2.2.1 Merchandise Mix Planning	39	https://youtu.be/-NPnruykngJw-?si=0JS4Z-SCZ-JQfH0j9	What is Merchandise Planning
Module 3: Analyse Merchandise Data to Forecast Apparel Trends	Unit 3.1: Fashion Trend Forecasting and Market Insights	3.1.1 Fundamentals of Fashion Trend Forecasting	55	https://www.youtube.com/-live/CE1hw1yCfdE-?si=ASR53vBxTcsY01dK	Fashion Trend Forecasting LIVE
Module 4: Analyse Pricing and Sale Strategies to Develop Merchandise Plans in Apparel Retail	Unit 4.1: Analyse Apparel Pricing, Sales Performance and Market Trends	4.1.2 Retail Pricing Models and Profitability Concepts	85	https://youtu.be/-sF6AMj3H0jg-?si=LZVwKp6-LAtbSs8H	Pricing strategy an introduction Explained

Module No.	Unit No.	Topic Name	Page No	Link for QR Code (s)	QR code (s)
Module 5: Coordinate with Cross-Funct-ional Teams to Ensure Timely Product Avail-ability and Manage Merchan-dising Docu-ments	Unit 5.1: Supplier Manage-ment and Procurement Processes	5.1.1 Apparel Merchandising Teams in Retail Value Chain	126	https://youtu.be/roHe5U5ir4A	Understanding apparel merchandising
	Unit 5.2 Mer-chandising Documen-tation and Performance Manage-ment	5.2.3 Produc-tion Monitor-ing and Risk Mitigation	126	https://youtu.be/shV-F3XqLuE	Understanding Production Monitoring and production management systems
Module 6: Promote and Sus-tain Safety, Health, and Securi-ty in Work-place, while Fostering Gender and Per-sons with Disabilities (PwD) Sen-sitisation	Unit 6.1: Workplace Safety and Compliance	6.1.3 Work-place Hazard Emergency Management	187	https://youtu.be/wn57gucIK5o	Workplace haz-ard emergency management

Module No.	Unit No.	Topic Name	Page No	Link for QR Code (s)	QR code (s)
Module 7: Adhere to Industry, Regulatory, and Organisational Standards And Embrace Environmentally Sustainable Practices	Unit 7.3: Sustainable Resource and Waste Management	7.3.3 Waste Segregation Handling Disposal Procedures	212	https://youtu.be/O1qTFFF0zd8	Waste segregation, handling, and disposal procedures

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