



Report – Skill Gap Study in Apparel Made-ups and Home Furnishing Sector

Apparel Made-Ups and Home Furnishing Sector Skill Council (AMH SSC)

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Subject: Submission of final report of the skill gap study conducted in Apparel, Made-up and Home Furnishing Sector

Dear Sir,

This is in continuation to the submission of interim report and presentation followed by draft report submission and final presentation. We are pleased to submit the final report for skill gap study conducted in Apparel, Made-up and Home furnishing Sector.

Best wishes,



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List of Abbreviations

3D	Three Dimensional
AA	Assessment Agency
AAY	Antyodaya Anna Yojana
AEPC	Apparel Export Promotion Council
AI	Artificial Intelligence
AMH	Apparel Made-ups and Home Furnishing
AMH SSC	Apparel Made-ups and Home Furnishing Sector Skill Council
APL	Above Poverty Line
ASI	Annual Survey of industries
ASSOCHAM	Associated Chambers of Commerce and Industry of India
ATS	Apprenticeship Training Scheme
ATUFS	Amended Technology Upgradation Fund Scheme
B. Tech	Bachelor's in technology
BPL	Below Poverty Line
BRICS	Brazil, Russia, India, China and South Africa
CAD	Computer Aided Designing
CAE&D	Computer Aided Embroidery & Designing
CAGR	Compound annual growth rate
CAM	Computer Aided Manufacturing
CCEA	Cabinet Committee on Economic Affairs
CNC	Computer Numerical Control
CTS	Craftsmen Training Scheme
DDU-GKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
DGFT	Directorate General of Foreign Trade
EDP	Electronic Data Processing
EPF	Employees Provident Fund
ERP	Enterprise Resource Planning
EU	European Union
FDI	Foreign Direct Investment
FDT	Fashion Design & Technology
FICCI	Federation of Indian Chambers of Commerce & Industry
FY	Financial Year
GCI	Global Competitive Index
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GOI	Government of India
GSP	Generalized System of Preferences
GST	Goods and Services Tax
GVA	Gross Value Added
HCI	Human Capital Index
HR	Human Resources
IBEF	India Brand Equity Foundation

ICT	Information Communication Technology
IE	Industrial Engineer
IIT	Indian Institute of Technology
IOT	Internet of Things
IP	Implementing Partners
IPDS	Integrated Processing Development Scheme
ISDS	Integrated Skill Development Scheme
IT	Information Technology
ITI	Industrial Training Institute
IT-ITES	Information Technology and Information Technology Enabled Services
IWDP	Integrated Wool Development Programme
LMIS	Labour Management Information System
LPI	Logistics Performance Index
M. Tech	Master's in technology
M2M	Machine to Machine
MEIS	Merchandise Exports from India Scheme
MIS	Management Information System
MMF	Man Made Fibre
MOT	Ministry of Textiles
MSDE	Ministry of Skill Development and Entrepreneurship
NCEUS	National Commission for Enterprises in the Unorganized Sector
NCR	National Capital Region
NCVT	National Council of Vocational Training
NEET	Not in education, employment or training
NEP	National Education Policy
NID	National Institute of Design
NIFT	National Institute of Fashion Technology
NIMZs	National Investment and Manufacturing Zones
NOS	National Occupational Standards
NSDC	National Skill Development Council
NSQF	National Skill Qualification Framework
NSS	National Sample Survey
NSSO	National Sample Survey Office
NULM	National Urban Livelihoods Mission
PhD	Doctor of Philosophy
PLFS	Periodic Labour Force Surveys
PLM	Product Lifecycle Management
PMKVY	Pradhan Mantri Kaushal Vikas Yojana
PP	Pre-Production
QP	Qualification Pack
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
ROSL	Rebate of State Levies
RPL	Recognition of Prior Learning
RSETI	Rural Self Employment Training Institutes
SCBTS	Scheme for Capacity Building in Textile Sector
SCVT	State Council of Vocational Training

SEZs	Special Economic Zones
SITP	Scheme for Integrated Textile Parks
SMO	Sewing Machine Operator
SOT	Surface Ornamentation Techniques
SPELSGU	Scheme for production and Employment Linked Support for garmenting units
SSC	Sector Skill Council
SSMO	Specialized Sewing Machine Operator
STT	Short Term Training
SWOT	Strength Weakness Opportunities and Threats
T&A	Textile and Apparel
TP	Training Partners
TUFS	Technology Upgradation Fund Scheme
UAE	United Arab Emirates
UK	United Kingdom
US	United States
USA	United States of America
VR	Virtual Resonance
WEF	World Economic Forum
WPI	Wholesale Price Index

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Executive Summary



Background and study methodology

PricewaterhouseCoopers Private Limited (PwC), India, was engaged by Apparel Made-ups and Home Furnishing Sector Skill Council (AMH SSC) through a competitive procurement process to carry out “Skill Gap Study in Apparel Made-ups & Home Furnishing (AMH) Sector (2020-25)”. The study was commissioned with the overall objective of providing a labour market outlook and ascertain skill gap for the Indian AMH sector, which in turn would lay the foundation for developing the strategy and action plan to address key human resource challenges and create potential employment opportunities.

The study adopted a consultative and participatory approach to interact and seek inputs from a wide spectrum of stakeholders. In line with the study objectives, our understanding of the scope of work and suggestions from AMH SSC, the study was undertaken using a mix of primary and secondary research . We have covered 103 employers (70 organized and 33 unorganized), 2 industry associations, 2 training partners, 2 assessment agencies, 165 youths and 10 self-employed stakeholders (boutique owner, tailor and pressman) in our study and additionally the government regulatory bodies.

The study was executed in four phases. The four distinct but interlinked phases of delivery included Assess and Design, Discover, Analyze and Finalize. ‘Assess and Design’ phase focused on developing a holistic understanding of the sector, mapping and shortlisting of stakeholders and research method, finalizing the scope of work, sampling plan, analytical framework and stakeholder-wise tools/questionnaires. In the ‘Discover’ phase of the project, stakeholder consultations and primary survey of employers and employees across the study states was carried out. The third phase of the project i.e. ‘Analyze’ focused on collating primary data in structured form and arriving at findings and estimates as per study requirements. The last phase of the project ‘Analyze and Finalize’ involved analyzing data, forecasting labour demand and supply for the sector, and documenting the findings to prepare the final report.

Overview of the sector

Apparel Made-up & Home furnishing (AMH) is one of the largest employments generating sector in India, constituting about 60 per cent share of the total Textile and Apparel (T&A) exports. Exports of AMH products stood at US\$ 21.5 billion in the year 2019-20 and has grown at a CAGR of 3 per cent since 2009-10¹. Top exported Apparel and Home Textiles commodities include T-shirts, kitchen & toilet linen, bed linen, men’s shirt, women’s top. India’s domestic AMH market is also expanding rapidly, and domestic consumption stood at US\$ 81 billion growing at a CAGR of 10 per cent between 2005-06 to 2018-19². **Apparel Made-up & Home furnishing (AMH) contributes nearly 70 per cent share of the total textile & apparel domestic consumption in India.** The domestic AMH market stood at US\$ 81 billion in the year 2018-19. Apparel sector accounted for 2.4 per cent of the Gross Value Addition (GVA) of the organized sector and 19.3 per cent of the unorganized sector in 2015-16³.

The key strengths characterizing Indian apparel sector includes:

- (i) Abundance of raw material (India is the largest producer of the cotton in the world),
- (ii) Cost competitive advantage over other Asian countries like China, Bangladesh, Vietnam, Sri Lanka etc.
- (iii) Increasing domestic consumption of apparel and related products
- (iv) 100 per cent FDI, fund for technology upgradation, developing apparel parks (high FDI has resulted in increase in capital inflow in terms of money and material which has boosted economic growth resulting from fresh investments) etc.
- (v) Government’s push for regulatory reforms to propel the sector’s growth (establishment of ROSL, ATUFS, SPELSGU, PMPRM, DGFT, MEIS and Special package of 6000Cr. in 2016)
- (vi) Availability of low-cost skilled manpower. It will be critical for the sector to take cognizance of its strengths and significantly contribute to the country’s GDP. This sector not only employs in its

¹ ITC Trade Map

² Invest India (<https://www.investindia.gov.in/sector/textiles-apparel>)

³ Annual Survey of Industries, NSS Unincorporated Enterprises Survey 2010 & 2015

core manufacturing departments but also in the auxiliary departments such as Human Resources, Admin, Finance, Industrial Engineer, Shipping and Inventory.

Education and vocational training related to the sector

6.4 per cent of the workforce has received formal training in the Apparel sector, 35.8 per cent of the workforce has received informal training in the apparel sector and about 57.8 per cent of the workforce have not received any sort of training.

Although the sector awareness is improving at the vocational training level but there is an opportunity to promote the sector at school level. This has been observed that the enrolment in various Apparel related courses at the school level is low. Only 4 states offered Apparel courses at the secondary and higher secondary level and 0.4 per cent of total students were enrolled in Apparel sector courses in 2016-17. Out of 19 vocational courses offered at school level, Apparel ranked at 15th position in terms of enrolment of students.

As of 2019, 7.27 Lakh candidates were trained (RPL+ Short term training+ Special projects), and 3.11 Lakh candidates were placed over different job roles with the total placement per centage of 78.25 per cent.

Out of the total 14,846 ITIs, 1296 ITIs offer Apparel courses, out of which 819 ITIs are Government with the 67.7 per cent seat utilization and 477 are Private ITIs with 65 per cent seat utilization. Most of the ITIs offer courses in Sewing Technology, Dress Making, Fashion Design & Technology and Surface Ornamentation Techniques.

Voice of Youths

A sample of 165 youth aged 15-29 years were interviewed to understand their educational, employment aspirations and willingness to participate in skill training programmes related to AMH sector.

- **70 per cent of the respondents indicated level of income as one of the influencing factors for career aspiration while 57 per cent reported job security as one of the important factors.**
- **61 per cent of the respondents aspired to work as regular wage/salaried employee and about 31 per cent yearned to be an entrepreneur or be self-employed.**
- **Majority (62 per cent) of the respondents were not aware of job prospects in the AMH sector. Whereas, about 40 per cent of the respondents have expressed interest in working in the AMH sector and willing to participate in skill training programme related to AMH sector.**

Employers' perspective

The employer survey included employers from the organized and unorganized segment to understand the manpower demands, skills they are looking for, job roles they does most hiring, high demand job roles, impact of technology in the sector, willingness to pay premium wages to the skilled workers, the skills challenges faced by the employers from their existing workforce and while recruiting them, etc. The survey covered 103 employers, 70 from the organized segment and 33 from the unorganized segment. Majority of respondents were from Delhi NCR, Tamil Nadu, West Bengal, Gujarat, Maharashtra.

- **Sewing Machine Operators, Inline Checkers, Pressman, Packer and Finishers** were the key job roles in which workers are being recruited primarily. Migrants workers usually fill up these positions/ job roles.
- Most of the employers have informed that they hire workers through employee references, social networks and from the local community.
- Key challenges faced by the employers while recruiting employees are lack of experience, requisite soft and technical/domain.
- 3/4th of the employers have reported that entry level employees have skills gap in the following areas: lack of knowledge of handling latest machineries and material handling.

- The gap between the wage of an entry level worker and a skilled worker working in the organized sector was around INR 4,028/- per month on an average. For employers in the unorganized sector, the gap was INR 4,400/-.
- 33 per cent of employers from the organized sector informed that they hired candidates from ITI/Polytechnics and 42 per cent from short term training institutes.
- Covid-19 has created huge impact in the existing order book which has resulted reduction in capacity utilization and most of the employers foresee this reduction in for 2020-21.

With the advent of industry 4.0, **there are changes expected in terms of technological advancements and automation in the AMH sector in next 10-15 years which may impact about 80% of the existing jobs.** As per the case study on Automation and Future of Garment Sector Jobs of India done by Indian Council for Research on International Economic Relations, **major job roles may be impacted in next 10-15 years are Fabric Spreaders, Cutters, Pressman, Packers, Sewing Machine Operators⁴.** Although automation and advance technology may impact, **new occupation would also emerge such as Computer-aided process planning professional, Computer-aided quality-control professional, Computer-aided testing professional, Automated inspection, Automated material handling devices, Artificial neural network expert, Pick and place robot operator, Numerical controller, Automated fusing and pressing machine operator, Enterprise resource planning expert, etc.⁵**

Employment trends in the sector

As per the latest round of Periodic Labour Force Survey (2018-19), the total workforce in India is estimated to be about 479 million. The share of labor working in the manufacturing sector was around 12.2 per cent (about 59 Million). Direct employment in the AMH sector primarily comes under manufacturing and the service sectors. The AMH sector employs about 35.8 million labour out of which 47% are engaged directly through the core manufacturing and trade of AMH product and 53% are engages indirectly through the ancillary sector activities.

Total workforce in Apparel Made-ups and Home furnishing sector was 357.8 Lakh in 2018-19.

Manufacturing of wearing apparel share in the overall manufacturing sector was around 18.6 per cent (108.7 Lakh) in 2018-19.

Almost two-thirds of the total share of workers in manufacturing of apparels were employed in the custom tailoring sub sector.

Incremental manpower requirement and Skill Gap in the sector

Incremental human resource requirement in core AMH sector, including manufacturing and trade is estimated to be about 35 Lakh for upcoming five years period between 2021-22 and 2025-26. Of the total incremental human resource demand, 89 per cent demand is projected to be in manufacturing of AMH products and 11 per cent demand is projected to be in trade related activity. Incremental labour demand in ancillary sector is estimated to be about 52 Lakh. Thus, **the total incremental labour demand in AMH sector is about 87 Lakh.**

Total incremental supply at all skill level, during the 2021-25 period, is projected to be of 18.4 Lakh. With the incremental demand of 31 Lakh, **the skill gap in AMH - manufacturing is projected to be of 12.6 Lakh.**

- **Total incremental labour demand including manufacturing, trade and ancillary activities in AMH sector is ~ 87 Lakh**

- **Skill Gap in AMH sector in manufacturing is ~ 12.6 Lakh**

⁴ Working Paper 385, Automation and Future of Garment Sector Jobs: A Case Study of India, Sep 2019, Indian Council for Research on International Economic Relations

⁵ textiletoday.com, primary analysis

Recommendations for the stakeholders

Based on our study and the feedback from the relevant stakeholders, the suggestions were given to improve the training needs, improve the stakeholder awareness, industry institute collaboration, focus on entrepreneurship, training of trainers and assessors

- **Identifying the job roles emerging and becoming redundant with the onset of industry 4.0 and devising the new qualification packs**
- **Getting ready for the future of work by upskilling/ reskilling of the existing employees**
- **Improvising the soft skill curriculum as per the requirement of the job role**
- **Standardizing and monitoring the norms of SSC**
- **Creating awareness among the youth at school level**
- **Support unorganized sector employers to contribute in skilling**
- **Effective collaboration with industry and institute to mitigate the demand-supply challenges**
- **Focus on livelihood generation through innovative entrepreneurship models**
- **Refining existing models for training of trainers and assessors**



1- Introduction

Context and Background

The Apparel industry is one of the largest industries in India, generating massive employment opportunities for unskilled, semi-skilled and skilled labour. It constitutes of drape fabrics, garments, made-ups and home furnishing. India is the sixth largest exporter of apparel products.

The industry contributes significantly to the social and economic development of the country and plays a pivotal role in earning foreign exchange, alleviating poverty, empowering women in rural and remote areas and helping in the development of other industries like machine manufacturing, chemical manufacturing etc. Advancements in technology over the past decades have led to significant changes in the way apparel products are produced and consumed across the globe. With the aim to uplift the Apparel Made-ups and Home furnishing (AMH) sector further, an independent Sector Skill Council (SSC) was introduced in 2013 with an objective to develop a skill repository across value chain, develop training standards, evaluation criteria, accreditation systems, continuous improvisation of training delivery systems, integrating technology in training, maintaining skill inventory, promoting centre of excellence and last but not the least establishment of Labour Market Information System (LMIS) to assist the demand- supply needs.

PricewaterhouseCoopers Private Limited (PwC), India. was engaged by Apparel, Made-ups and Home furnishing Sector Skill Council (AMH SSC) to carry out a “Skill Gap Study in Apparel, Made-ups & Home Furnishing Sector”, to provide an overall outlook of the labour market and assess the skill gap in the sector which will lay a foundation to address key human resource challenges and create potential employment opportunities.

Requirement for the study

As the AMH industry is on the cusp of growth and transformation, focus on improving the efficiency and productivity of the workforce in the sector is vital. The sector has already employed millions of people across the country. As per the National Policy for Skills 2015, India is one of the youngest nations of the world with 62% of its population in working age group of 15-29 years and more than 54% of its population below 25 years⁶. In order to reap the benefit of this favourable demographic structure, we must focus on strengthening and enhancing the skills and capabilities of the labour force. Investing in educational institutions like colleges, ITI, skill universities, vocational training providers, etc. while actively taking part in the skill development of the youth making them adept and more employable, is the need of the hour. The industry-relevant skills will be of paramount importance and thus, the role of SSC becomes inevitable.

Indian apparel sector faces a paucity of skilled manpower, only 6.4% of the total workforce has received any sort of formal training⁷. Despite concerted efforts of the government resulting in implementation of schemes such as PMKVY, DDU-GKY, SAMARTH and other state level schemes and policies, the country still faces a shortage of skilled manpower. Further there are emerging technologies, shaping the current employment scenario and skill requirements. Thus, in order to get an updated analysis and fresh demand supply estimates in the apparel sector, the study was carried out to provide the sector outlook, labour market scenario and the skill gap till 2025 across India.

⁶ National Policy for Skill Development and Entrepreneurship 2015 (<https://www.msde.gov.in/>)

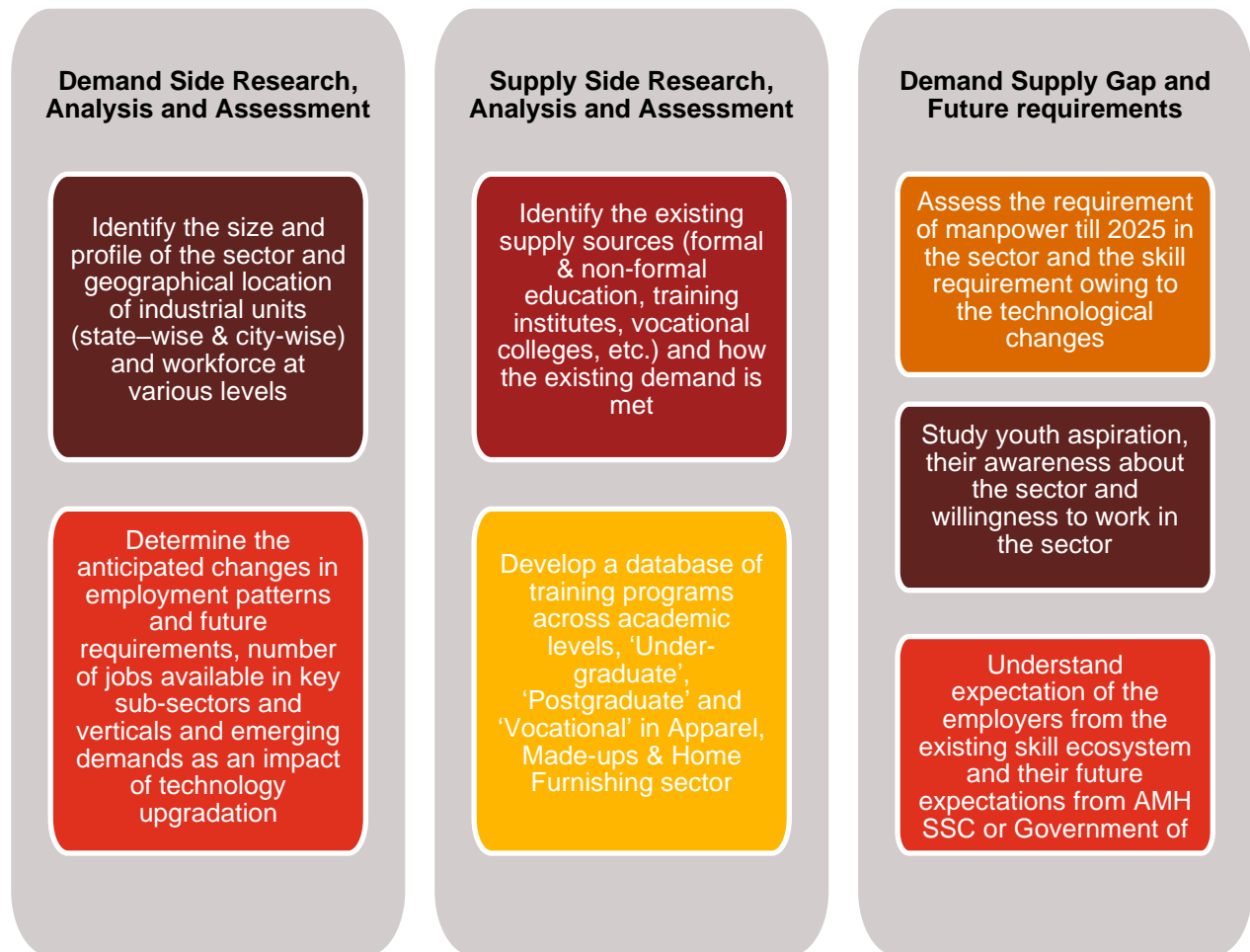
⁷ PLFS 2018-19, PwC Analysis

Objectives and Scope of work

The overall objective of the study was to provide a labour market outlook and undertake skill gap assessment for Indian Apparel sector up to 2025, which would lay the foundation for developing the strategy and action plan in order to address key human resource challenges and create potential employment opportunities in the sector.

The study covered the entire Apparel, Made-ups and Home Furnishing sector and included the following components as illustrated in the below figure.

Figure 1: Scope of the study

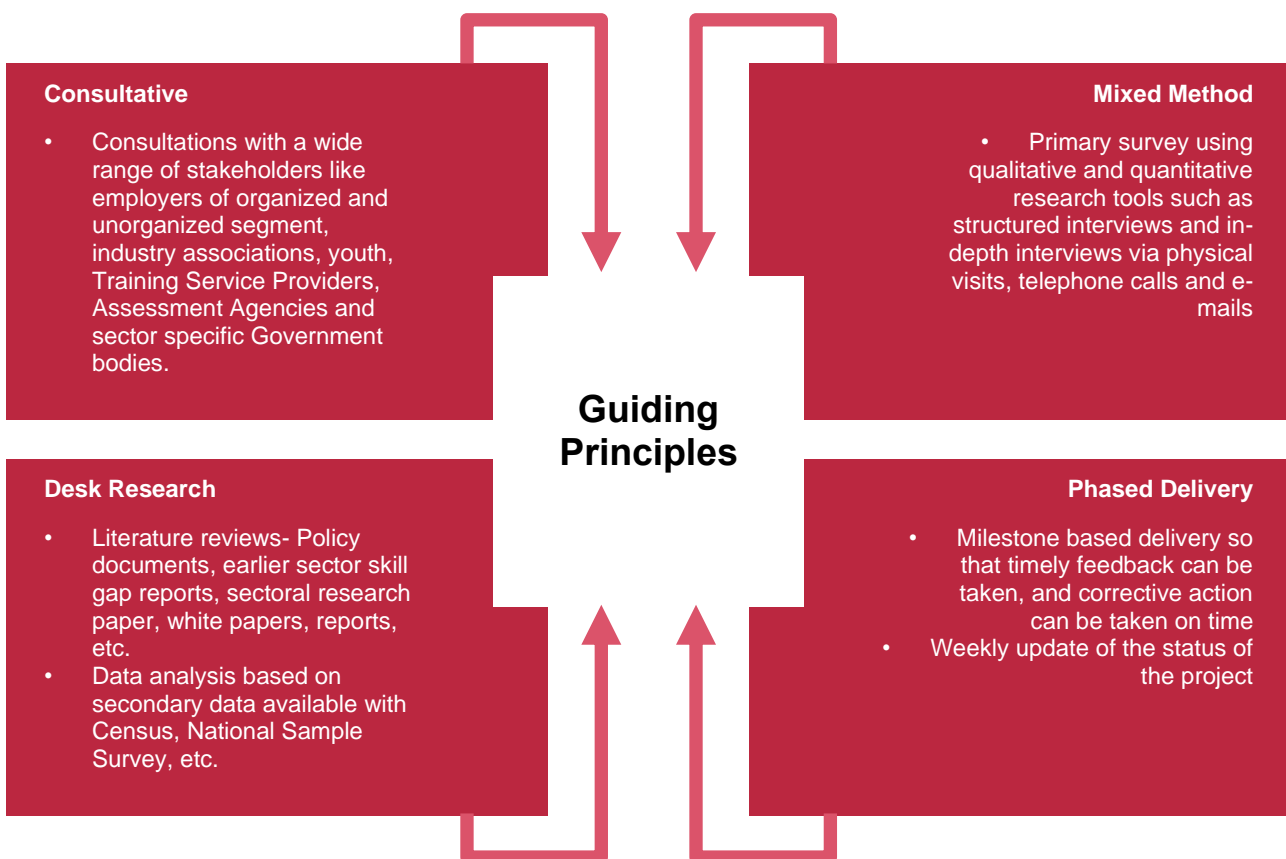


2- Approach and Methodology

Project approach

The overall approach adopted for the skill gap study in Apparel, Made-ups and Home Furnishing Sector was in line with the requirements, objective and scope of work as outlined in the scope of work. The study was guided by our **Approach Principles** which are highlighted in the figure below:

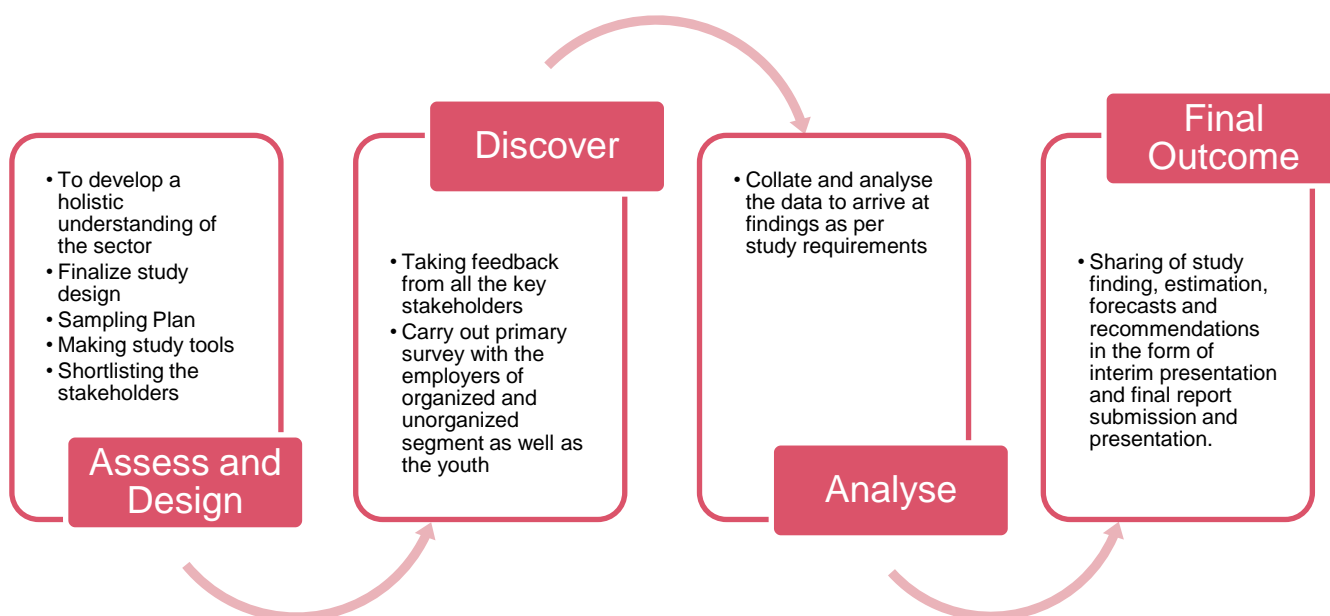
Figure 2: Project approach guiding principles



Project methodology

The project delivery methodology was divided into four stages and the study was completed within a span of 20 weeks.

Figure 3: Stages of project delivery



1. Assess and design

The first stage of the study included developing holistic understanding of the sector followed by the designing of the survey tools, piloting and revising the tools, finalizing the approach and methodology, mapping and listing the stakeholders for the survey. We have covered 103 employers, 2 industry associations, 2 training partners, 2 assessment agencies, 165 youth and 10 self-employed stakeholders (boutique owner, tailor and pressman) in our study and additionally the government regulatory bodies.

Table 1: Sample size covered

S. No.	Stakeholder Name	Sample
1	Employers (Organized Segment)	70
2	Employers (Unorganized Segment)	33
3	Industry Associations	2
4	Assessment Agency	2
5	Training Partner	2
6	Youth	165
7	Boutique owner, tailor, pressman	10

2. Discover

In the next stage, we carried out consultations with the key stakeholders using qualitative and quantitative research methods. Besides, primary interactions with the stakeholders, secondary research on economic, demographic and labour market trends was also undertaken during the second stage. We have covered employers from all the major apparel clusters- Delhi NCR, Tamil Nadu, Karnataka, Maharashtra, West Bengal, Gujarat, Bihar and Jharkhand. We have connected with the stakeholders through telephonic interview, online survey tools, physical interviews, e-mails, etc. We conducted regular checks on the data being collected to ensure the quality.

3. Analyse

After completing the primary survey and secondary research, , we collated the data and analyzed it to reach to a conclusion. The major outcome of this segment included assessment of employment scenario, identification of major job roles in demand, job roles vulnerable to technological advancements , analysis of youth aspirations, estimation of demand-supply gap and the labour requirement till 2025.

4. Final Outcome

The delivery of the outcome included identifying the key challenges, providing recommendations, assessing the skill gap in the sector, submission of the interim report to seek the feedback of the client and developing the final report, including all the suggestions given by the client.

3- Overview of Apparel, Made-ups, Home Furnishing (AMH) Sector in India

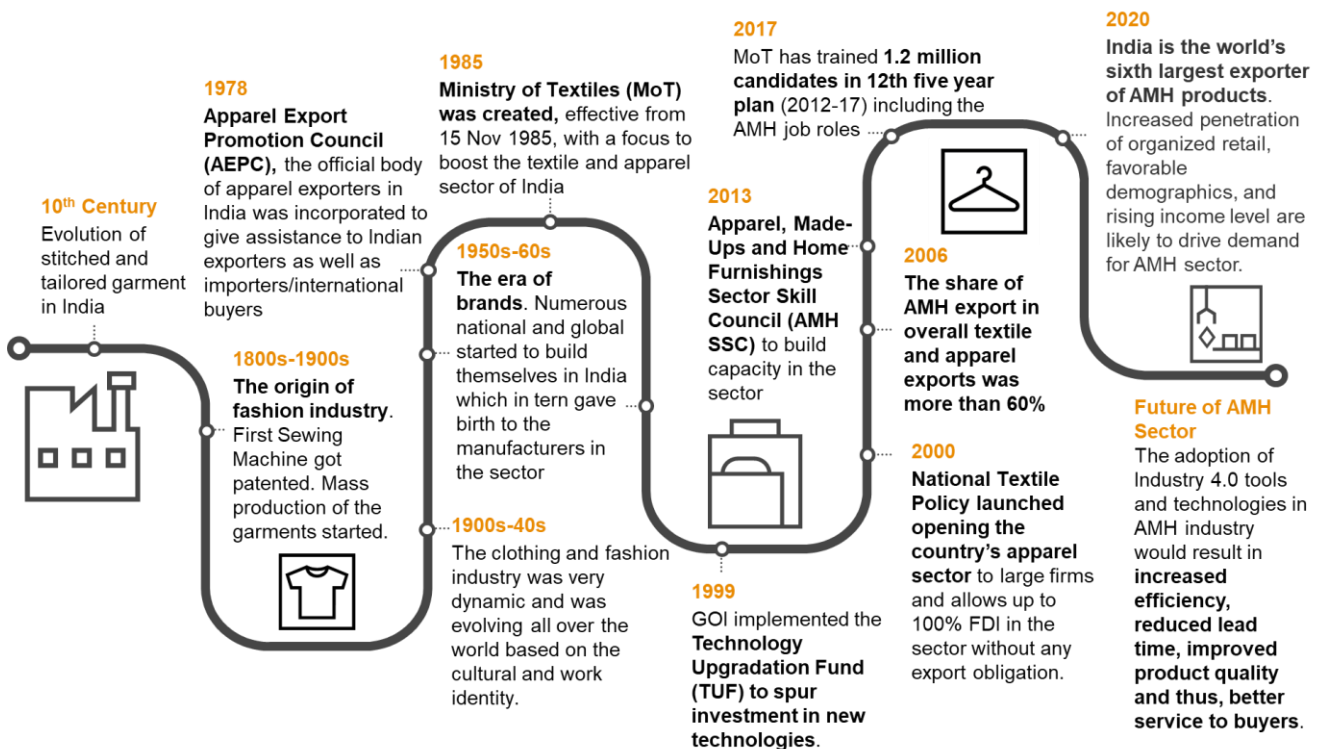
Overview of Apparel Industry in India

The Indian textile and apparel (T&A) industry enjoys a rich heritage and is one of the oldest industries of India. India has strengths across the entire value chain from fiber, yarn, fabric to apparel, garment and fashion. The industry has two broad segments. First, the unorganized sector, that consists of handloom, handicrafts and sericulture, which operate on a small scale and through traditional tools and methods. The second is the organized sector, consisting of spinning, weaving, processing and garments manufacturing segment, which apply modern machinery and techniques. Textiles accounts for the fibre to fabric manufacturing while Apparel includes fabric to garment, home textile and made-ups manufacturing.

The origin of the industry traces back to the Indus Valley civilization at around 3000 B.C. Archaeological evidences suggest existence of the cotton textile industry at Mohenjo-Daro in the Indus Valley in around 3000 B.C. The 11th century BC Rig Vedas state the existence of dyed and embroidered garments and in 2nd century AD India was known to produce muslin clothes which were traded to Roman Emperors. The evolution of stitched and tailored garments began in 10th century AD, which was further developed around the 15th century by the Muslim empires in India.

By the 17th and 18th century, India was a major supplier of cotton-based textiles to the whole of South East Asia, Iran, the Arab countries and East Africa. The contemporary Indian Apparel industry not only reflects the magnificent past but also serves the needs of the modern times.

Figure 4: History of Apparel industry



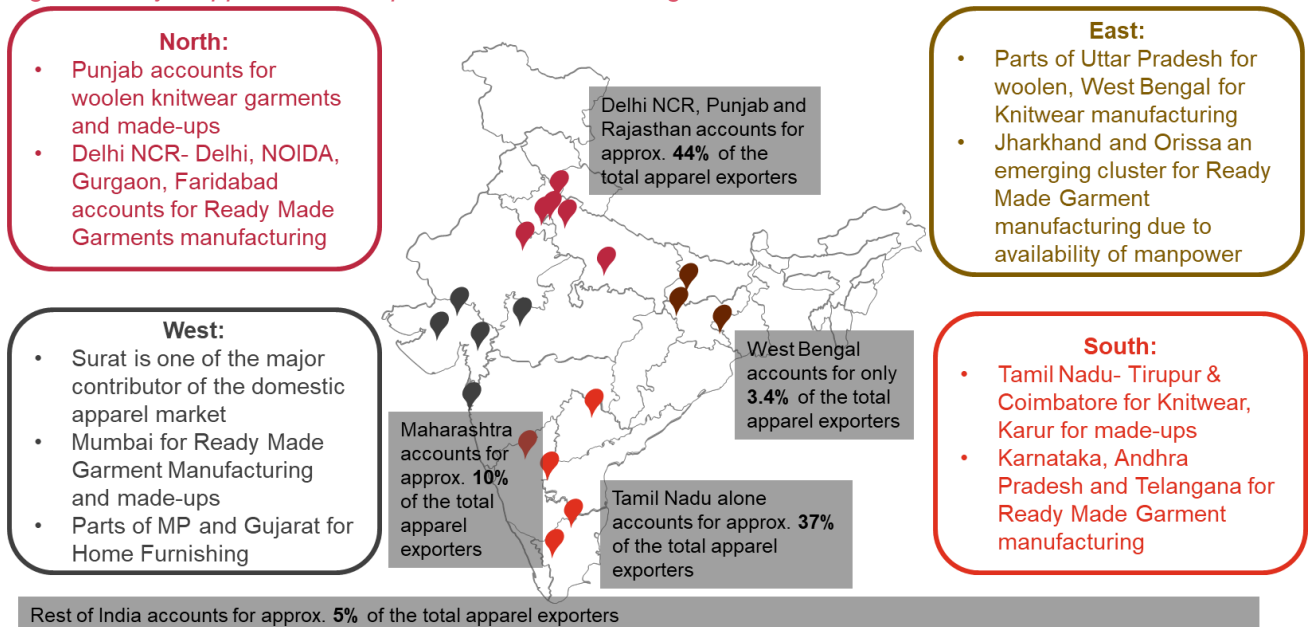
Source: Secondary Sources and PwC analysis

Apparel Clusters in India

In India, the Apparel industry is spread across the country. However, the distribution of the clusters depends on the availability of raw material as well as the manufacturing. Cotton based units can be seen in all parts of the country, while the synthetic and woolen based industries are mainly concentrated in Maharashtra, Gujarat, Punjab, Jammu & Kashmir, Haryana, Madhya Pradesh and Uttar Pradesh. The silk-based industry finds concentration in Andhra Pradesh, Karnataka and Tamil Nadu while, jute clusters are largely located in Bihar and West Bengal.

Most of the apparel exporters (approx. 95%) are based out of Delhi NCR, Tamil Nadu Punjab, Rajasthan, Maharashtra and West Bengal. Rest of the India accounts for remaining 5% of the apparel exporters.

Figure 5: Major Apparel, Made-ups and Home Furnishing Clusters in India



Source: Textile and Apparel Sector study by NSDC (2013-22) and PwC analysis

- ✓ Apparel sector started flourishing in India after introduction of National Textile Policy in 2000, which allowed up to 100 per cent FDI in the sector, without any export obligation.
- ✓ Apparel sector is concentrated in 8 clusters:
 - Woven Apparel Clusters- Bangalore, NCR (Delhi/ Noida/ Gurgaon), Mumbai, Jaipur, and Indore
 - Knitted Apparel Clusters- Tirupur, Ludhiana and Kolkata
 - Made-ups and home furnishing- Karur, Panipat, Mumbai

Trade Scenario in Apparel, Made-ups and Home Furnishing Sector

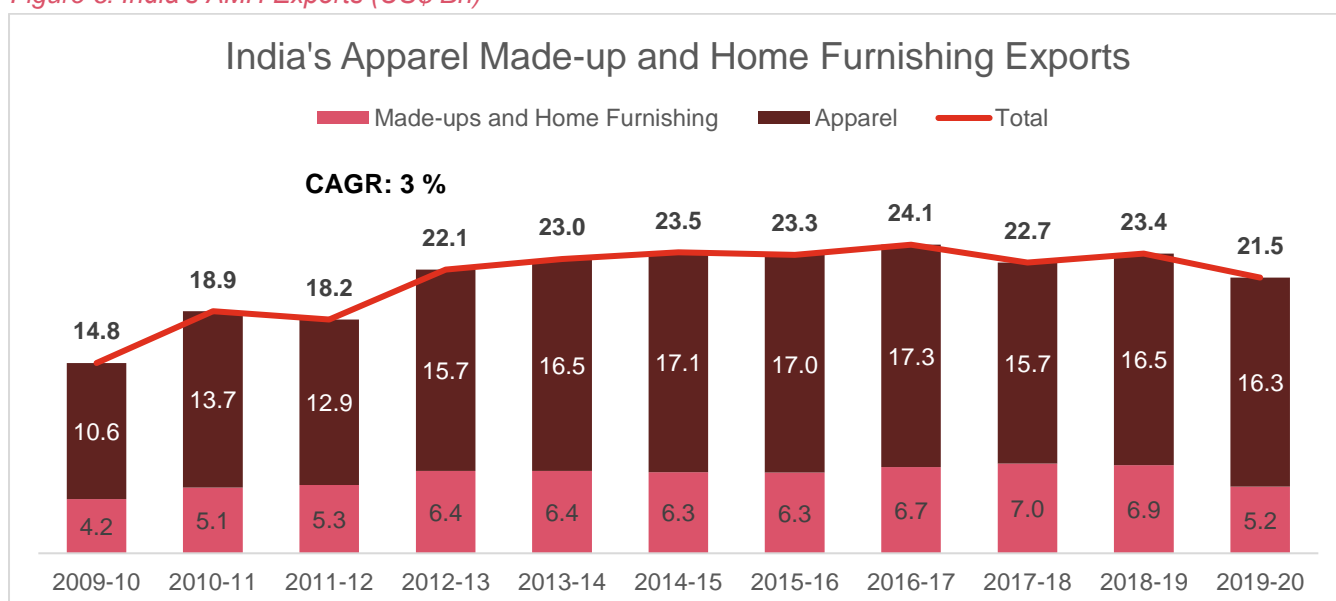
Export Market Overview of AMH Sector

The exports of AMH products grew at a CAGR of 3 per cent from US\$ 14.8 billion in 2009-10 to US\$ 21.5 billion in 2019-20. Top exported AMH commodities are T-shirts, kitchen & toilet linen, bed linen, men's shirt, women's top. The major export destinations for apparel products were USA, U.A.E., UK, Germany and Spain with US\$ 4.4 billion, US\$ 1.9 billion, US\$ 1.6 billion, US\$ 1 billion and US\$ 0.8 billion exports respectively. The major export destinations for Made-ups and Home Furnishing products were USA, UK, Germany, UAE and Spain with USA covering 50% of the market.

The share of Apparel, Made-ups & Home furnishing in the total textile & apparel exports is about 60 per cent.

Apparel sector accounted for 2.4 % of the Gross Value Addition in the organized manufacturing and 19.3 % of the Gross Value Addition in the unorganized manufacturing in 2015-16.

Figure 6: India's AMH Exports (US\$ Bn)



Source: ITC Trade Map

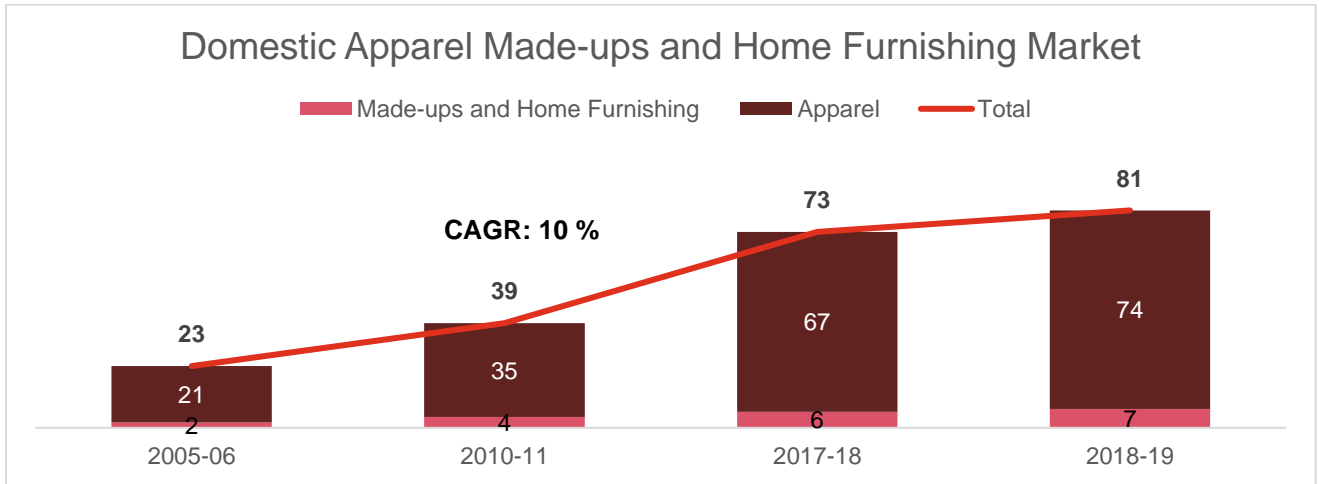
Domestic Market Overview of AMH Sector

The domestic T&A industry stood at US\$ 140 billion in 2018 (including handicrafts) of which, US\$ 100 billion was domestically consumed while the remaining portion worth US\$ 40 billion was exported to the world market. Further, the domestic consumption of AMH stands at US\$ 81 billion consisting of US\$ 74 billion apparel and US\$ 7 billion of home furnishings⁸. Indian domestic market has performed better than the largest T&A consumer regions like USA, EU and Japan, registering a healthy CAGR of 10 per cent between 2007 & 2018.

India's domestic apparel market size is expected to reach US\$ 220 bn in 2025 by growing at a CAGR of 12 per cent.

⁸ Invest India (<https://www.investindia.gov.in/sector/textiles-apparel>)

Figure 7: Domestic AMH Market Size (US\$ Bn)



Source: FICCI TAG 2020⁹

India's domestic AMH market has advantage over many large consumer regions such as USA, EU and Japan due to factors such as increasing population, increasing disposable income, growing consumer market and emergence of growing retail sector.

Apparel, Made-ups and Home Furnishing (AMH) Manufacturing

India offers a favourable state of manufacturing from fibre to fashion. Apparel products comprise garments like tops, t-shirts, shirts, trousers, suits, etc. and drapery like sarees, dhotis, scarves, etc. Made-ups include all the products which are made of fabrics but are not used for wearing purpose like bags, carpets, rugs and home furnishing includes items such as bed sheet, tablecloth, curtains, towels, etc. The below figure illustrates the different sections of manufacturing from fibre to the final apparel products in the retail outlets.

Figure 8: The AMH Value Chain



Source: PwC analysis

⁹ Indian Textile Industry: Winning in Disruptive Times- FICCI TAG 2020

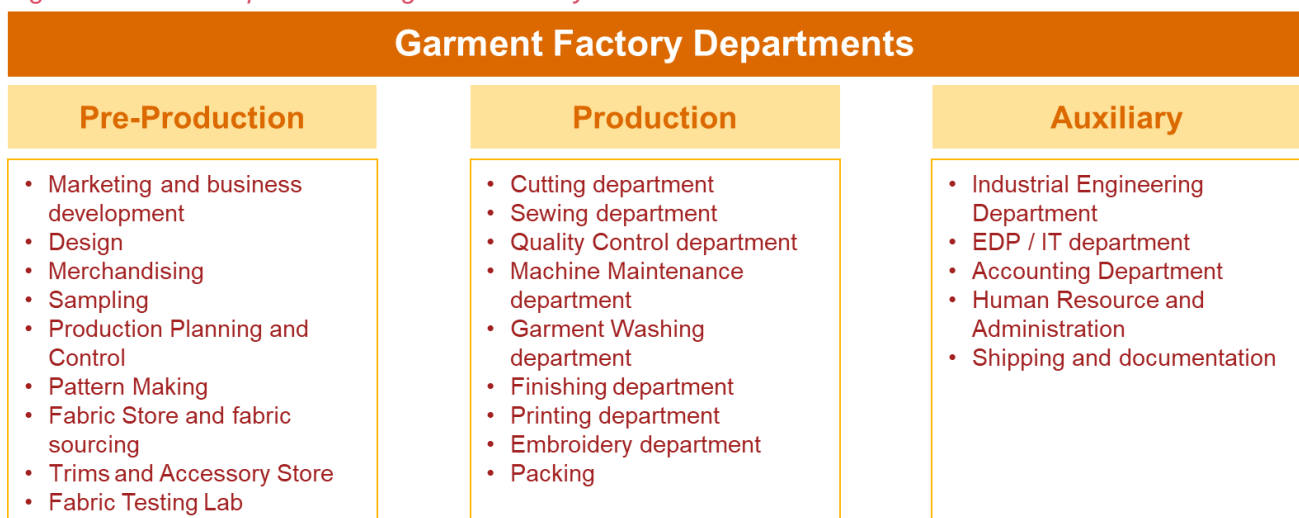
In a garment factory, departments are set-up based on the group of activities to be performed by a team of people. Based on the present apparel industry scenario, garment manufacturing processes are categorized as-

- **Pre-Production Processes-** Pre-production processes involve sampling, sourcing of raw materials, Approvals, Pre-Production meeting etc. It comprises of the jobs that require well developed skills like production manager, designers, merchandisers, quality auditors/ assessors, sample developers, advance pattern makers, executives, etc.
- **Production Processes-** Production processes comprise cutting, sewing, thread trimming, pressing, checking, folding and packing, shipment inspection etc. It comprises of job roles like floor in-charge, supervisors, quality checkers, fabric checkers, fabric spreaders and cutters, finishers, pressman, packers, helpers, etc. which is a mix of skilled, semi-skilled and unskilled workers.
- **Auxiliary Processes-** Auxiliary processes include day to day support to departments involved in other than the pre-production works. It includes HR, admin, IT, mechanical, industrial engineer, security, shipping and finance.

Garment industry is labour intensive. **The requirement of the workforce is high in sewing department as it is the most important process in garment manufacturing. There are a variety of job roles in a garment manufacturing unit such as managers, merchants, designers, industrial engineers, supervisors, pattern masters, sewing operators’ helpers, checkers, etc.** Overall, 67% of the workforce are tailors, operators and helpers; 18% of the workforce consists of merchandisers, production managers, designers and sample developers; 15% of the workforce is in supervisory roles¹¹.

The workers are generally of different skill levels, classified into highly skilled (supervisory staff, quality assurance), skilled (production operators, embroidery operators, washer), semi-skilled (finisher, pressman, packer) and unskilled (helpers, thread cutters, layer man, etc.) which constitute approximately 15 per cent, 30 per cent, 30 per cent and 25 per cent respectively of the total workers on the production floor¹².

Figure 9: Various departments in garment factory



The above-mentioned departments are available in any typical garment factory engaged in manufacturing of woven garment; however, the number of departments may vary as per the product. In knitting garment set-up, many a times, the garment is derived directly from the knitting machine, with minimal or no sewing operation. The machinery requirement for making woven garments and knitted garments are different. Also, since the machineries and operations are different, the skills required by the operator also varies.

The apparel value chain goes beyond the manufacturing unit. Once the product is manufactured, it is shipped to the destination countries and sold to the consumers via mediums like retail store or online shopping platforms.

¹⁰ Online Clothing Study (www.onlineclothingstudy.com)

¹¹ Study on “Garment Sector to understand their requirement for Capacity building”, Ministry of Textiles

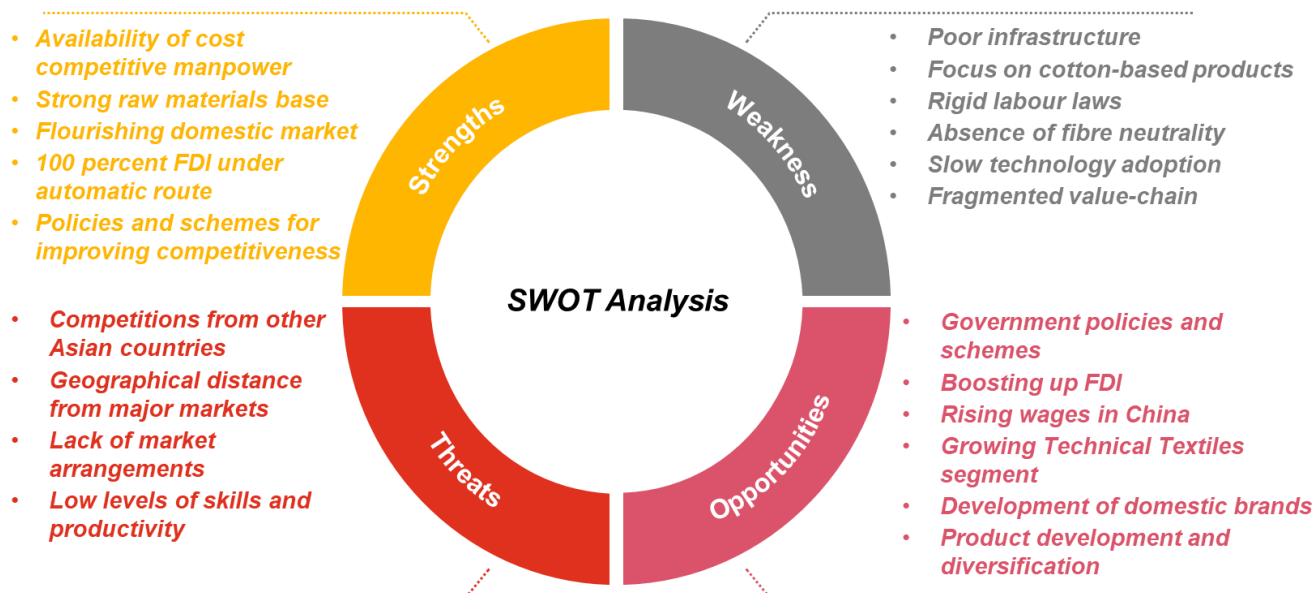
¹² Study on “Garment Sector to understand their requirement for Capacity building”, Ministry of Textiles

In between the manufacturing units and the retail platforms, there are distributors and sourcing agents who help in creating the marketing network.

SWOT Analysis of the sector

Following section puts forth the SWOT analysis¹³ of the Apparel, Made-ups and Home Furnishing sector.

Figure 10: SWOT Analysis of AMH Sector



Strengths

1. **Manpower cost competitiveness-** The minimum wages in India is about US\$ 115/month, which is lower than the global average of about US\$ 186/month, making India a low-cost manufacturing destination for many global companies. However, the minimum wages in India are higher than some other Asian counterparts such as Bangladesh, Pakistan and Sri Lanka.
2. **Availability of abundant raw materials-** One of the core strengths of the Indian apparel industry is strong production base of natural fibers (cotton, jute, etc.) as well as Man Made Fibre (MMF). India is world's largest producer of cotton and jute fiber in the world, and the second largest producer of polyester and silk fibers. This enables India to be one of the largest exporters of intermediary products such as yarn and fabric. This also ensures that the Indian apparel industry is a self-reliant industry.
3. **Schemes for improving competitiveness of the industry-** The central and state governments of India have introduced schemes that are helping in improving the competitiveness of the industry. For example, there are skill development schemes at central, state and district level that provide market relevant training to the workforce entering the industry. Also, there are schemes for technology upgradation of the industry, development of apparel parks, etc. to improve the sector competitiveness.
4. **Flourishing domestic market-** Due to increase in middle class population and spending capacity, domestic apparel market size of India is expected to reach a level US\$ 220 bn in 2025, growing at a CAGR of 12 per cent. This provides huge opportunities for the manufacturers to become competitive in the sector.

¹³ UKessays (<https://www.ukessays.com/essays/marketing/swot-analysis-of-indian-textile-industry-marketing-essay.php>)

Weakness

1. **Truncated productivity levels-** In spite of the government concerted efforts on skill development, one of the biggest challenges that our apparel industry is floundering with is the low levels of skills and productivity of the workforce. The apparel manufacturing industry of China has one of the highest labour productivity levels ranging between 80-90 per cent, whereas, the labour productivity levels in India are merely 45-60 per cent, acting as an obstacle for the Indian apparel industry.
2. **Inadequate infrastructure-** The trade related infrastructure in India, although has significantly improved and transformed over the years, is still not conducive for the growth of the apparel industry. According to the Global Competitive Index 2019, developed by World Economic Forum (WEF)¹⁴, India still lags many countries. India's ranking in utility infrastructure (for example electricity) was 103 out of 141 countries, which is very low. Power supply is a very important factor for apparel production, non-availability of electricity or discontinuous power supply may hinder the competitiveness and growth of the apparel industry.
3. **Focus on cotton-based products-** Demand of Man Made Fibre (MMF) based apparel is rising across the globe but South Asia, except Sri Lanka, is still cotton focused. India also is majorly an exporter of cotton-based garments.
4. **Stringent and rigid Labour laws-** Indian apparel industry is highly unorganized and fragmented in nature. The reason behind this is the rigid and stringent labour laws on various aspects like contract labour, overtime (beyond working hours), women working in night shifts etc., which the firms find hard to comply with.
5. **Dispersed value-chain-** Although Indian apparel industry has presence in all parts of the value chain but in many cases, those are widely dispersed throughout the country. Each part of the value chain has mostly grown in different clusters. This factor leads to the increase in the lead time and logistics costs, which reduces the export competitiveness of our products.
6. **Absence of fiber neutrality-** While most of the competing countries follow a fiber neutral policy, the Indian T&A industry follows a differential tax treatment by fiber type. Taxes on cotton and cotton-based products are significantly lower than MMF based products. Such unfavorable tax treatment hinders the growth of MMF based textile industry. It is important to mention here that, international trade of MMF based products is growing faster than cotton-based products. Thus, in order to stay ahead, we will need to make considerable changes in the tax regime.
7. **Slow adoption of technology and use of obsolete technology-** In order to remain competitive and become the next manufacturing hub, it is important that India embraces technological changes and advancements. Countries, such as China, are making use of robotics in their manufacturing processes to increase efficiency and reduce lead time. Such changes are yet to happen in our country. While the adoption of technology remains a challenge, another potential challenge includes equipped and agile workforce to handle these advance machineries.

Opportunities

1. **Government policies and schemes for the sector-** The Indian government is actively launching and implementing various schemes and policies to boost the productivity and efficiency of the T&A sector. The Indian government has come up with several export promotion policies for the apparel sector.
2. **Boosting up FDI in the industry-** The Indian government allows 100 per cent FDI in the apparel sector under automatic route. In addition to this, the sector has been given special focus under the "Make in India" scheme. Both these initiatives have helped in attracting FDI in the sector. Potential investors can set up manufacturing units in Special Economic Zones (SEZs) and National Investment and Manufacturing Zones (NIMZs) at subsidized rates.

¹⁴ The Global Competitiveness Report, 2019, World Economic Forum

3. **Rising wages in China-** The younger generation in China is more educated and better skilled and has thus, started demanding higher wages, compared to the previous generation of unskilled and low-cost manpower. China, thus, has comparatively high wage cost of ~US\$ 200/month against global average of US\$ 186/month. Due to this, many countries are scouting out for low-cost countries to setup their manufacturing units. This can act as an opportunity for India to gain greater market share and leading to growth and development of the apparel sector.
4. **Growing Technical Textiles segment-** Technical textiles offer the opportunity to the Indian textile industry to maintain the present current growth and flourish in near future. With a market size of Rs 116,000 crore (US\$ 18 billion) in 2019-20, it is projected to grow at the rate of 20 per cent year-on-year and reach Rs 200,000 crore (US\$ 28.61 billion) by 2020-21¹⁵. It will also help in advancement of the industry. US\$ 70.83 million has been allocated to promote the use of geo-technical textiles in the north-eastern states.
5. **Development of domestic brands-** Indian domestic market has performed better than the largest T&A consumption regions like USA, EU and Japan, registering a strong CAGR of 10 per cent between 2007 & 2018. However, till date very few home-grown brands have succeeded in domestic market and its presence in other countries is insignificant. Major garment manufacturers of India may plan to develop their own brand and venture into retail activities.
6. **Product development and diversification-** India, due to its cost competitiveness and abundance of raw materials and workforce, is one of the lucrative destinations for markets like USA, Europe, Japan. Apparel manufacturing in India is seasonal with strong capabilities in summer wear products in natural fibers such as T-Shirts, Blouses, Dresses, Woven Shirts etc. However, India has significant gaps in value chain for winterwear products and lacks value chain requisite capability for synthetic products. Both these product categories are among the top consumed categories worldwide¹⁶.

The Indian companies need to focus on product development and diversification in order to capture new markets globally. They need to invest in design centres and investment labs. Specialized and smart fabrics should be introduced.

Threats

1. **Competition from other Asian counterparts-** Low-cost producing countries like Bangladesh and Pakistan may hinder exports demand in the future and impede India's growth opportunities. In order to remain at the top of its game, India must ensure that the workforce is well-equipped and skilled to stay ahead of its competitor's despite of the availability of cheap workforce in these countries.
2. **Paucity of skills and productivity-** The Indian apparel industry suffers from shortfall of skilled manpower. Due to this reason, the productivity levels plunge down to 45-60 per cent. This also makes the adoption of information and communication technology difficult and limited. Although the Government is taking several initiatives for the capacity building of the workers, there is still a long way to go.
3. **Geographical distance from major markets-** USA and UK have been the most prominent export destinations for Indian apparel exports. UK and USA alone occupy 50 per cent of the share of total exports of apparel from India. Huge geographical distance from these major markets acts as a disadvantage to India in contrast to its rivals like Mexico and China which are relatively closer.
4. **Lack of market arrangements with major markets-** India lacks duty free access to major markets such as the EU and USA. Although in EU, India has preferential access due to GSP status, apparel exports from India to EU incur duty up to 9.6 per cent. Our competitors, on the other hand, namely Bangladesh and Vietnam, either have or are in the process of finalizing duty free access to markets, which gives them a significant advantage over India.

¹⁵ Textiles and Apparel- March 2020- India Brand Equity Foundation (IBEF)

¹⁶ Study on "Garment Sector to understand their requirement for Capacity building", Ministry of Textiles

Comparative Analysis of India with other Manufacturing Hubs

While the Indian AMH industry present numerous opportunities for economic growth and development, it too, faces threat from various Asian counterparts like Bangladesh, Vietnam, Pakistan, Sri Lanka etc. Following table shows comparative analysis of India with some of the famous manufacturing destinations on several important factors.

Table 2: Comparative analysis of India with other key Asian Manufacturers

Factors	India	Bangladesh	China	Sri Lanka	Pakistan	Vietnam
Minimum wages ¹⁷ (US\$ /month)	~115	~95	~200	~88	~107	~150
Global Competitive Index (GCI) 2019 ¹⁸	68 th	105 th	28 th	84 th	110 th	67 th
Human Capital Index (HCI) 2020 rank ¹⁹	116 th	123 rd	45 th	71 st	144 th	38 th
Logistics Performance Index (LPI) 2018 ranking ²⁰	44 th	100 th	12 th	94 th	122 nd	39 th

Global Competitive Index (GCI): GCI is defined by the World Economic Forum. It is a set of institutions, policies, and factors that determine the level of productivity of a country, conditions of public institutions and technical conditions.

Human Capital Index (HCI): HCI report prepared by the World Bank. The Index measures which countries are best in mobilizing the economic and professional potential of its citizens. The index measures how much capital each country loses through lack of education and health.

Logistics Performance Index (LPI): is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance.

Note: Countries mentioned in the table are arranged alphabetically in comparison to India.

Policy and Regulatory Framework for AMH Sector

The Government of India is supporting the garment industry with various schemes to promote exports, technology adoption and upgradation, skilling and encouraging fashion technology. **Government has taken many initiatives to promote the sector and allowed 100 per cent FDI under automatic route. Key Initiatives taken by government are²¹:**

- ✓ Announced special package of **Rs. 6000 cr in June 2016** for Garments and Made-ups with the components Enhanced Duty Drawback Coverage/ Rebate of State Levies (ROSL) on Export of Garments/ Made-ups
- ✓ Additional incentives under Amended Technology Upgradation Scheme (ATUFS)/Scheme for production and **Employment Linked Support (subsidy 10%) for garmenting units (SPELSGU)** assistance for entire **12% employer's contribution towards EPF/ Pradhan Mantri Paridhan Rojgar Protsahan Yojana (PMPRPY)**
- ✓ **Reforms in Labour Laws for increasing overtime caps and introduction of Fixed term Employment; income tax concessions** under section 80 JJAA for garmenting sector
- ✓ Under Union Budget 2020-21²², the Ministry of Textiles has announced **Rs 690 crore (US\$ 106.58 million) for setting up 21 readymade garment manufacturing units in seven states** for development and modernization of Indian textile sector.

¹⁷ Data source: Primary research, Fair Labour Association, wageindicator.org and industry reports

¹⁸ Global Competitive Index, World Economic Forum, 2019

¹⁹ HCI 2020- World Bank Data

²⁰ World Bank (<https://lpi.worldbank.org/>)

²¹ Annual Report 2018-19, Ministry of Textiles, Government of India

²² Indian Textile Industry Report (<https://www.ibef.org/industry/textiles.aspx>)

- ✓ Directorate General of Foreign Trade (DGFT) has **revised rates for incentives under the Merchandise Exports from India Scheme (MEIS) for Readymade Garments and Made ups - from 2% to 4%.**
- ✓ Exclusive schemes for skill development like Scheme for Capacity Building in Textile Sector (SAMARTH) along with other schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), etc.
- ✓ Under the Union Budget 2021-22, Government announced setting up of 7 textile parks under Mega Investment Textiles Parks (MITRA) scheme which will boost the AMH sector as well.

Major Achievements by Government

- I-ATUFS, a web-based claims monitoring, and tracking mechanism was launched on April 21, 2016.
- 381 new block level clusters were sanctioned.
- Under the Scheme for Integrated Textile Parks (SITP), 59 textile parks were sanctioned out of which 22 have been completed.

The Ministry of Textiles has announced Rs 690 crore (US\$ 106.58 million) for setting up 21 readymade garment manufacturing units in seven states for the development and modernisation of Indian T&A sector

Benefits of policy and regulatory framework to this sector are:

- The changes in the policy and regulatory framework has provided the workforce a conducive environment to work.
- Setting up of new infrastructure will increase the demand of skilled manpower.
- There are new opportunities for the youth to get formal training in the sector and get placed.

Skill Development Policy

Indian government runs more than seventy skill development schemes at central, state and district level. The government has launched the Skill India flagship program to empower youth of the country by imparting employable skills to them. Under this initiative, the government has set up Ministry of Skill Development and Entrepreneurship (MSDE) to bring all the skill initiatives of the government under one umbrella and lead skill development ecosystem in the country. The ministry also launched a comprehensive Skill Development Policy in 2015 in which, detailed skill set requirement, courses offered, and roles and responsibilities of different stakeholders were defined. Further, sector wise skill gap analysis was also undertaken to understand sector specific skill requirement.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) are the flagship schemes which offer a variety of courses in the AMH sector. Among other skill development programmes, Integrated Skill Development Scheme (ISDS) was the main program run by the Ministry of Textiles, Government of India, introduced in XIIth Five Year Plan (FY 12-17). The scheme had a target to train 1.5 million people for the T&A industry. As continuation of the scheme, the ministry has launched Scheme for Capacity Building in Textile Sector (SCBTS) also known as SAMARTH in 2018 with a target to train 1 million people in the sector.

ISDS has helped the industry by supplying skilled workforce, which, in turn, has helped the manufacturers in improving productivity and quality. Overall, it has helped in reducing cost, wastage and improving competitiveness that resulted in better business performances.

Investment in the sector

Ministry of Textiles has a vision to take the textile and apparel market up to US\$ 300 billion by 2025²³. This can only be possible by attracting new investments. Big companies such as Reiter, Socktas, Trutzschler, Zambaiti Parati, Bilsar, CMT, Nisshinbo, Marubeni, Skaps, Ahlstrom, Terram, Strata, Marks & Spencer, Zara, Mango, Promod, Benetton, Espirit, Levis, Forever 21, etc. have already invested in the sector.

The industry has attracted Foreign Direct Investment (FDI) worth US\$ 3.41 Bn from April 2000 to December 2019²⁴.

There are seven big projects worth US\$ 300.98 million going on, out of which five are in Garment subsector and two are in Yarn and Fabric subsector worth US\$ 290.47 million and US\$ 10.51 million respectively. Among the 5 projects in Garment sector, three are in Assam, one in Madhya Pradesh and one in Orissa. The other two projects of Yarn and Fabric subsector are in Maharashtra and Daman & Diu. Among all the seven ongoing projects, six are Government own and one is privately own known as Yeola Silk Fabric Project²⁵.

Table 3: Major investment project in Textile and Apparel Sector

S. No.	Name of the Project	Sub-Sector	State	Value of Project (US\$ Million)
1	Bhadrak Textile Park	Apparel and Garments	Orissa	260.58
2	Development of Garment Park at Bhatauli, Jabalpur	Apparel and Garments	Madhya Pradesh	27.77
3	Setting up of handloom production unit at HPC	Apparel and Garments	Assam	1.32
4	Setting up of handloom production unit	Apparel and Garments	Assam	0.4
5	Setting up of handloom production unit	Apparel and Garments	Assam	0.4
6	Yeola Silk Fabric Project	Yarn and Fabric	Maharashtra	6.61
7	Floatel Project	Yarn and Fabric	Daman & Diu	3.9
Total				300.98

Source: India Investment Grid²⁶

Ancillary Activities

The AMH industry uses inputs from several ancillary industries, such as fibres, chemicals, dyes, agriculture sector, machinery, packaging materials, logistics, construction, etc. When the demand for apparel industry increases, the demand for these ancillary industries will also grow simultaneously²⁷. Further to run a garment industry smoothly, IT, accounts, maintenance, HR, shipping and administration departments are necessary apart from the production department.

Key Ancillary Sectors which support AMH Industry

- Natural fibre cultivators
- Synthetic fibre manufacturers
- Chemical and dyes manufactures
- Machine and its parts manufactures
- Trims and accessories manufactures
- Information Technology (ERP, design software, CAD/CAM Software, PLM software, etc.)
- Finance and accounts
- Logistics and transportation
- Shipping and administration

²³ Vision, Strategy and Action Plan for Indian Textile and Apparel Sector, Ministry of Textiles (<http://texmin.nic.in/>)

²⁴ Indian Textile Industry Report (<https://www.ibef.org/industry/textiles.aspx>)

²⁵ Invest India (<https://indiainvestmentgrid.gov.in/opportunities/projects/textiles>)

²⁶ India Investment Grid (<https://indiainvestmentgrid.gov.in/opportunities/projects/textiles>)

²⁷ The Textiles and Apparels Industry – Contributing to “Make in India”, ASSOCHAM India

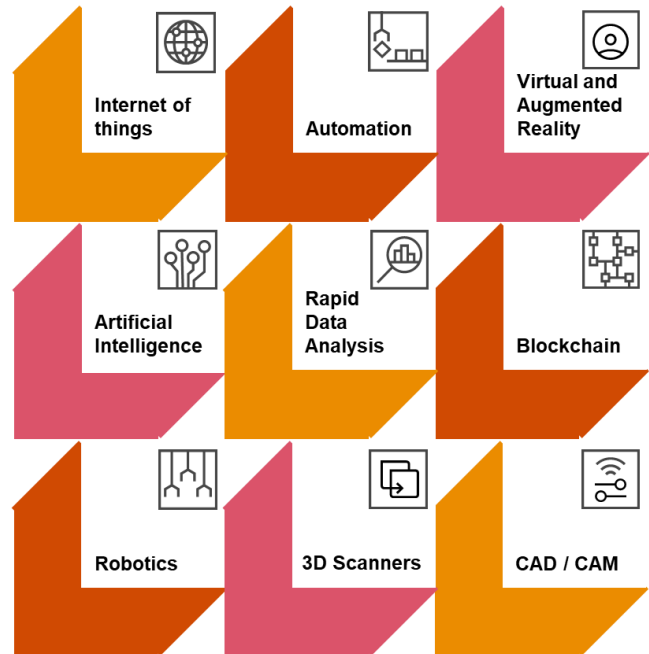
Earlier Indian manufacturers used to import dyes and chemicals but owing to the flourishing apparel industry within India, many chemical manufacturers are setting up their units in India. India has gradually started to emerge as the manufacturer and supplier of textile chemicals, dyestuffs and intermediates.

Along with this, creation of hi-tech parks with pioneering infrastructure facilities across the nation, has led to increase in employment in various other sector like construction, logistics, machine manufacturing and maintenance, etc. Many workers hired for the cleanliness and maintenance of the buildings have been provided with livelihood opportunities due to the creation of these parks. These parks not only support the core apparel industries but also enable the entire ecosystem by integrating ancillary industries like- trims and accessories (labels, buttons, zippers, sewing thread etc.).

4- Technology Drivers for Change in Future Occupation in AMH Sector

The fourth industrial revolution is giving birth to Apparel 4.0 and there is a rising demand of high technical skills combined with the higher-order cognitive and soft or socio-emotional skills. The dynamics of these technologies in the wake of the fourth industrial revolution, impacts different aspects of the apparel supply chain starting from fibre manufacturing to fashion tech.

The scope of technology in the field of apparel industry ranges from economical design options to garment digital printing, embroidery, conventional sewing, embellishment attachment, heat transfer, laser decoration and what not. Some of the emerging areas of apparel 4.0 application are smart clothing, autonomous robots, big data analytics, simulation technology, horizontal and vertical system integration, industrial Internet of Things (IOT), cybersecurity and cyber-physical systems, cloud computing, value additive manufacturing, smart factory solutions, 3D printing technology, Machine to Machine (M2M) communication in knitting machines, smart fabrics and AI-infused industrial ERP.



For example, fabrics with value adding properties such as sunblock, waterproof, odor controlling, flex & stretch are the creation of advanced technologies. Retailers and merchandizers depend on technology for the analysis of trends forecasts, outfit construction, fast fashion, e-commerce and product visibility in the global market. Innovation is taking place in both product and process technologies²⁸.

These technologies will impact the entire supply chain of apparel industry. Few such technologies, as described below, have already marked their presence in apparel industry.

Internet of things

With the Internet of Things (IoT), machines can communicate among themselves. Machines can also communicate with people in real-time to relay important information and take actions accordingly. IoT enables data sharing, inventory management, security, and increased efficiency and productivity. This includes apparel with digital capabilities, like smart clothing, wearable spaces, multi-functional designs, responsive sportswear and more.

²⁸ <http://textilefocus.com/>

Automation

Automation has led to invention of many time saving technologies like automatic spreaders, pin tables, dolly press, continuous fusing, Computer Controlled Pattern Cutting Machine, CNC fabric cutters, sewbots, quilt stitching, packers etc., which have reduced human intervention in manufacturing.

Unlike sewing and packaging, fabric spreading & cutting is expected to witness a lot of automation in the coming years.

Virtual and Augmented Reality

Combining the physical and online worlds of retail has been one of Virtual Reality's most exciting applications in fashion and many other fields.

It is often used in e-commerce and online shopping where customer can play with styling and choose merchandise after trying them on virtually without going for physical shopping. This, combined with the social media share factor makes it even more appealing.

Artificial Intelligence

Artificial Intelligence (AI) is used to enhance customers' shopping experience, analyze data, boost sales, forecast trends and offer inventory-related guidance, supply chain management, etc.

Example, chatbots and touchscreens being used in stores to improve customer experience and customized product suggestions and real-time inventory tracking has become very important for brands as they save time and make for efficient warehouse management and operations.

Rapid Data Analysis

With the help of internet and new software tools available in the market, brands and factories can receive real-time feedback and alerts from companies about defects or damaged goods. This helps them save money, eliminate waste and deliver adequate products at the right time.

Example, ERP software helps garment industry in arranging quick response by giving actual time answer to the fast-changing customer needs.

The rise of cloud computing has opened new avenues for collaborative work, allowing factories and companies to work together from many parts of the world at the same time. This enables them to access relevant data, making for a faster and more effective way of communicating.

Blockchain

Blockchain is a great tool for transparency, traceability and efficiency in the supply chain. It allows all its members, from carriers and banks, to intermediaries and suppliers, to be connected and exchange information, documents and data, directly and securely.

This can perfectly be used to trace and keep records of clothing apparel and supply chains through technology such as track-and-trace and inventory management.

Robotics

Robotics has been redefining the production process across manufacturing industries, raising serious concern about the future of manufacturing jobs.

The recent innovations such as 'Sewbot' along with other Computer Numeric Control machines have increased the risk of technology-induced displacement of workforce in the garment sector.

Indian garment exports are dominated by fashion wears, a segment expected to be least affected by robotics.

3-D Scanner

3-D Body scanning is a new technology that is helping to shift the focus of apparel production from large quantities of cookie-cutter clothes to one-of-a-kind articles with individualized sizing and design features. Body scanners play a critical role in mass customization because they enable retailers to rapidly collect three-dimensional images. Then the computer software analyzes the high-resolution images of the body to extract precise, standardized tailoring measurements.

CAD / CAM

CAD /CAM technology used for silhouette pattern development, pattern detailing system, grading, digitizing, maker making, plotting, cutting operations, embroidery system, texture mapping by small, medium and large companies throughout the world.

Probability of automation in Indian AMH industry and its impact

70-75% Job loss of **spreaders and cutters** in the next 10-15 years

15-20% Decline in requirement of **tailors/ sewing & other machine operators** in next 10-15 years

Technology has led to the increase in demand for high skilled managers and reduced the demand for workforce performing standard operations i.e. tailors and cutters in favor of machine operators.

40-50% Job loss in **finishing department** in the next 10-15 years

35-40% Decline in requirement of **Packers** in next 10-15 years

The ongoing industrial revolution would affect Indian AMH sector due to adoption of robotics by domestic manufacturers and collapse in external demand due to automation in

developed countries. Although many leading manufacturers in India have started adopting technological advancements like automatic spreaders, CAD/CAM cutters, automatic markers, etc. in their manufacturing set-up, but in next 10-15 years turnaround impact of automation is expected. These automations may impact 80 per cent of current garment sector jobs. . As per the case study on Automation and Future of Garment Sector Jobs of India done by Indian Council for Research on International Economic Relations, major job roles which shall be impacted in next 10-15 years are Fabric Spreaders, Cutters, Pressman, Packers, Sewing Machine Operators.

Though the use of robotic for sewing and even packing looks very unlikely over the next 15 years, the requirement of tailor/sewing & other machine operators along with packers is still expected to decline as more and more firms are expected to invest in incremental technological up-gradation. Unlike sewing and packaging, fabric spreading & cutting is expected to witness a lot of automation in the coming years. At present, most of the Indian garment manufacturers, even with more than 2000 workers, have been using manual spreading and cutting methods²⁹.

²⁹ Working Paper 385, Automation and Future of Garment Sector Jobs: A Case Study of India, Sep 2019, Indian Council for Research on International Economic Relations

Following table illustrates the probable impact of technological upgradation in Indian Apparel industry across various job roles-

Table 4: Impact of technology upgradation in Indian Apparel Industry

Jobs in the Garment Sector	per cent Share in Employment	Nature of Task Performed	New Technology	Probability of Automation in next 10-15 years
Managers & professional	2.5	Cognitive	ERP, CAD/CAM, AI, VR, Blockchain, IOT	● ○ ○ ○ ○ ○
Clerks, floor supervisors	1.5	Routine, Cognitive	ERP, AI	● ○ ○ ○ ○ ○
Fabric Spreaders, Fabric Cutters	8	Routine	CNC Spreaders & Cutters, Pin Tables	● ● ● ● ● ●
Tailors / Sewing Machine Operators	65	Routine	Sewbot	● ● ○ ○ ○ ○
Iron Masters, Finishers	5	Routine	Automatic Pressers, Automatic Knitwear Finisher (Ironing Robot)	● ● ● ● ○
Quality controllers	8	Cognitive	Nil	○ ○ ○ ○ ○ ○
Packers	2	Routine	Folding Robots	● ● ● ○ ○ ○
Other Support Staff	8	Manual Physical	Nil	○ ○ ○ ○ ○ ○

Source: Indian Council for Research on International Economic Relations, primary analysis

Some of the new job roles that shall emerge

The technology will not only just eliminate jobs but also create new job roles. Most of the impact of technology upgradation shall be concentrated in spreading, cutting, finishing and packing department. However, the adoption of robotics in western countries shall not have any major impact on Indian AMH sector jobs because the majority of Indian garment exports to western countries consists of high end-fashion wears, which are least effected by robotics. There might be slight reduction in demand of basic garments since such garments can easily be produced by sewbots. The increasing domestic demand of apparel will be a savior of jobs in the sector. There will be demand for the operators who can handle multiple types of machineries or are multiskilled.

Table 5: Few emerging occupations

S. No.	New Occupation/ Job Role	Areas of application
1	Computer-aided process planning professional	Production planning linkage between CAD and CAM
2	Computer-aided quality-control professional	Garment inspection, statistical process control
3	Computer-aided testing professional	Intermediate testing of semi-finished materials or final inspection
4	Automated inspection	Fabric trims inspection
5	Automated material handling devices	Fabric, pattern, semi-finished garment handling
6	Artificial neural network expert	Fabrics inspection, color solutions, garment inspection, supply chain, retail management
7	Pick and place robot operator	Fabric handling for sewing
8	Numerical controller	Sewing, buttonholing and button attaching
9	Automated fusing and pressing machine operator	Fusing and pressing operation
10	Enterprise resource planning expert	Fabric storage, spreading, cutting, sewing, pressing packaging, human resources, inspection, supply chain, and retailing

Source: *textiletoday.com*, primary analysis

Skills related challenges due to onset of Industry 4.0

With the advent of Industry 4.0, the companies will not only require freshly skilled manpower, but they would also need to skill their existing manpower as per the required technological advancement in their set-up³⁰. Some of the skill related challenges to be faced by the companies are:

- **Up-Skilling**

Companies shall up-skill their workforce via in-house or external training centres. For e.g., an assembly line worker involved in manually fitting a part will be required to operate a robot or other tools to do so.

- **Re-Skilling**

Industry 4.0 is expected to result in job displacement to a certain extent. Several jobs will cease to exist, and several new jobs will be created. Companies shall investment in re-skilling of the workforce to prepare for this expected shift.


- **Continuous Learning**

Technologies shall become obsolete at a faster rate. Continuous professional development strategies shall be required to easily adapt to the changes that technological advancement brings.

- **Mindset Change**


Companies shall plan for change in the mindset of its employees to facilitate smooth transition to advanced manufacturing processes and implementation of new technologies.

The important skills that are required to be ready for industry 4.0 are personal, technical, digital and data analysis skills. Although there will be new skills required as per the industrial revolution or technological upgradation but the core qualification and skills for a job role will still be necessary³¹. Apart from this, cognitive analytical skills, content skills, social skills, physical abilities, process skills, resource management skills and system skills shall also play integral part in employee development.



Personal Skills

- Ability to adapt to change
- Decision making
- Work in team
- Communication skills
- Mindset change



Technical Skills

- Technical know how of machines
- Specialized knowledge about automation of machine & processes



Digital Skills

- Basic Information Communication Technology knowledge
- Ability to work with robots, smart computers, etc.



Data Analysis Skills

- Data interpretation
- Basic statistical knowledge
- Analyze data & information obtain from machines

³⁰ <http://textilefocus.com/>

³¹ Whitepaper, Skill Development for Industry 4.0, BRICS Skill Development Working Group, <http://www.globalskillsummit.com/>



5- Labour Market Trend in AMH Sector

The total Indian workforce was estimated to be 479 million in 2018-19. Across the major sectors, 199 million were employed in agriculture and allied sector, 59 million were engaged in the construction sector, another 59 million were occupied in the manufacturing sector.

Sector's Employment Outlook

In 2018-19, the share of workers in the manufacturing sector was 12.2 per cent (59 Million) of the total workforce. Manufacturing of Apparel Made ups and Home furnishing's share in the overall manufacturing sector was around 19.3 per cent (11.3 Million) in 2018-19. The table below provides shares and volume of workers engaged in various sub-sectors of manufacturing.

Table 6: Share of workers in Overall Manufacturing in per centage

Manufacturing sub sector	2018-19	Estimated workers (in numbers)
Manufacture of food products	9.9	5,802,408
Manufacture of beverages	0.7	424,309
Manufacture of tobacco products	5.0	2,905,712
Manufacture of textiles	10.6	6,211,379
Manufacture of apparel, made ups and home furnishing	19.3	11,316,198
Manufacture of leather and related products	1.9	1,096,398
Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting mater	5.0	2,929,196
Manufacture of paper and paper products	0.9	552,518
Printing and reproduction of recorded media	1.8	1,038,388
Manufacture of coke and refined petroleum products	0.4	221,065
Manufacture of chemicals and chemical products	2.4	1,418,273
Manufacture of pharmaceuticals, medicinal chemical and botanical products	1.6	916,944
Manufacture of rubber and plastics products	2.3	1,344,641
Manufacture of other non-metallic mineral products	7.1	4,161,092
Manufacture of basic metals	3.6	2,119,568
Manufacture of fabricated metal products, except machinery and equipment	5.3	3,104,918
Manufacture of computer, electronic and optical products	1.1	640,653
Manufacture of electrical equipment	2.2	1,281,401
Manufacture of machinery and equipment	2.9	1,679,475
Manufacture of motor vehicles, trailers and semi-trailers	1.8	1,028,360
Manufacture of other transport equipment	0.9	517,702
Manufacture of furniture	4.7	2,754,369
Other manufacturing	5.0	2,948,793
Repair and installation of machinery and equipment	3.8	2,230,610
Total Manufacturing	100.0	58,597,916

Source: PLFS 2018-19, PwC Analysis

Current employment in the Apparel, Made ups and Home furnishing sector

Table 7 provides share of employment across the sub sectors that comes under Manufacturing of AMH as per the NIC 2008 classification. In 2018-19, of the total workforce employed in the Manufacturing of Apparel, Manufacturing of garments and clothing accessories was 20.3 per cent. **Custom tailoring employed around 65.5 per cent in 2018-19, by far the largest chunk of the workers. This is significant given almost two-thirds of the total share of workers in manufacturing of AMH have been employed only in the custom tailoring sub sector.** Manufacturing of wearing apparel stood at the third place in terms of employment share (~6%).

Table 7: Sub Sectors of Manufacturing of AMH in which workers work

Sub Sectors of Manufacturing of AMH in which workers work	Share of workers in Broad Sector of Manufacturing of AMH (in per centage) for 2018-19
Manufacture of all types of textile garments and clothing accessories	20.3
Manufacture of raincoats of waterproof textile fabrics or plastic sheeting	0.1
Manufacture of made ups textiles, except apparel	2.0
Manufacture of carpets and rugs	2.5
Manufacture of hats, caps and other clothing accessories such as gloves, belts, ties, cravats, hairnets etc.	0.6
Manufacture of wearing apparel made of leather and substitutes of leather	0.4
Custom tailoring	65.5
Manufacture of wearing apparel	5.6
Manufacture of wearing apparel and clothing accessories made of fur	1.1
Manufacture of fur and skin rugs and other similar articles	0.0
Manufacture of other fur products	0.4
Manufacture of knitted or crocheted wearing apparel and other made-up articles directly into shape (pullovers, cardigans)	0.8
Manufacture of other knitted and crocheted apparel including hosiery	0.9
Total Manufacturing of AMH	100

Source: PLFS 2018-19, PwC Analysis

Employment by Gender

Of the 479 million work force employed in India in 2018-19, 24.5 per cent of them were female. When we investigated the similar break up in the overall manufacturing sector, we found that 22.2 per cent of the workforce were female. The per centage of female workers working in AMH manufacturing was observed to be 43.6 per cent, which was significantly higher in comparison.

In 2018-19, AMH sector employed 43.6 per cent females as compared to only 22.2 per cent in overall manufacturing sector.

Table 8: Workers under Broad Sectors of Manufacturing across gender

Workers under Broad Sectors of Manufacturing across gender	2018-19	
	Male	Female
Manufacture of AMH	56.4	43.6
Total Manufacturing Sector Overall	77.8	22.2
Overall Workforce	75.5	24.5

Source: PLFS 2018-19, PwC Analysis

Out of the 13 sub-sectors under AMH manufacturing, 7 sub-sectors account for 30 per cent of female share of the workforce in 2018-19. Some of the sub-sectors which witnessed significant increase in the female workforce were *manufacturing of other fur products, manufacturing of wearing apparel and custom tailoring*. As indicated

earlier, custom tailoring accounts for two-third of the total workforce under the manufacturing of AMH. The share of female employment in the custom tailoring sub-sector has risen from 40.3 per cent in 2017-18 to 48.3 per cent in 2018-19 according to the PLFS 2017-18 and 2018-19.

Table 9: Workers under Manufacturing of AMH Sub Sector across gender (in per centage)

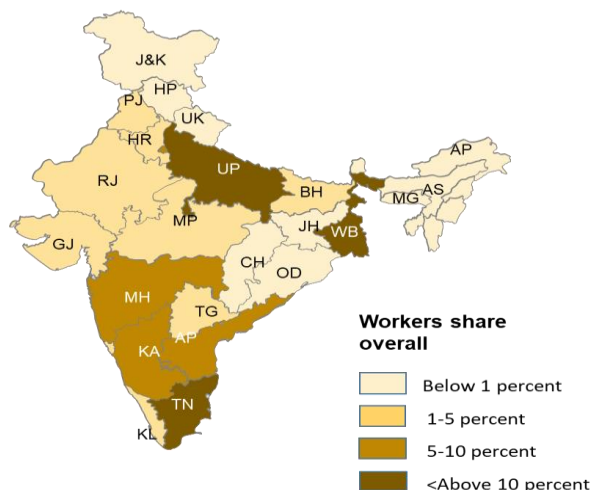
Workers under Manufacturing of AMH Sub Sector across gender (in per centage)	2018-19	
	Male	Female
Manufacture of all types of textile garments and clothing accessories	66.8	33.2
Manufacture of raincoats of waterproof textile fabrics or plastic sheeting	90.2	9.8
Manufacture of hats, caps and other clothing accessories such as gloves, belts, ties, cravats, hairnets etc.	60.4	39.6
Manufacture of made ups textiles, except apparel	71.4	28.6
Manufacture of carpets and rugs	52.7	47.3
Manufacture of wearing apparel made of leather and substitutes of leather	68.4	31.6
Custom tailoring	51.7	48.3
Manufacture of wearing apparel	63.9	36.1
Manufacture of wearing apparel and clothing accessories made of fur	78.9	21.1
Manufacture of fur and skin rugs and other similar articles	100.0	0.0
Manufacture of other fur products	98.8	1.2
Manufacture of knitted or crocheted wearing apparel and other made-up articles directly into shape (pullovers, cardigans)	78.2	21.8
Manufacture of other knitted and crocheted apparel including hosiery	80.9	19.1
Total AMH Manufacturing Sub-Sector Overall	56.4	43.6

Source: PLFS, PwC Analysis

Employment by Geography

Figure 11: Share of workers in manufacturing of AMH across states

Workers share in Manufacturing of Apparels across state in 2018-19



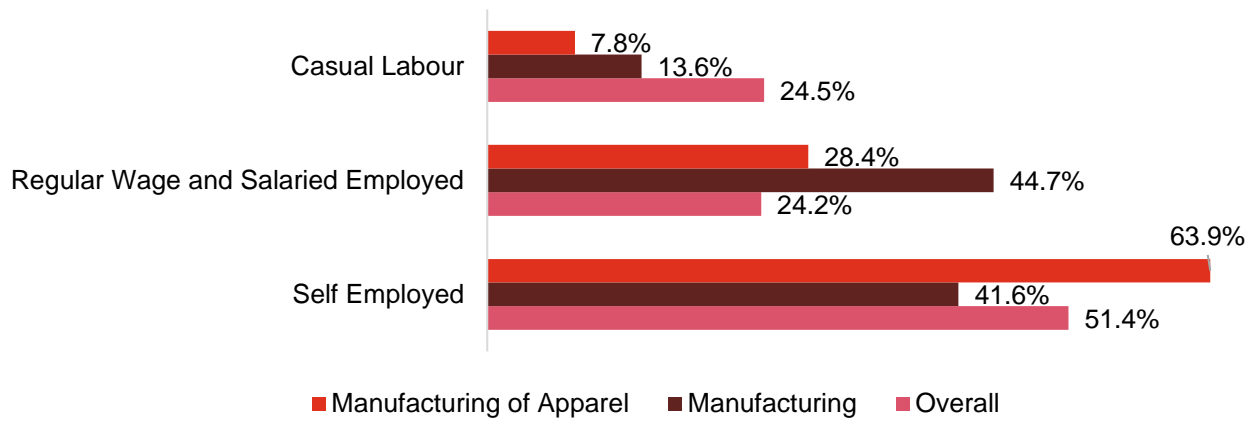
Looking into the geographical spread of the workforce in manufacturing of AMH, the top 4 states (Maharashtra, Tamil Nadu, Uttar Pradesh and West Bengal) employed around 44 per cent of the workforce in the year of 2018-19. Among these four states, Tamil Nadu has largest share with 12.3% while Uttar Pradesh, West Bengal and Maharashtra account for 11.8 per cent, 10 per cent and 9.7 per cent respectively.

Further, when we analyzed the share of workforce region-wise, we found that the Southern region (Andhra Pradesh, Telangana, Tamil Nadu, Kerala and Karnataka) engaged 34 per cent of the total workforce in the manufacturing of AMH.

Employment based on activity

In 2018-19, almost two-thirds (64 per cent) of the workforce in AMH Manufacturing were *self-employed* - higher than overall Manufacturing sector (42 per cent) and at overall level (51 per cent). 28 per cent of the workforce in AMH Manufacturing were employed in *Regular wage and salaried activities*. -lower with respect to the overall manufacturing sector (45 per cent), but slightly higher at the overall level (24.2 per cent).

Figure 12: Distribution of workers based on activity across sector in 2018-19



Source: PLFS 2018-19, PwC Analysis

Wage Structure

There is a scope to improve the wage rate in the AMH manufacturing sector. Reasonably higher wage will make the sector more lucrative for workers. Improving productivity of the workers in the sector through skill development programme could be one of the potential ways to tackle the issue of lower wage. According to the PLFS 2018-19, the average monthly wage in the AMH sector for self-employment activity is around 7,568/- per month. For Salaried/ Regular Wage activity, the average earning is 10,117/- per month.

Figure 13: Average wage based on activity type (per month)

Manufacturing Sector Overall		AMH Manufacturing	
For Salaried/Regular Wage Activity	For Self-employment activity	For Salaried/Regular Wage Activity	For Self-employment activity
INR 13,084/-	INR 13,100/-	INR 10,117/-	INR 7,568/-

Source: PLFS 2018-19, PwC Analysis

Employment in Toy Industries

Despite the large population, India accounts for just 0.5 per cent of the global toy market. Global market research firm IMARC estimates India's toy market to be worth around Rs 10,000 crore. Of this, the organized toy industry is estimated to be Rs 3,500-4,500 crore, and homegrown toys constitute just 12-13 percent of this. As per the PLFS estimates of 2018-19, Toy industries employ around 2.2 lakhs people directly in manufacturing and services sector activities.

Table 10: Employment in toy industries

Sub Sectors of Toy Manufacturing	Share of workers in toy industries (in per centage) for 2018-19	Workers (in lakhs)
Retail sale of games and toys in specialized stores	53.5	1.2
Manufacture of dolls and toy animals	17.0	0.3
Manufacture of other games and toys	29.8	0.6
Total Employment in Toy Industries	100	2.2

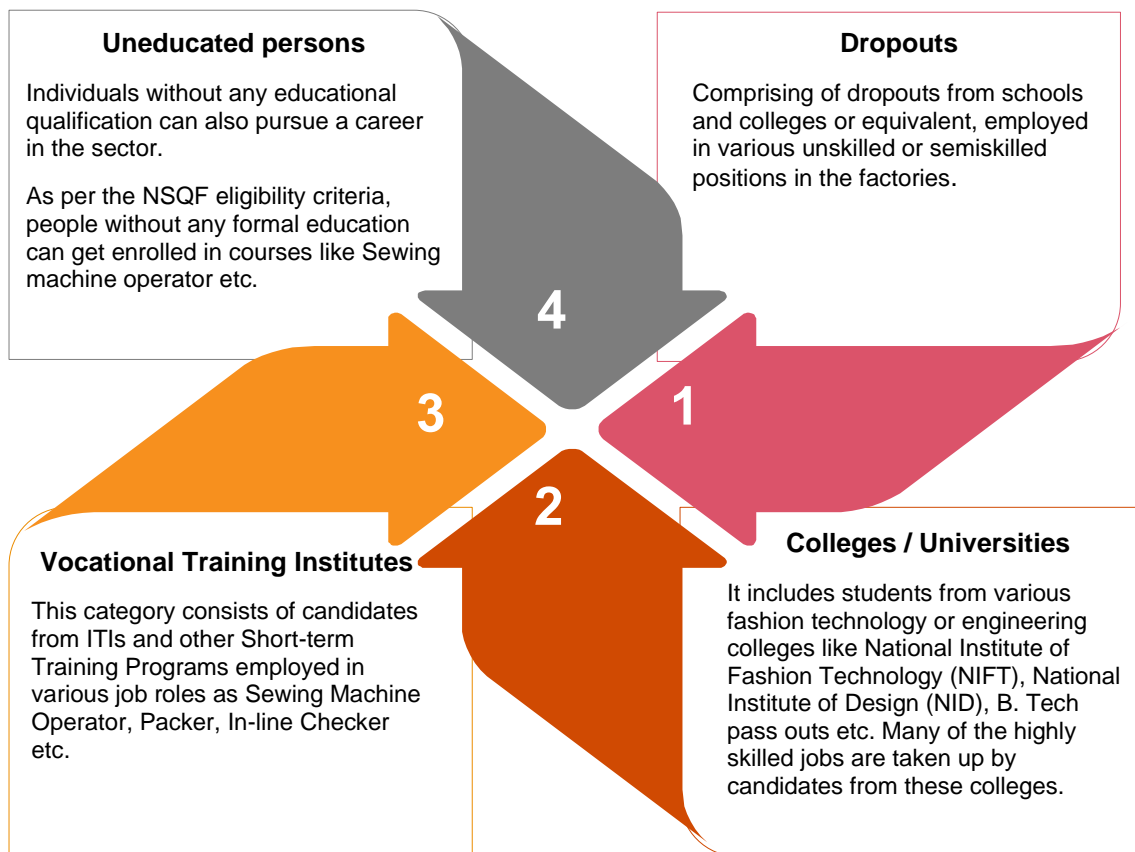
Source: PLFS, PwC Analysis



6- Education, Training and Skill Development Ecosystem

This section will give an overview of the institutions (schools, colleges, Central & State Govt.) offering education and training in the AMH sector, state-wise spread of these institutions, the challenges faced and current standing in terms of candidates trained, assessed and placed in the sector.

Currently, the sector absorbs workforce from the following major categories-



School & Vocational Education

India had 15.35 lakh schools across all education levels with total enrolment of 25.13 crore in the year 2016-17. There are 12.97 lakh schools in the urban areas and only 2.39 lakh schools in the rural areas³².

Out of this, the total number of schools imparting education to cohorts from 9th to 12th standards are about 68,000 comprising a total enrolment of 2.05 crore. It is noteworthy that although number of schools have gone up from 15.16 lakh in 2014-15 to 15.35 lakh in 2016-17, the student's enrolment has fallen from 25.95 crore in 2014-15 to 25.13 crore in 2016-17.

³² U-DISE Flash Statistics 2016-17

The number of schools imparting vocational education has increased from 2,550 in 2015-16 to 4,084 in 2016-17, with an enrolment of 2,66,746³³. 18 NSQF aligned courses are offered at school level, apparel being one of them.

Table 11: The top 5 vocational streams in terms of enrolment at the secondary and higher secondary

S. No.	Name of the sector	Rank held
1	IT-ITES	1
2	Healthcare	2
3	Retail	3
4	Automotive	4
5	Beauty & Wellness	5
6	Apparel	15

***Out of 19 vocational courses offered at school level, Apparel ranks at 15th position in terms of enrolment of students.**

Source: Flash Statistics on School Education 2016-17

The above table points out toward slow levels of awareness about the sector and its career prospects among the school going cohorts.

The enrolment of students in Apparel sector at school level has increased from 169 (at secondary level) in 2015-16, to 945 (including 933 students at secondary and 12 students at higher secondary level) in 2016-17, indicating a 4 time in increase in the enrolment.

It should be noted that only 4 states offer vocational courses in Apparel sector at school level. The enrollment in the Apparel sector at school level was just 0.4 per cent of the total students enrolled in various other courses, in 2016-17.

The enrollment of students in apparel sector courses at secondary level is much higher than at higher secondary level which can be attributed to the following reasons³⁴

- Long duration of the courses
- Mismatch between the aspirations of the students
- Lack of counselling and awareness about the career prospects in the sector

With the advent of National Education Policy 2020, vocational education will be integrated into school and higher education institutions in a phased manner. The aim of the policy is to increase the Gross Enrolment Ratio (GER) in higher education including vocational education from 26.3 per cent (2018) to 50 per cent by 2035. Vocational courses through online mode will also be made available.

The policy is surely set to promote the enrolment of students in the Apparel sector, starting from the school level itself. It will also increase the number of states offering courses in the Apparel sector at the school level. Thus, the sector will see higher enrollment rates (both secondary and higher education) in the coming years.

Vocational Training Institutes

These include training institutes like ITIs and short-term training programs implemented by training partners affiliated with National Skill Development Corporation (NSDC) or by Ministry of Textiles (MoT).

Industrial Training Institutes (ITIs)³⁵

There are 14,8,46 ITIs in India currently, with the total seating capacity of 15.91 Lakhs offering courses in 106 trades in one or two year programmes. Of the total seating capacity currently, only 82.14 per cent are being utilized by the students as against 89.63 per cent utilization in 2018.

³³ Flash Statistics on School Education 2016-17

³⁴ Flash Statistics on Education 2016-17

³⁵ NCVT MIS

Out of the total 14,846 ITIs, 1296 ITIs offer courses related to Apparel sector, out of which 819 are Government ITIs with the 67.7 per cent seat utilization and 477 are Private ITIs with 65 per cent seat utilization. It should be noted that in both Govt. and Private ITIs, the seat utilization per centage has gone down from 79 per cent and 69 per cent respectively in 2018. Most of the ITIs offer courses in Sewing Technology, Dress Making, Fashion Design & Technology and Surface Ornamentation Techniques.

Figure 14: Seat utilization per cent in ITIs offering Apparel courses

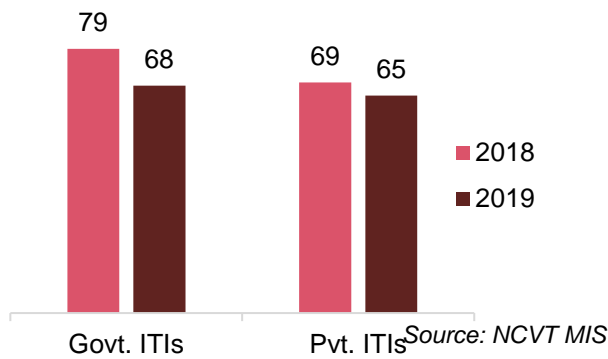
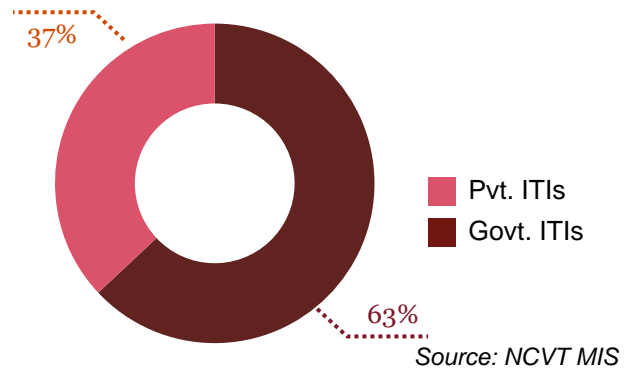


Figure 15: Types of ITIs offering courses in Apparel sector



There are 6 courses offered by ITIs in Apparel sector. Following table gives an insight of the number of ITIs offering these courses, the seats available and utilized under each course-

Table 12: Courses offered by ITIs and number of seats available

S. No.	Category	Name of the course	NSQF Level	ITI Count	No. of seats available	No. of seats utilized
1	Apparel	Fashion Design & Technology (FDT)	4	420	11,940	8,395
2	Apparel	Computer Aided Embroidery & Designing (CAE&D)	4	41	740	393
3	Apparel	Surface Ornamentation Techniques (SOT)	4	292	5,140	3,420
4	Apparel	Sewing Technology	4	1,296	27,360	18,212
5	Apparel	Dress Making	4	637	14,100	9,310
6	Apparel	Cutting & Sewing (VI)	3	5	60	52
Total				1,296	59,340	39,782

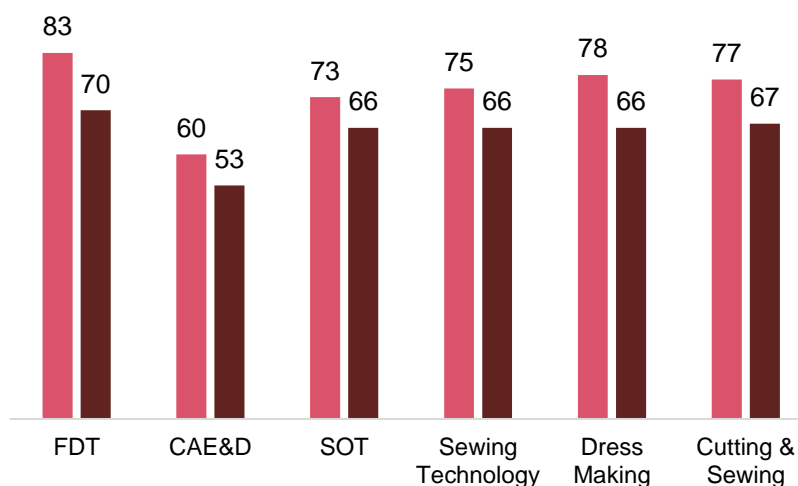
Source: NCVT MIS

The seat utilization under these courses is very low pointing out to the inefficiencies in the current training structure. Following figure shows the seat utilization per centage across the various courses for the year 2018 and 2019.

The seat utilization has gone down from 74 per cent in 2018 to 67 per cent in 2019. This drop in the seat utilization per centage can be attributed to the following reasons-

- Content is outdated and not aligned with skill requirements of Industry 4.0
- Candidates are being trained with older techniques and technologies, thus widening the gap between the requirements of the industry and current pool of candidates
- Trainers lack enough industry experience and exposure visit and are hence unable to adapt training to current skill demands
- There are limited exchange programmes between the industry and candidates
- Industry is not involved in curating the content and conducting the training of trainers leading to a mismatch between what is taught in these institutes and the actual industry requirement

Figure 16: Seat utilization per cent in ITIs under various Apparel courses (2018-19)

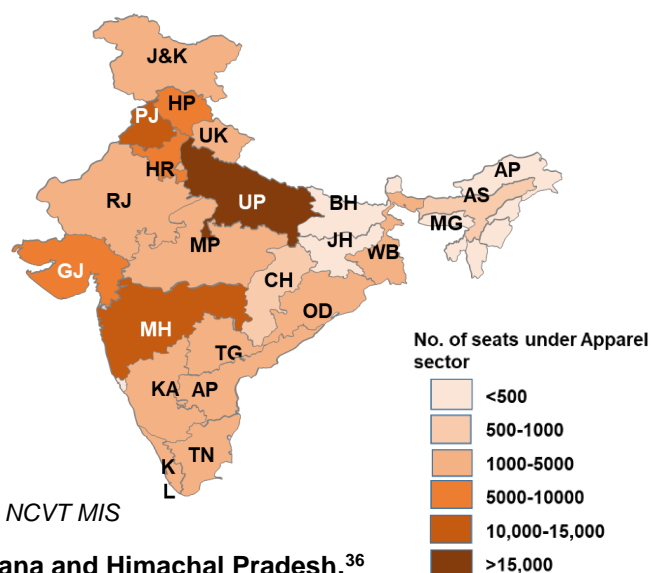


Source: NCVT MIS

■ 2018 ■ 2019

There is a pressing need to revitalize the current training institutions in terms of curriculum and infrastructure, in order to make the sector more lucrative, aspirational and inviting for the students as well as the employers. The curriculum should be developed in a way that it is relevant to the job requirements of the industry. The quality of practical sessions is very important to familiarize the students with the actual work environment. It should be made sure that the lab facilities in these institutions are adequate. Qualitative consultations from the industry reveal that the trainees from these institutions lack proper knowledge of the industry and the working environment. Incorporating feedbacks from the major industry players and frequently organizing industry visits and guest lectures will broaden the horizon of the students and will give them a real flavor of the sector. An analysis of the seats available under the Apparel related courses across states reveals that approximately 76 per cent of the seats are concentrated in 6 states only, namely-

Figure 17: State wise availability of seats under Apparel courses



Uttar Pradesh, Maharashtra, Punjab, Gujarat, Haryana and Himachal Pradesh.³⁶

States with major Apparel clusters like Bangalore, Tirupur, Mumbai, NCR, Kolkata, Ludhiana, Jaipur and Indore have 5 per cent or less seats offering Apparel courses in ITIs. Concerted efforts should be taken towards improving the current infrastructure facilities in these states to maintain uniform supply of skilled workforce especially in these areas as they are the major Apparel hubs.

Job roles mapped with National Skills Qualification Framework (NSQF)

The National Skill Qualification Framework (NSQF) organizes qualifications according to a series of levels of knowledge, skills and aptitude. These levels are defined in terms of learning outcomes which the learner must

³⁶ NCVT MIS

possess irrespective of whether they were acquired through formal or informal learning. It is therefore, a holistic nationally integrated education and competency-based skills framework that provides both vertical as well as horizontal pathways. The table below provides information on the NSQF levels mapped with the education levels across some job roles-

Table 13: NSQF and Education Level Mapping for Job Roles in AMH Sector

NSQF Level	Educational Qualification	Job roles
3	School Education (people with education only up to 5 th standard can also join; uneducated individuals can also join)	In-line Checker, Packer, Layer man, Storekeeper and Hand-Embroiderer
4	School Education and Higher education (Graduate / Diploma)	SMO, SMO-Knits, SSMO, Pressman, Finisher, Washing Machine Operator, Fabric Checker, Garment Cutter, etc.
5	Higher Education (Graduate / Diploma equivalent) and School Education (Upper Primary)	Fashion Designer, Quality Assessor, Sampling Coordinator, Production Supervisor, Cutting Supervisor etc.
6	School Education (Upper Primary)	Export Manager, IE Executive, Factory Compliance Auditor
7	Higher Education (Diploma / Degree in Fashion/Garment)	Sourcing Manager, Online Sampling Designer, Boutique Manager

Short Term Training (STT) and Recognition of Prior Learning (RPL)

Ministry of Skill Development and Entrepreneurship (MSDE) and Ministry of Textiles (MoT). are incumbent to oversee the Skill Development and training in the Apparel sector.

To achieve the envisaged growth and leverage on the favorable demographic structure of the nation, these apex institutions along with the private sector players coordinate in order to align and build the capacity of the workforce in the sector.

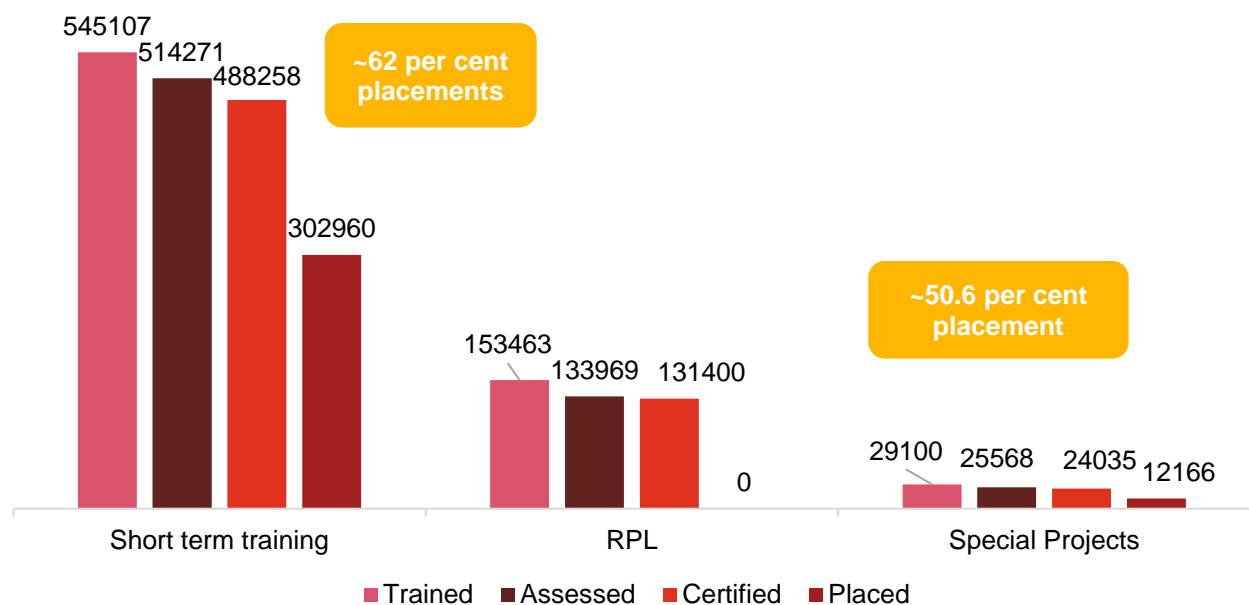
Figure 18: Overview of the skill and training ecosystem



There are various Short Term Training (STT) programmes like Deen Dayal Upadhyaya Grameem Kaushalya Yojana (DDU-GKY), Pradhan Mantri Kaushal Vikas Yojana (PMKVY) , Recognition of Prior Learning (RPL), SAMARTH (Scheme for Capacity Building in the Textiles Sector) and Industry Partnerships, implemented by MSDE through National Skill Development Council (NSDC), Apparel, Made-Ups and Home Furnishing (AMH) SSC and Ministry of Textiles (MoT) through NSQF aligned training programmes.

As of 2019, 7.27 Lakh candidates were trained (RPL+ Short term training+ Special projects), and 3.11 Lakh candidates were placed over different job roles with the total placement per centage of 78.25 per cent. Uttar Pradesh, Haryana, Tamil Nadu, Karnataka, Punjab, Madhya Pradesh, Rajasthan, Gujarat, West Bengal, Odisha, Andhra Pradesh, Bihar, Telangana, Assam, Maharashtra, Uttarakhand and Jammu & Kashmir have the highest number of trained candidates in the Apparel sector. Along with this, Tamil Nadu, Nagaland, Telangana, Jammu & Kashmir, Uttarakhand, Haryana, Andhra Pradesh, Punjab, Meghalaya, Madhya Pradesh and West Bengal have placement per centage of above 60 per cent. This are also the states with high number of candidates being trained and assessed. Along with this, MoT with its flagship scheme SCBTS formerly known as Integrated Skill Development Scheme (ISDS) has also trained approximately 10.6 Lakh candidates and successfully placed 7.28 candidates in the sector from 2012-2017

Figure 19: No. of candidates trained, assessed and placed under PMKVY (STT, RPL & Special Projects) (2016-20)

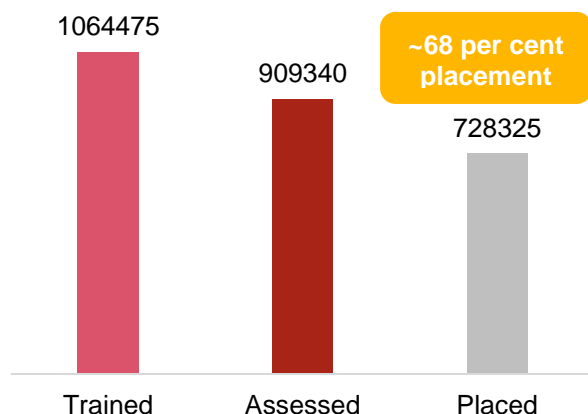


Source: PMKVY dashboard

There are certain challenges faced while imparting the short-term training, which are as follows-

- Experienced and qualified trainers is pivotal for imparting quality education. It is sometimes difficult to find eligible trainers and master trainers fit for imparting training
- Many times, it is observed that some candidates enroll themselves in the training programs for the sake of accompanying their friends. Due to their frivolous nature, they tend to dropout from the course in between the training duration, leading to wastage of time and resources

Figure 20: No. of candidates trained, assessed & placed in Apparel sector under ISDS (2012-17)



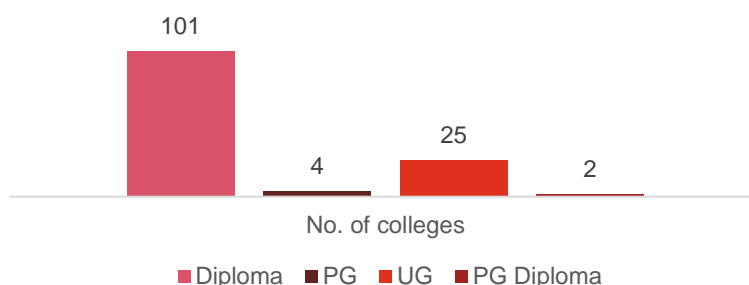
Source: ISDS Dashboard

- Sometimes training partners find it difficult to retain the students in their company as they tend to move to other companies looking for better wages, after getting trained and certified. This leads to loss in the investment done by the employers
- Trainees are reluctant to relocate to new areas and are unable to adjust to the actual work environment
- Curriculum needs be mapped with the current needs of the industry and updated accordingly

College Education

There are 51,649³⁷ institutions in India comprising of 993 Universities, 39,931 College and 10,725 Stand Alone Institutions. The number of Universities and similar Educational Institutions have increased from 760 in 2014-15 to 993 in 2018-19 by almost 30.7 per cent. Whereas the number of colleges have increased from 38,498 in 2014-15 to 39,931 in 2018-19 by about 3.7 per cent. The enrolment has grown considerably during the last 5 years, which has increased from 3.42 Crore in 2014-15 to 3.73 Crore in 2018-19.

Figure 21: Colleges offering courses in Apparel sector, 2018-19



Source: AICTE 2018-19

There are total 132 colleges that offer apparel related courses in India (2018-2019)³⁸

The following table gives information on the enrollment numbers and utilization across the level of courses in the Apparel sector-

Table 14: Intake and Utilization per cent in colleges offering Apparel courses (2018-19)

Sl. No.	Level of course	Intake capacity	No. of students enrolled	Utilization per cent
1	Diploma	5,627	3,537	63
2	Undergraduate (UG)	1,470	679	46
3	Postgraduate (PG)	92	7	8
4	PG Diploma	180	14	8
Total		7,369	4,237	31

Source: AICTE 2018-19

The above table depicts that the enrollment of students in various courses is much below the intake capacity. **This points towards the need of increasing awareness among youth and providing proper counselling about the career prospects of AMH sector.** The low utilization rates in the colleges also point out to ideal capacity leading to sheer underutilization of the resources. The primary reasons for such low utilization levels can be-

- mismatch between the salary expectations of the youth and the salary offered by the industry
- lack of awareness among the youth about the sector and its prospects
- largely self-employed nature of work in the sector requiring basic capital investment and entrepreneurship skills, making it riskier and less lucrative
- disconnect between the education offered and the industry standards

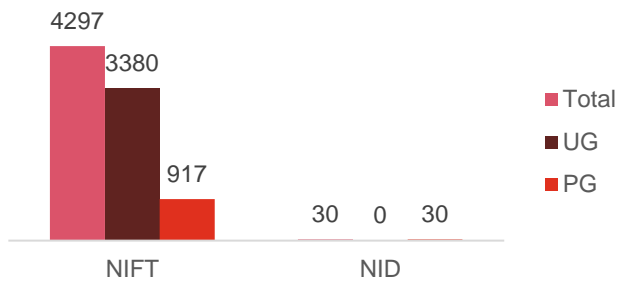
Other prominent colleges offering Apparel courses-

Some of the other eminent colleges also offer postgraduate and undergraduate courses in the sector. They are- **National Institute of Fashion Technology (NIFT) and National Institute of Design (NID).**

³⁷ AISHE 2018-19

³⁸ AICTE 2018-19

Figure 22: Seats offered by other prominent colleges in Apparel sector



Source: NIFT and NID website

Apparel clusters namely- Bangalore, NCR (Delhi/ Noida/ Gurgaon), Mumbai, Jaipur, and Indore for Woven Apparel; Tirupur, Ludhiana and Kolkata for Knitted Apparel. Apart from the above mentioned states, that account for approximately 60 per cent of the colleges, the number of colleges across the nation still remains alarmingly low. It is very important that the number of colleges offering Apparel courses be increased along with concerted efforts to improve the quality of infrastructure and education in these colleges.

States like West Bengal, Punjab, Himachal Pradesh and J&K etc. which specialise in supplying specific Apparel products, have low intake capacity with very less number of colleges. Establishment of colleges and increasing the number of seats under Apparel courses is vital for the growth and promotion of the sector.

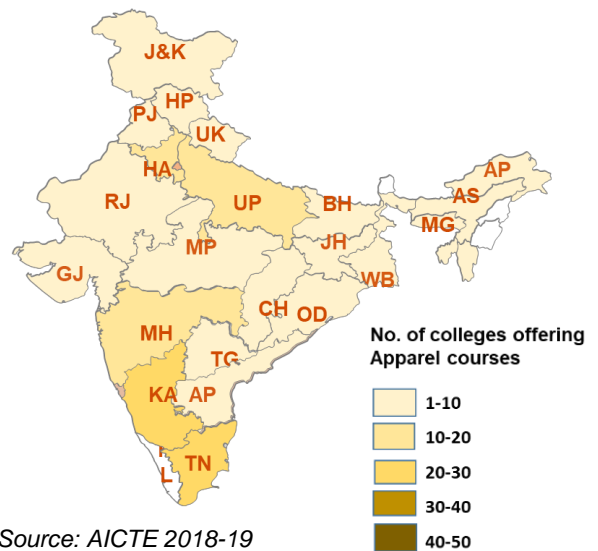
Following figure shows the seats under various levels of courses in these institutions-

The distribution of the colleges offering various Apparel sector courses across the nation is mapped in the adjacent figure.

It is evident from the figure, **Tamil Nadu, Uttar Pradesh, Karnataka, Maharashtra, Haryana & Rajasthan** have the highest number of colleges offering Apparel sector courses.

These states account for almost 91 per cent of the total Apparel exports of the nation³⁹, having major

Figure 23: No. of colleges offering Apparel sector courses across the states in India (2018-19)



Source: AICTE 2018-19

³⁹Source: Textile and Apparel Sector study by NSDC (2013-22), Apparel Export Promotion Council (AEPC) and PwC analysis

Case studies by some employers in the AMH Sector

During our primary research, we found that **one of the leading lingerie manufacturer and exporter, with very complex operations**, has a very stringent yet effective training process.

- ✓ While recruitment, they first let the candidates practice for some time on the machines and then take their tests.
- ✓ Post the results, those who qualify are recruited and must undergo a 15-21 days training programme.
- ✓ Post that, the candidates sit beside the production line for another 15-10 days to get the feel of the actual work environment and to observe speed of other workers etc.
- ✓ Finally, they are sent to the production floor, with supervisors continuously keeping a check on them.

We found that a few companies had their own in-house facility to train their workforce. They even recruit unskilled individuals in job roles like helpers etc.

- ✓ The individuals work in the factory during the daytime and in the evening, they are trained for 2-3 hours.
- ✓ This continues for a 45 to 90 days.
- ✓ Finally, the individuals must undergo an assessment under the supervision of the floor in-charge
- ✓ Subsequent to the assessment, they are crucially examined and based on their results they are put under different job roles on the production floor

Assessment & Certification

The process of assessment and certification of candidates and the stakeholders involved in the process, varies across different levels of educational institutions. It is different among schools (offering vocational courses), colleges, ITIs and short-term training programmes. It is the responsibility of Ministry of Human Resource and Development under Rashtriya Madhyamik Shiksha Abhiyan (RMSA) to facilitate the implementation of vocational programs across schools with the assistance from respective Sector Skill Councils (SSCs).

NSDC and SSCs play an important role in implementing NSQF aligned vocational courses at the school level. The training is conducted in alignment with National Occupational Standards (NOS) through SSCs, which are also responsible for conducting assessments and certifying candidates jointly with the state boards of education.

In case of Industrial Training Institutes (ITIs), there are two frameworks which govern the assessment and certification of students. They are- State Council for Vocational Training (SCVT) and National Council for Vocational Training (NCVT). The former is regulated by specific State Technical Board and the latter is regulated by Directorate General of Training (DGT) at the national level. Based on the affiliation (SCVT or NCVT) of ITI, the assessments for both Government and Private ITIs vary.

The short-term trainings are imparted by Implementing Partners (IPs) affiliated with NSDC across various sectors and job roles. The assessments are conducted in collaboration with SSCs, through their empaneled Assessment Agencies (AAs). Each assessment is carried out in accordance with the assessment criteria defined in the Qualification Packs (QPs). It broadly entails assessing the candidates based on his/her domain skills (related to the trade) and soft skills (communication, teamwork, honesty etc.), which are tested through theory and practical tests.

Over the last three years, AMH SSC has assessed and certified 5.44 Lakh⁴⁰ candidates in the sector, out of 5.72 Lakh candidates that appeared for the assessments. The passing per centage has been over 95 per cent. The assessments and certifications were done in the following trades-

⁴⁰ Source: Data received from AMH SSC

Table 15: Assessments done by AMH SSC over the past 3 years

S. No.	Job role	No. of candidates certified
1	Self Employed Tailor	3,27,772
2	Sewing Machine Operator (SMO)	1,12,788
3	Hand Embroiderer	42,027
4	Sewing Machine Operator Knits	33,485
5	Inline Checker	12,323
6	Export Assistant	8,085
7	Packer	2,044
8	Export Executive	720
9	Pressman	473
10	Washing Machine Operator	120
11	Assistant Fashion Designer	1,201
12	Others ⁴¹	3,221
Total		5,44,259

Source: AMH SSC

Along with this, under the SAMARTH Scheme implemented by MoT (previously known as ISDS) ,**9.09 Lakh⁴² assessments were conducted, and certifications were issued from 2012-17 in the Apparel sector.**

There are certain challenges that the agencies face while conducting assessments, they are-

- Sometimes the entire batch is not available at the time of assessment, especially in the case of RPL candidates as for many of them, their current employment obligations constraint them from being available. This unavailability of students leads to increase in the cost of assessment both by Training Partners (TPs) and Assessment Agencies (AAs) and wastage of time and resources.
- Finding assessors with the right skillsets is a challenge due to unavailability of assessors with adequate industry exposure
- Many times, it is not feasible for the assessor to travel to remote locations just for the assessment of a single batch as it impacts the economics of the assessment
- There are inadequate infrastructure/equipment/machineries while carrying out assessments.

Qualitative consultations with the stakeholders reveal the following findings-

- An auditing body should be established by the competent authority in order to ensure quality driven monitoring cum auditing system
- The TPs should make sure that they have all the equipment ready for the training and assessment of the batches beforehand, so that the process can be conducted smoothly
- Checks and audits of the Training Centers (TCs) should be carried out in order to make sure that they have adequate facilities for both theory and practical purposes
- The current NSQF based curriculum should be revisited and proper mapping and restructuring should be done to make sure that it suffices with the need of the current industry. Duplications or redundancies if any, should be investigated and the curriculum should be updated accordingly

⁴¹ Others include- Merchandiser, Production Supervisor, Sampling Coordinator, Sampling Tailor, Finisher, Industrial Engineer

⁴² ISDS Dashboard

7- Youth Aspiration

Respondent Profile

In order to understand the educational and employment aspirations of youth and their willingness to participate in skill training programmes, an online survey was conducted among youth in the age group of 15 to 29 years across the country. The survey questionnaire was sent to 200 individuals, out of which 165 responded. Out of the total respondents, 39 per cent were female, and 61 per cent were male. The respondents were from three broad categories in terms of economic status viz, Above Poverty Line (APL), Below Poverty Line (BPL) and AAY extreme poverty line; most (86 per cent) respondents belonged to APL category whereas eight per cent belonged to BPL and 1 per cent belonged to extreme poverty line category. In terms of social background of respondents, 39 per cent were from rural areas and 61 per cent were from urban areas.

In terms of current status, respondents can be categorised into two, namely i) students who are currently attending school/ college/ training and ii) NEET - neither in education nor employed nor in training. Students comprised 72 per cent of the total respondent while 28 per cent of the respondents were from NEET category.

In terms of education qualification, respondents were predominantly from graduate and post graduate category. About 61 per cent of the respondents have either completed graduation or are currently pursuing it whereas 15 per cent have either completed or are currently pursuing post-graduation.

Figure 24: Gender Mix of the Sample

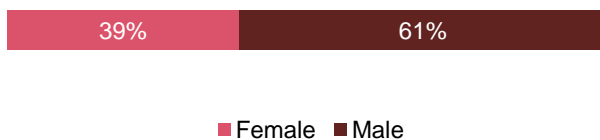


Figure 26: Social background of respondents



Figure 27: Economic status of Respondents

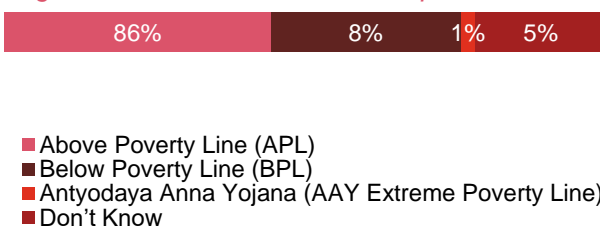
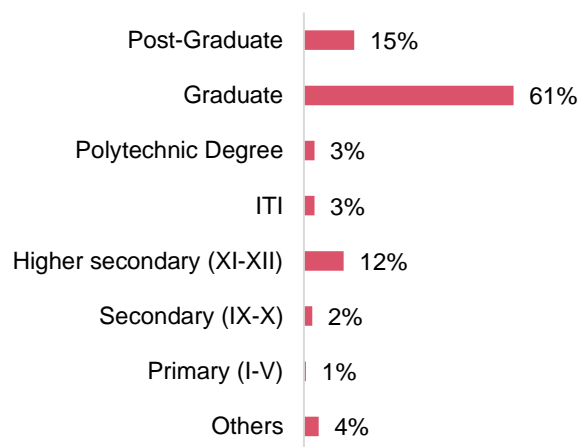
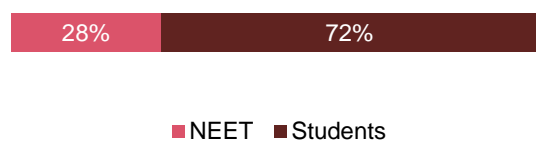


Figure 25: Education Background



N=165

Figure 28: Current Status of Respondents

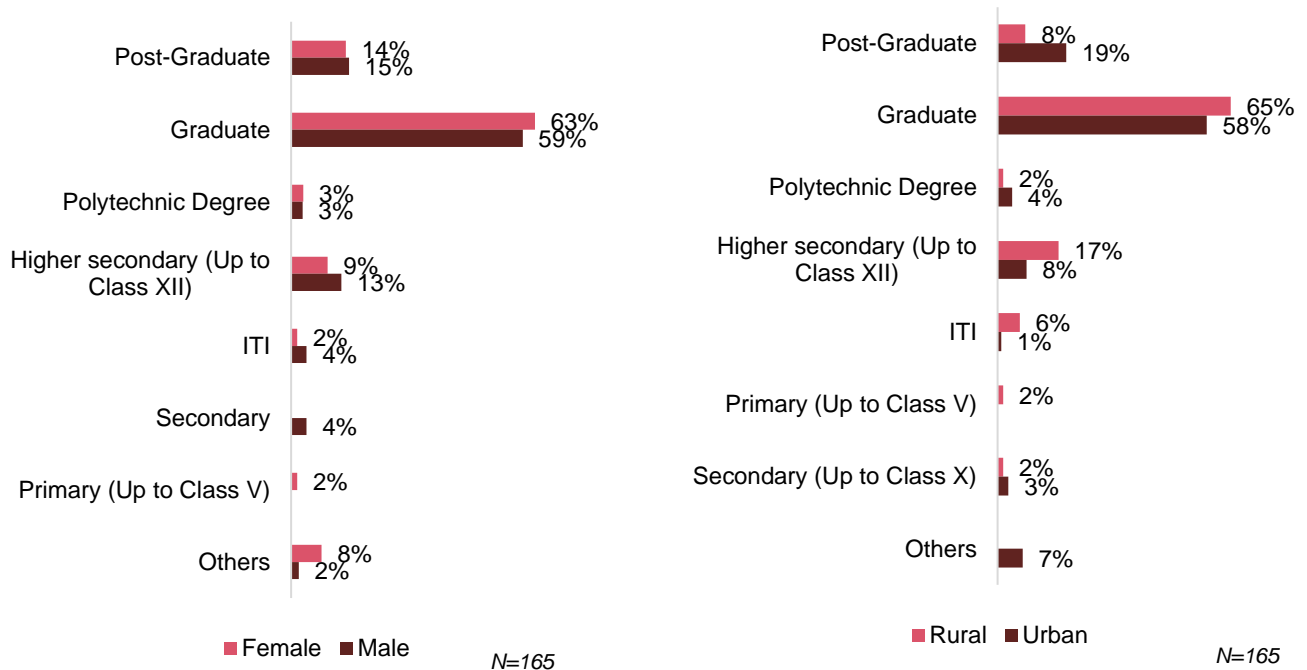


N=165

The education distributions of male and female respondents were similar. However, such was not the case in across rural and urban categories– 19 per cent

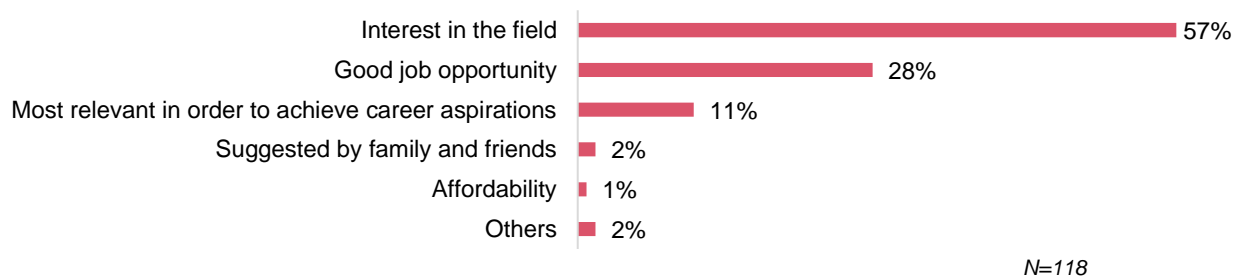
of urban respondents are pursuing or have completed post-graduation whereas only about half (8 per cent) of rural respondents are pursuing or have completed post-graduation. It was observed that all the respondents that have polytechnic degree or have degree from Industrial Training Institute (ITIs) belonged to the APL category.

Figure 29: Education distribution- Across gender and area type



When the respondents were asked about reasons for choice of their field of study, about 57 per cent listed “Interest in the field” as the primary reason while 28 per cent cited “Good job opportunity” as the primary reason. “Affordability” and “friend/family suggestion” were the least mentioned reasons for choice study. Respondents were also asked to rate the impact of covid-19 on future job prospects in India, on a scale of 1 to 5. The average rating stood at 3.5, implying respondents were optimistic about finding jobs in future.

Figure 30: Reasons for choice of field of study



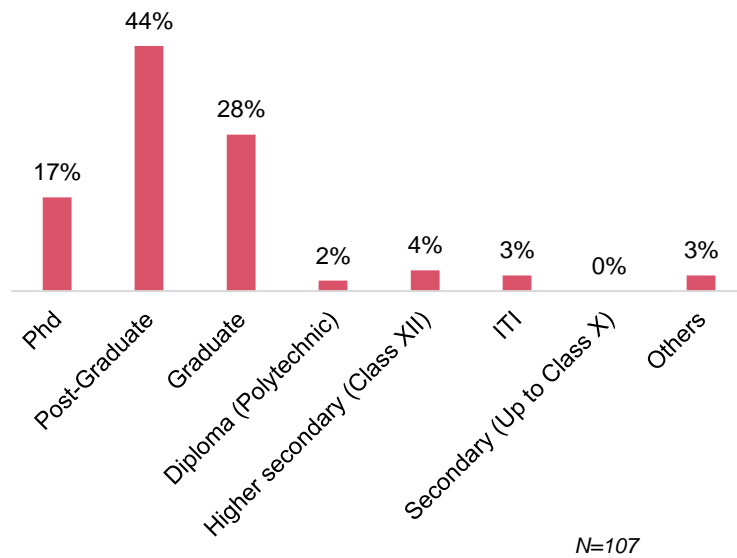
Among respondents from the NEET category, 79 per cent mentioned “scarcity of job” as the primary reason for unemployment. About 17 per cent of the NEET respondents, all women, listed “lack of family support” as the main reason for unemployment and 9 per cent of the NEET respondents listed unavailability of high paid jobs as the reason for unemployment.

Youth Aspiration and Skill Preference

In order to understand the skill gap among youth, it is imperative that their aspiration in terms of education and employment is studied. In terms of employment, effort was made to understand youth’s salary expectations, their preferred location of employment and type of employment.

Respondents were asked, if they would like to pursue education beyond their current level of education. About 65 per cent of the respondents expressed their desire to continue education beyond the current level while the remaining 35 per cent were satisfied with their current level of education. Of the respondents that plan to not pursue further education, 76 per cent have already attained graduate and above level of education (59 per cent graduate and 17 per cent postgraduate). Among the respondents that plan to continue education, 28 per cent preferred graduation as their highest level of qualification while 44 per cent preferred postgraduation and 17 per cent preferred PhD.

Figure 31: Highest level of Education to attain



On the expected lines, majority of the respondents mentioned “level of income” and “job security” as the primary factor influencing their career aspiration. 77 per cent of female and 65 per cent of male respondents considered income as the factor influencing their aspiration, followed by 69 per cent female and 50 per cent male respondents, influenced by job security. Job security is one of the key factors influencing youth aspiration, which was validated by the fact that majority of the youth preferred employment in public sector. When asked, what will help them achieve their career goal, 45 per cent answered, “continuing their current education”, 35 per cent answered, “Gathering work experience” and 15 per cent answered, “pursuing vocational/ skill training”.

Figure 32: What can help achieve career goal?

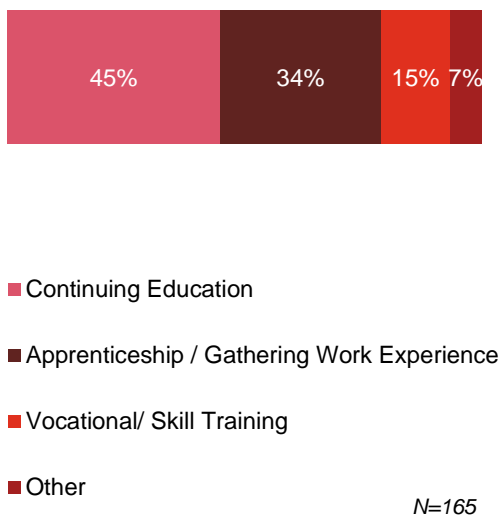
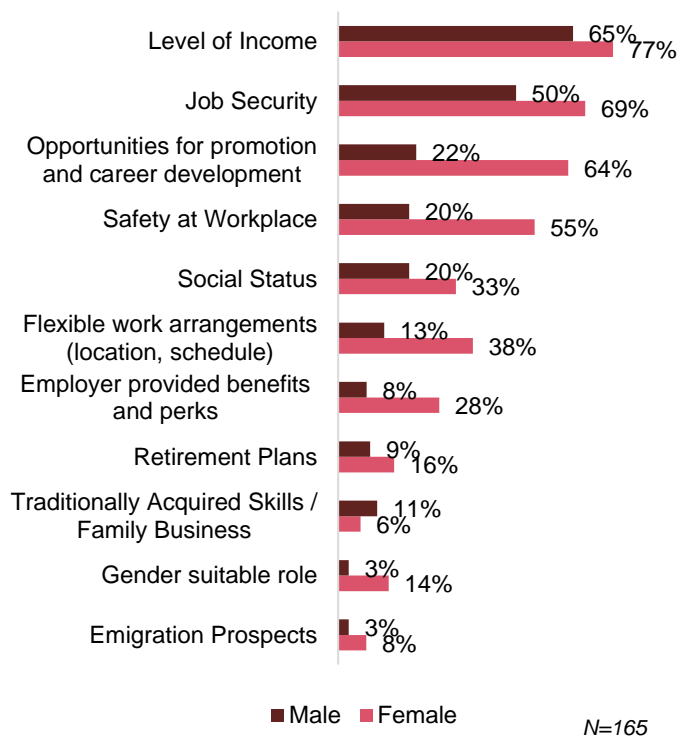


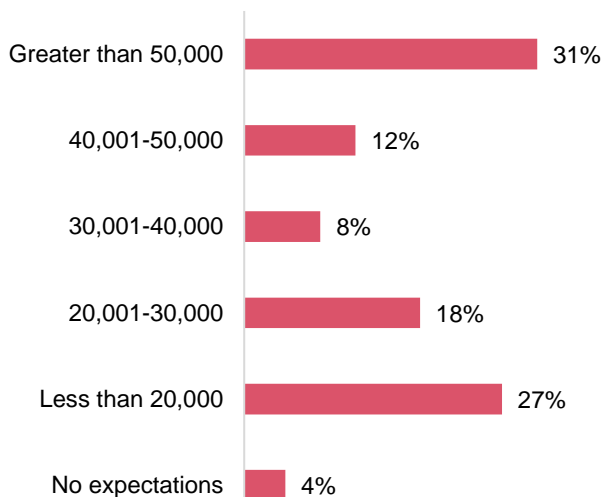
Figure 33: Factors influencing youth aspiration



Further, respondents reported their salary expectation. About 31 per cent of the respondents aspired to get more than INR 50,000 monthly salary and 20 per cent aspired salary between INR 30,000 to 50,000 per month. About 18 per cent of the respondents aspired monthly salary between INR 20,000 to 30,000 while the rest 31 per cent aspired salary less than 20,000 or had no particular salary expectations. Note that about 75 per cent of the respondents are either currently pursuing or have already completed graduation and above level of

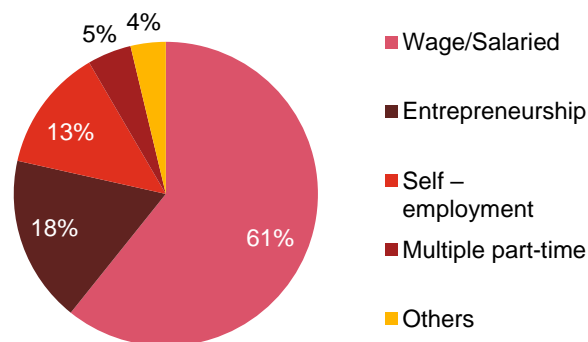
education in the selected sample, which could be a reason for higher salary expectation by the majority of the respondents. Mean wage of salaried employee in apparel manufacturing subsector is INR 10,117/month (refer section 5 on labor market trends). It was observed that about 58 per cent of the postgraduates expected salary of greater than INR 50,000 whereas all those with degree from ITIs expected the salary of less than INR 30,000. Wage/salaried employment is the preferred mode of employment among respondents – 61 per cent of the respondents aspired to work as regular wage/salaried employee. About 18 per cent of the respondents aspired to be an entrepreneur while 13 per cent aspired to be self-employed.

Figure 34: Salary Expectation



N=165

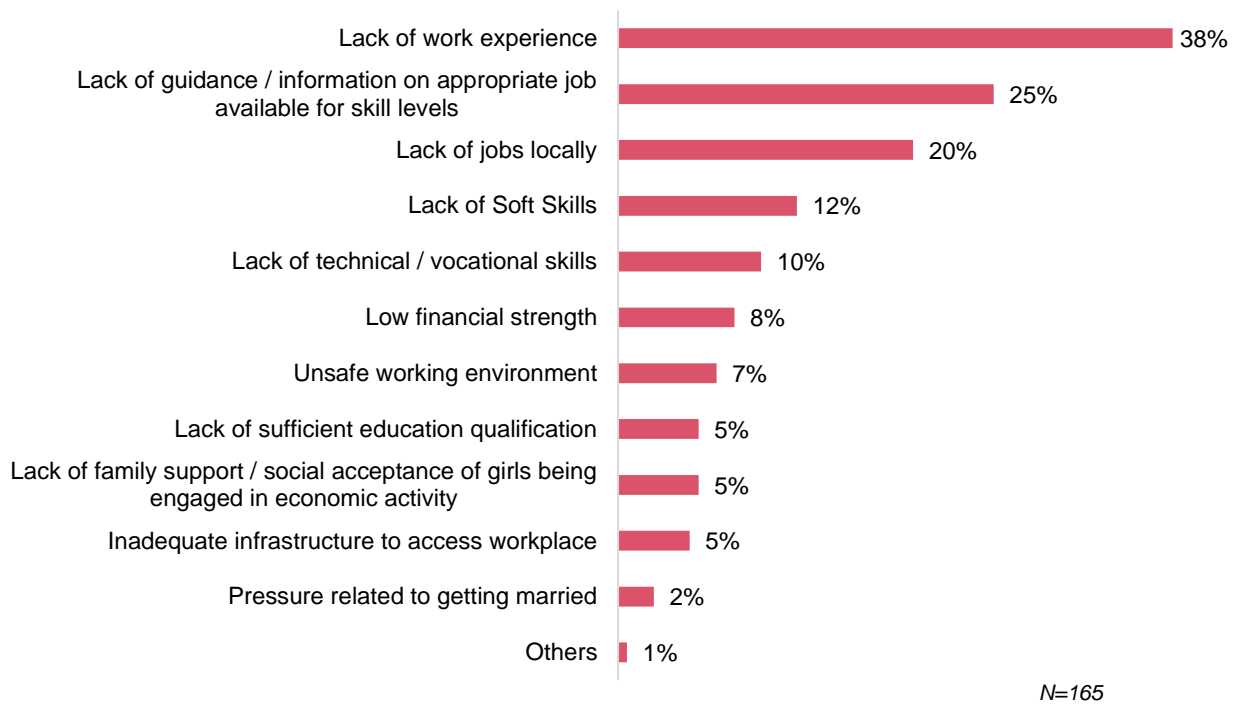
Figure 35: Type of Job preferred



N=165

Respondents were asked to highlight the challenges that they may face in finding their ideal job. More than one-third of respondents believe “Lack of work experience” can cause problem for them in finding their ideal work whereas, about a quarter believe it is the “Lack of guidance/ information on appropriate job” that could pose a major hurdle. One-fifth of respondents believe there is not enough jobs available locally, 12 per cent feel lack of soft skill, 10 per cent feel lack of technical/vocational skills can cause problem in finding ideal job. Respondents were asked to rate the availability of appropriate employment opportunity on a scale of 1 to 5. The average rating stood at 2.6. Although respondents agreed that the availability of appropriate employment opportunity is scarce, only about 50 per cent of the respondents were willing to work outside their state of residence. About 26 per cent of the respondents were ready to work anywhere within India and about 23 per cent were ready to work anywhere.

Figure 36: Challenges in finding ideal work



Majority (62 per cent) of the respondents were not aware of job prospects in Apparel, Made-ups and Home furnishing sector. We understand that there is a huge requirement of spreading opportunity awareness for AMH sector. About 40 per cent of the respondents expressed interest in working in AMH sector and about equal share were willing to participate in skill training programmes related to Apparel, Made-ups and Home furnishing sector.

Figure 38: Preferred Location of Work?

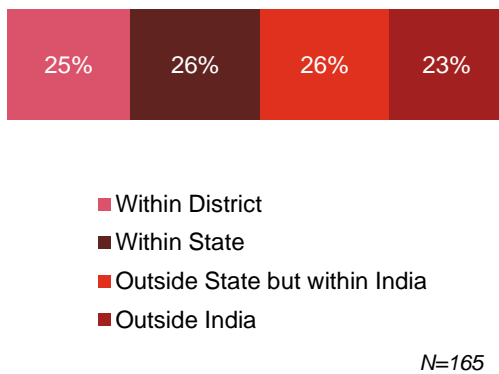
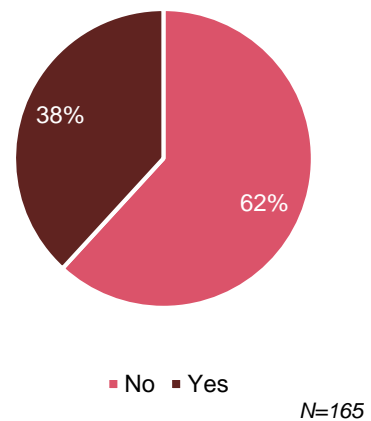
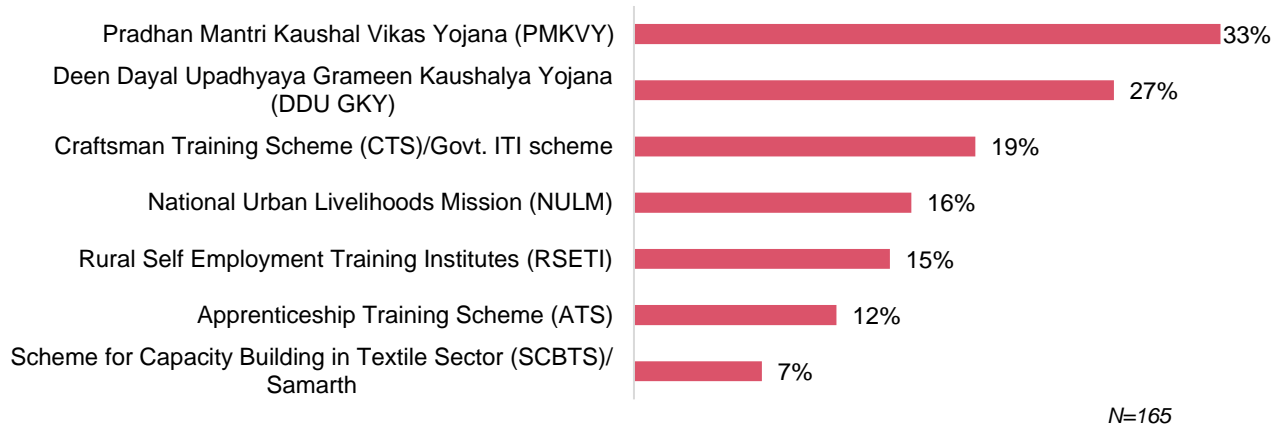


Figure 37: Aware of job prospects in AMH sector?



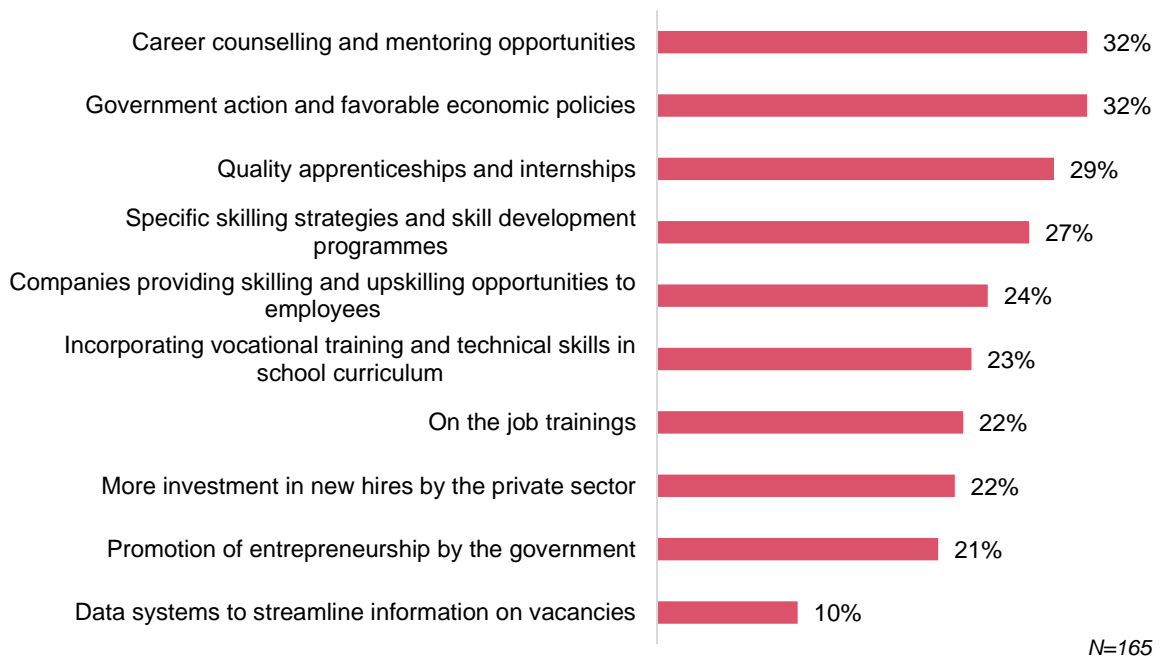
In order to understand the awareness of government run skill development schemes, respondents were asked to indicate if they were aware of them. One of the skill developments schemes that the respondents were most aware of was the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), which was known to 33 per cent of the respondents, followed by Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU GKY) which was known to about 27 per cent of the respondents. The least known was the Samarth aka Scheme for Capacity Building in Textile Sector (SCBTS), which was known to only 7 per cent of the respondents.

Figure 39: Awareness of skill development schemes



About one-third of respondents believe that favorable economic conditions and good career counselling services can help address the mismatch between youth aspiration and job market realities. About one-fourth of them believe that apprenticeships/ internships and upskilling through vocational training can help. Only 10 per cent believe developing data system to streamline information on vacancies can help reduce the mismatch.

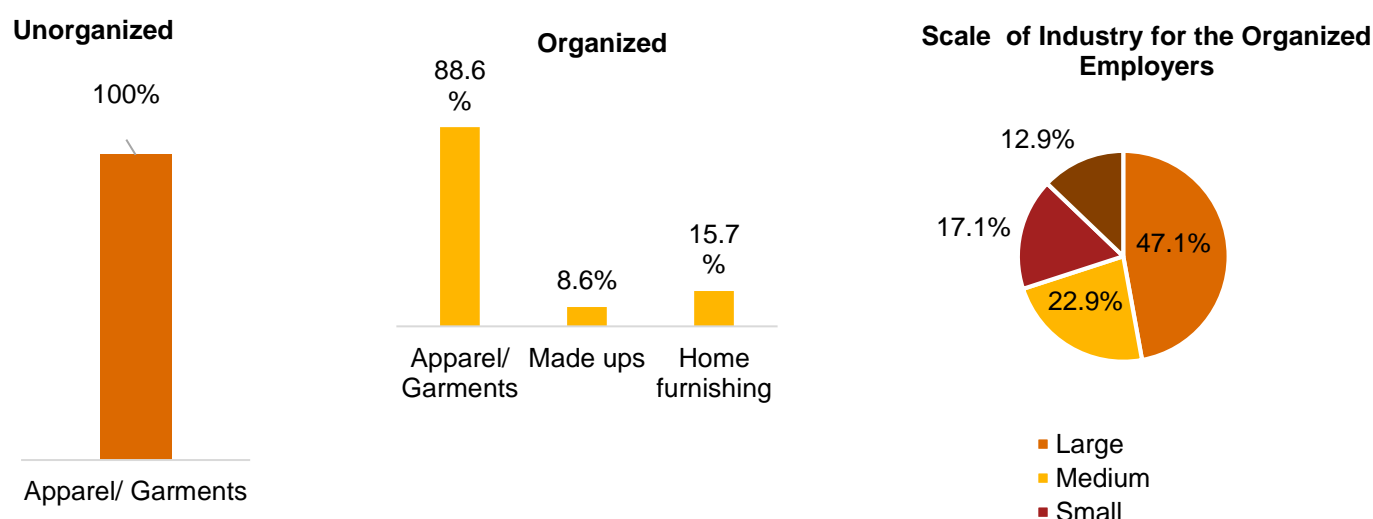
Figure 40: Steps that can help address aspiration-reality mismatch



8- Employer's Perspective

In order to understand the employment's respective on the labour market needs of AMH sector , we conducted employers survey covered 103 Industries, 70 from the organized segment and 33 from the unorganized segment. Majority share of organized employers were large employers (47 per cent).

Figure 41: Snapshot of Industries covered



Organized and Unorganized Employers

Overview of Organized and Unorganized Employers

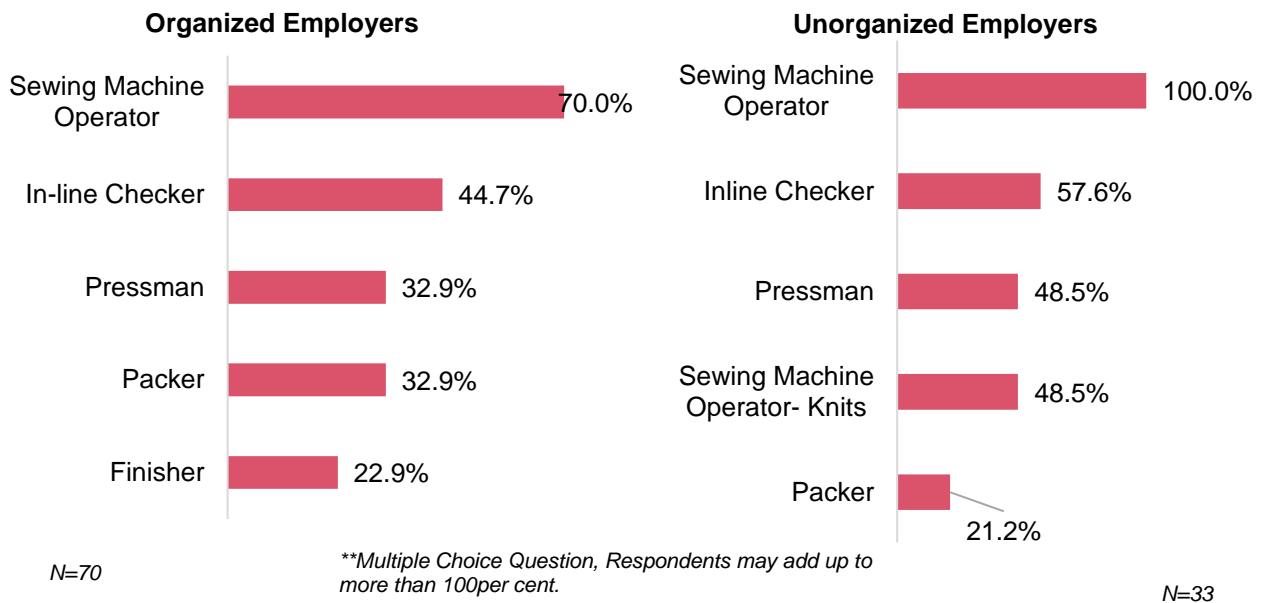
Most of the organized and unorganized employers reported to have a workforce with mixed skills level. In our sample, employers from the organized sector reported to have 35.3 per cent highly skilled, 37 per cent skilled and 21 per cent semi-skilled workers. Unorganized employers, on the other hand, had a higher share of highly skilled (49.2 per cent), 31.4 per cent of skilled and 20.6 per cent of semiskilled workforce. The share of unskilled workers in the unorganized sector (0.6 per cent)- as found from the survey- was less than that of the organized sector (11.4 per cent). Owing to their small operational size and budgetary constraints, the employers from the unorganized sector, typically, employ skilled and efficient workers thus resulting in the lesser share of unskilled workers.

The proportion of contractual workers among the organized sector employers was 34 per cent. Similar trend was observed in the unorganized sector employers. The overall distribution of contractual workers based on their skill level- varied as reported by the organized sector employers. The findings from the organized sector employers suggest that highly skilled workers constituted nearly 30 per cent of the contractual workers while skilled and semi-skilled accounted for 32 per cent and 20 per cent respectively. About one-fifth of all contractual workers in the organized sector were unskilled. Of these contractual employees, 56 per cent of them were working on piece rate basis while 44 per cent of them were working on a fixed rate basis.

Recruitment of Employees and Job Roles

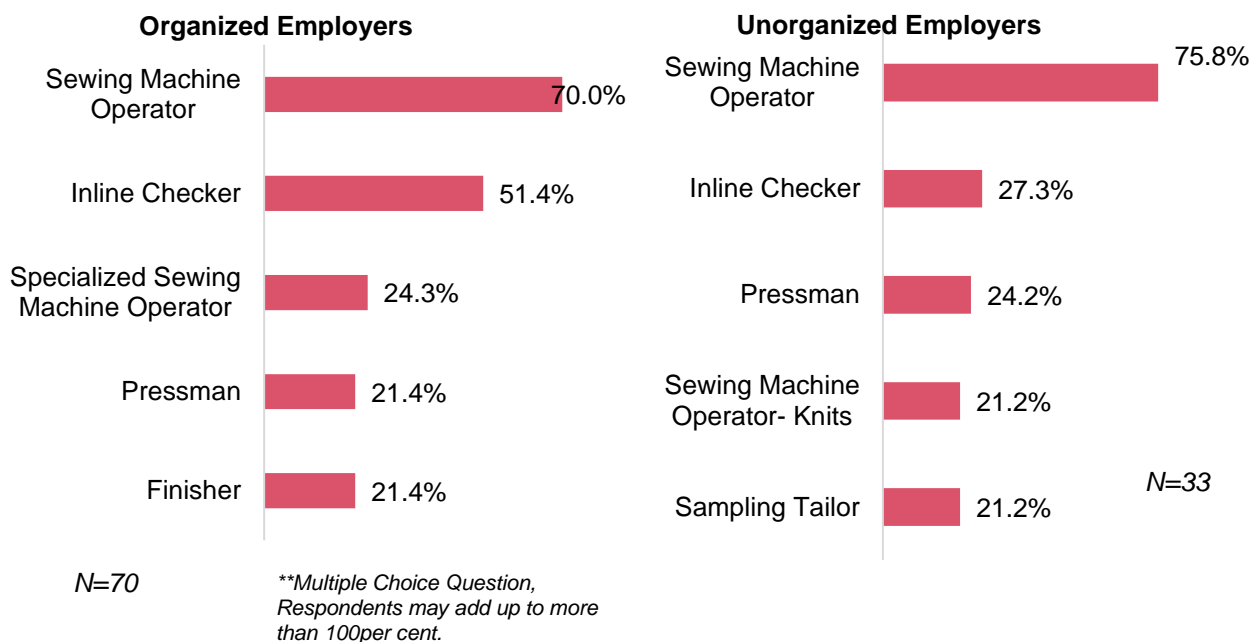
The survey findings suggest that job roles such as **Sewing Machine Operators and Inline Checkers, Pressman, Packer and Finishers** constituted majority of recruitments in FY2019-20 for both organized and unorganized employers as observed in Figure 42.

Figure 42: Top 5 job roles in recruitment in FY 2019- 20: Organized vs Unorganized



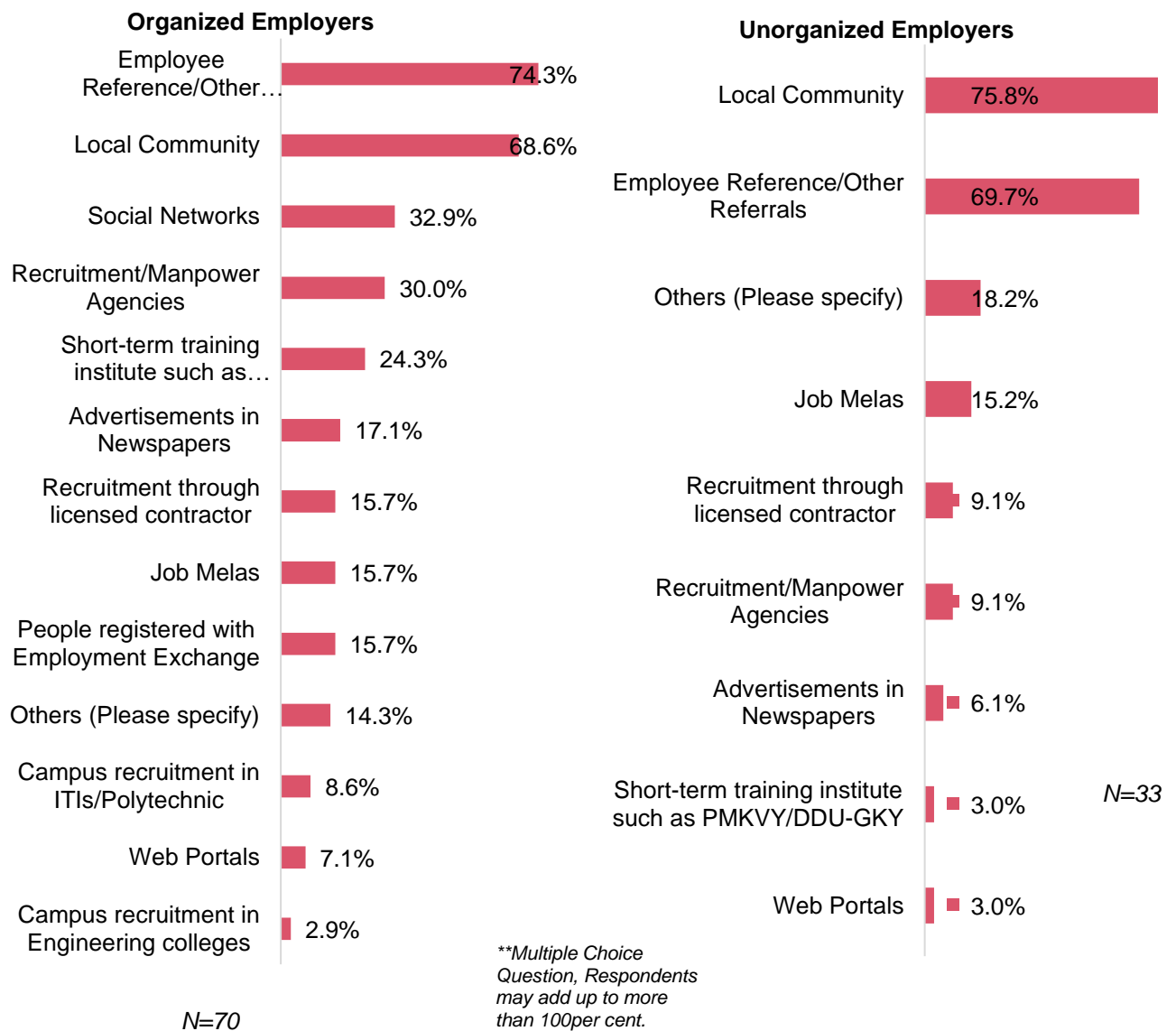
For the organized sector employers, 42 per cent of the workforce (both on roll and contractual) were migrants. In contrast, unorganized sector employers had around 11 per cent migrant workforce. This disparity occurs as unorganized sector employers tend to employ local people more. These migrant workforces fill up the positions/ job roles such as Sewing Machine Operators (almost 70 per cent for organized and 75 per cent for Unorganized), Inline Checkers (51 per cent for organized and 27 per cent for unorganized employers), Specialized Sewing Machine Operator (24 per cent for organized and 21 per cent for unorganized employers), Finisher and Pressman (21 per cent for organized and 24 per cent for unorganized).

Figure 43: Top 5 job roles into which migrant workforce is employed in factories- Organized vs Unorganized



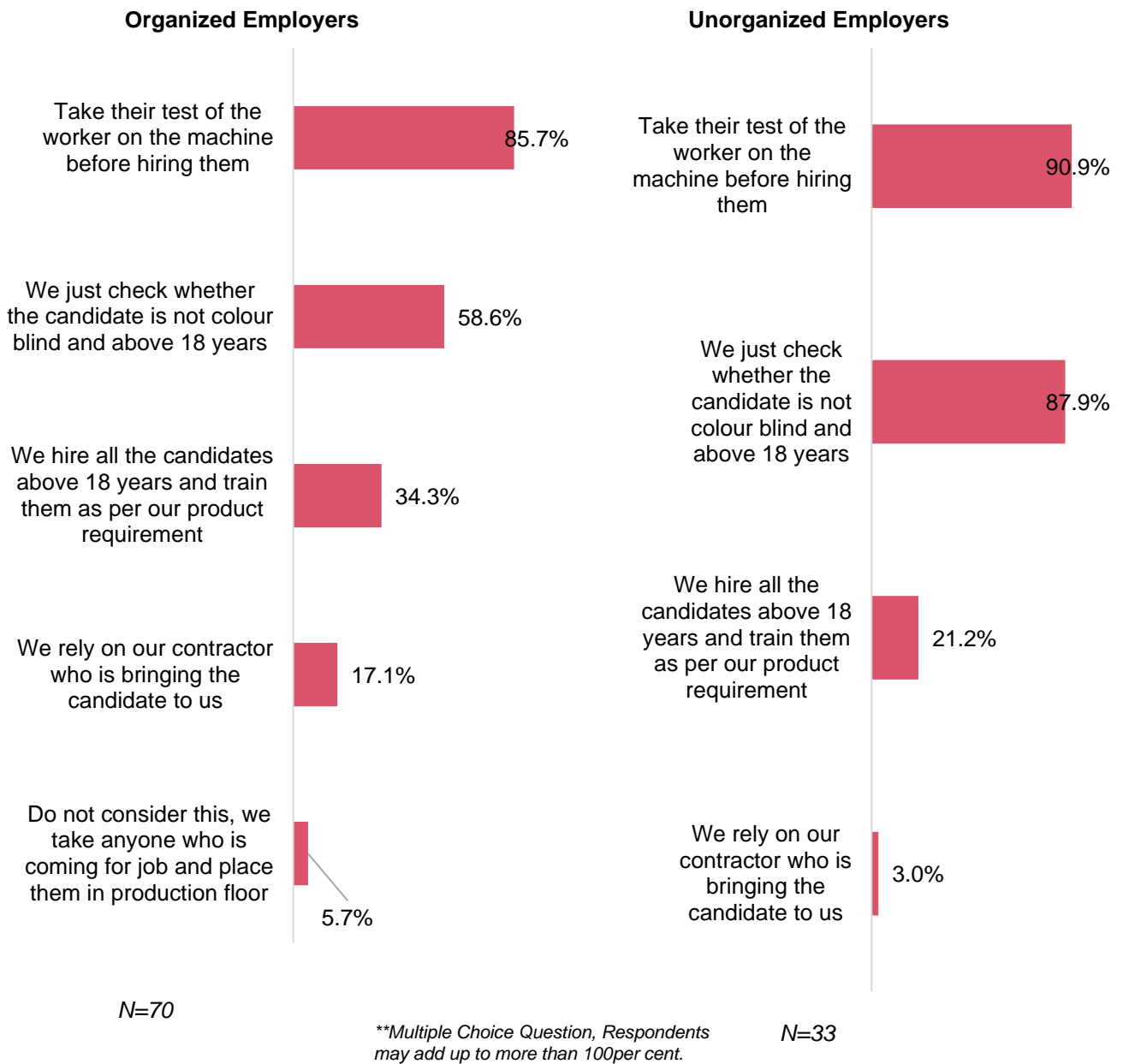
The recruitment process was mostly informal for employers. Most of the employers from both organized and unorganized sectors, stated that new workers are recruited through references of their existing employees. Workers are also hired by word of mouth from the local community. Recruitments from Short-term training institutes, Polytechnics and ITIs are confined typically to the organized sector as presented in Figure 44.

Figure 44: Common modes of recruitment- Organized vs Unorganized



Employers assesses working competencies before recruiting new workers. There are different parameters being used before employing the workers. For instance, 86 per cent of the employers from the organized sector identified that they employed their workers after assessing their working ability on the machinery they have. Another 59 per cent of the respondents said that they assess basic criteria for employability, such as checking for color vision defect and the legal working age of the candidates. 34 per cent of the respondents stated that they train their workers as per the product requirement. Similar trends were reported from the employers of unorganized sector as presented in the figure below.

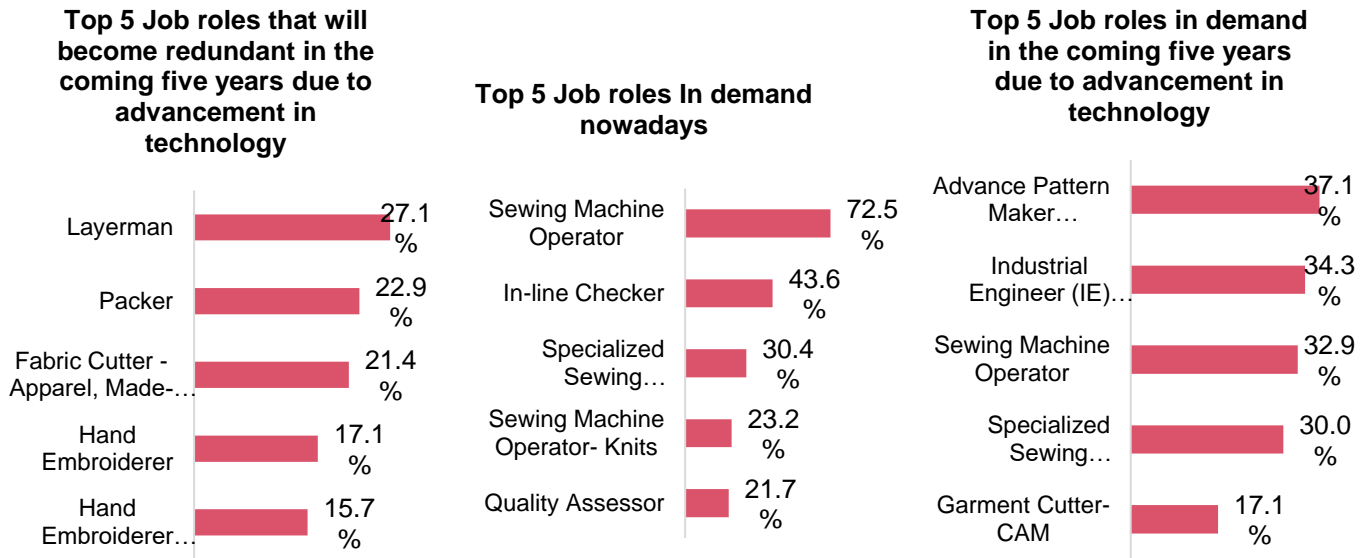
Figure 45: How do you determine the competency of the workers while selecting them- Organized vs Unorganized



The employers face different challenges while recruiting and they are not limited to determining competencies only. Specifically, for employers from the organized sector, they face major challenges as they recruit a large number of workers. These challenges included lack of experience (40 per cent) and requisite soft skill (51 per cent) as well as core skills (54 per cent). Uncertainty due to marriage and child (27 per cent), involvement in household chores (27 per cent) were shortcomings usually faced by women and emerged as a major inhibiting factors while recruiting them.

As part of the survey, employers were asked to list job roles in demand. Job roles such as Sewing Machine Operators (73 per cent) and In-Line Checkers (44 per cent) are in great demand these days, as shown in Figure 46. Further, the employers reported that in the near future, that is, over the period of five years, Packer (23 per cent) and Layer man (27 per cent) would become redundant while Advance Pattern Maker (CAD/CAM) (37 per cent) and Industrial Engineer Executive (34 per cent) would be in demand due advancement in technology,

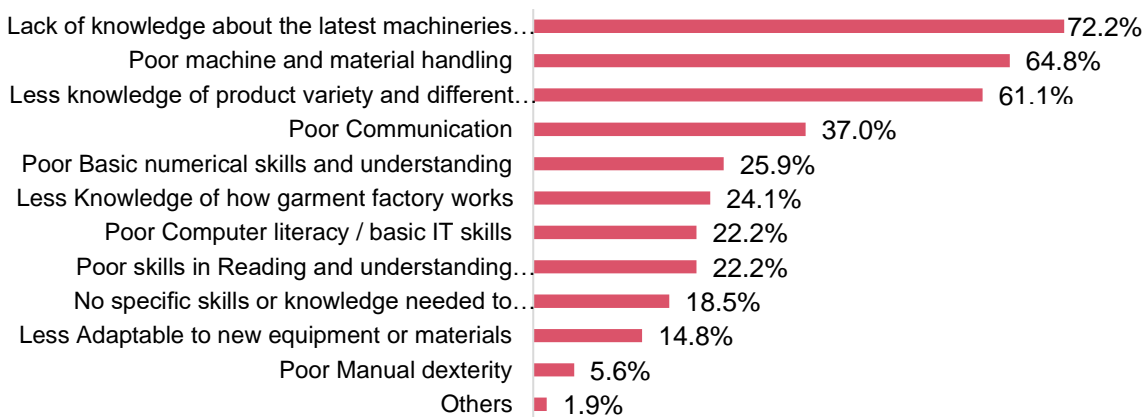
Figure 46: Job Roles in Demand vs Job Roles becoming redundant vs Job Roles in demand due to advancement in technology



Skill Levels of Workers

Employers from the organized sector admitted that 3/4th (77 per cent) of their workers have a skills gap⁴³. Employers from the unorganized sector also reported a higher level of skill gap among their workers, as they felt that 9 out their 10 employees had some level of skill gap. As far as the entry level workers were concerned, lack of knowledge of latest machineries (72 per cent) and its handling and poor machine and material handling (65 per cent) were major skills that they lacked. Less knowledge about product specification (61 per cent) and poor communication skills (37 per cent) were also skills that entry level workers lacked as we observed in Figure 47.

Figure 47: Skill level of entry level workers and overall skill gap of the workers according to the employers



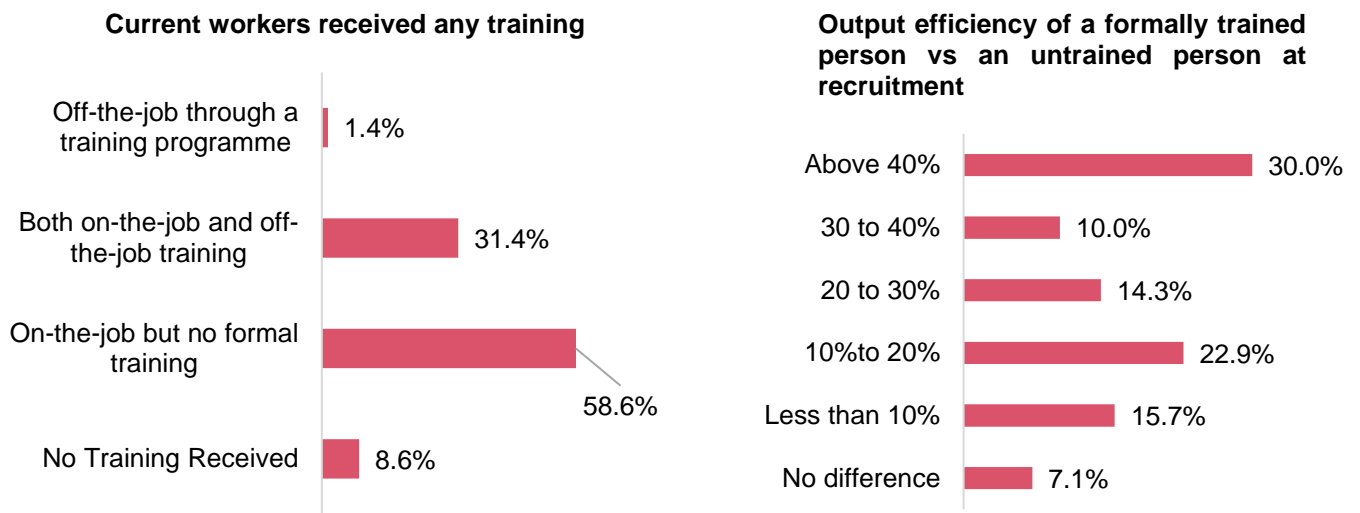
N=70

**Multiple Choice Question, Respondents may add up to more than 100per cent.

⁴³ The term “**skills gap**” describes a fundamental mismatch between the **skills** that employers rely upon in their employees, and the **skills** that job seekers possess.

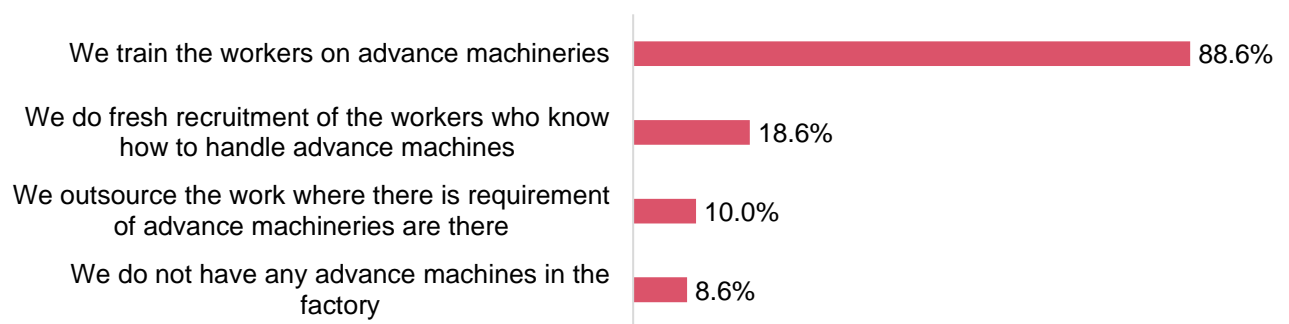
The employers were asked to rate their employees on their level of skills (0 being the lowest while 10 being the highest). The average technical score and soft skills were estimated to be 4.6 and 3.9 respectively. The gap between the wage of an entry level worker and a skilled worker working in the organized sector was around INR 4,028/- per month on an average. For employers in the unorganized sector, we calculated INR 4,400/- as the gap between the wage of an entry level worker and a skilled worker. The above disparity in wages is due to the differences in output efficiency among workers. 30 per cent of all employees agreed that there is a significant output difference (above 40 per cent) between a formally trained person and an untrained person at recruitment. Most of the workers are given on the job training as the employers do not find workers fully trained.

Figure 48: Workers received training vs the output difference between a trained and an untrained person at recruitment



Thus, on-the job training, which is offered to upskill/reskill, mostly comprise of knowing how to work on advance machineries as shown in Figure 49.

Figure 49: How do you upskill/ reskill workers to handle advance machineries



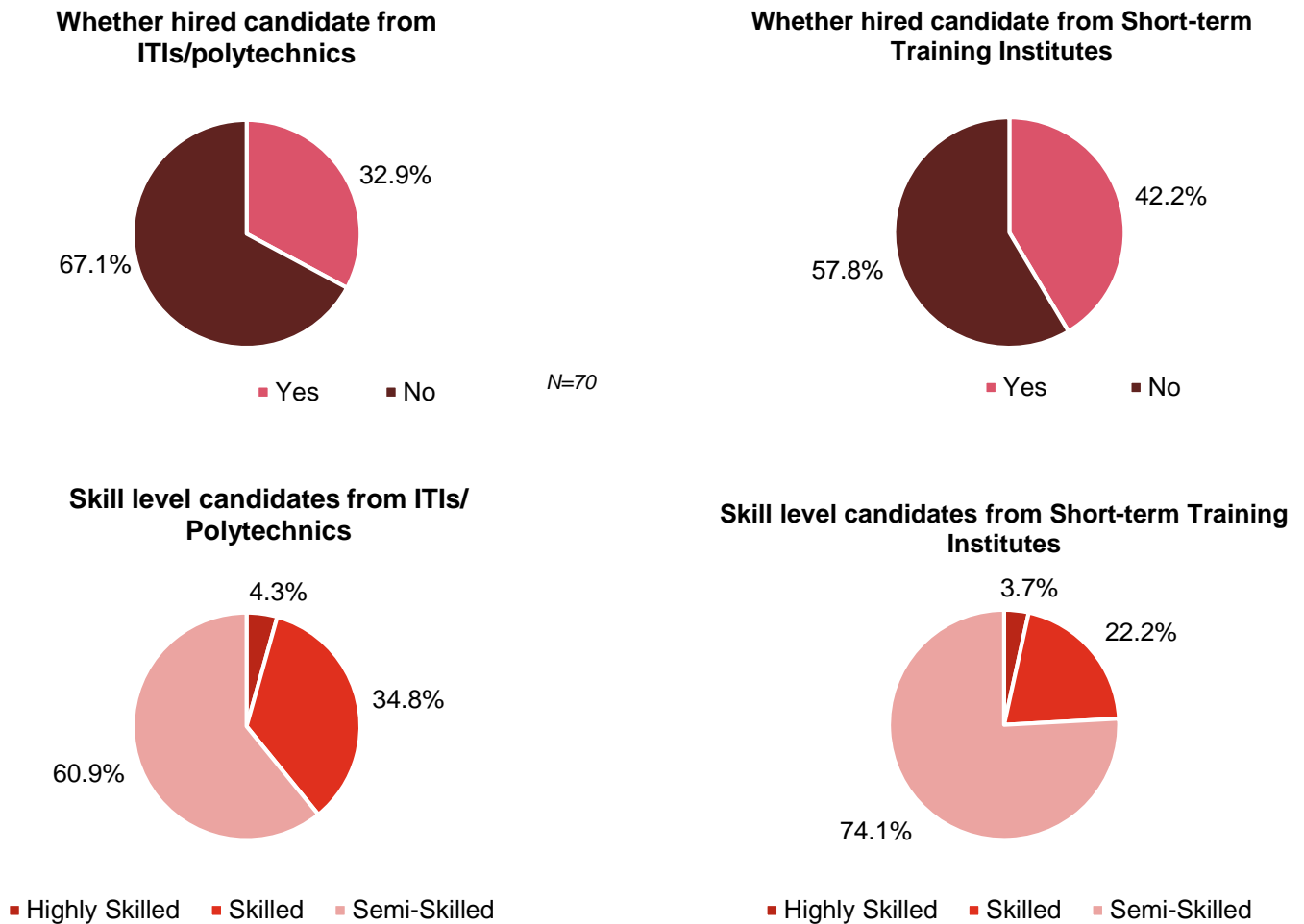
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**Multiple Choice Question, Responses may add up to more than 100per cent.

Skill Level of worker hired from ITI/Polytechnics/Short-term Training Institutes

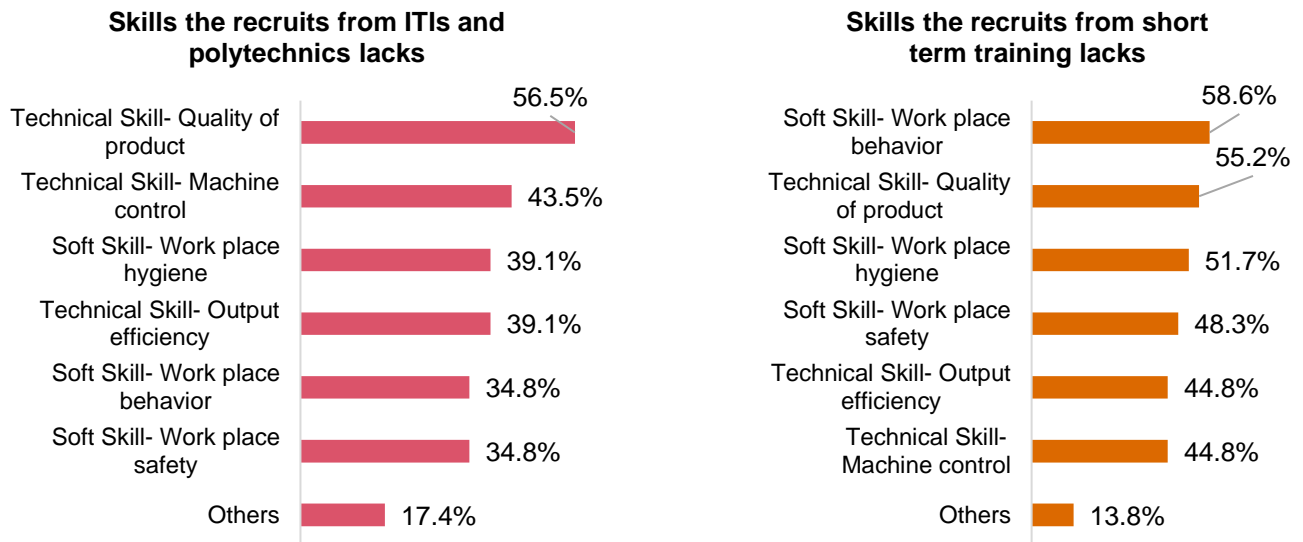
33 per cent of employers reported that they hire candidates from ITI/Polytechnics. 42 per cent of the employers reported that they hire candidates from short term training institutes. Of the candidates hired from ITI/Polytechnics and short-term training institutes, most of them were reported to be skilled/semi-skilled while less than 5 per cent were considered highly skilled.

Figure 50: Workers hired and skill level from the ITI/Polytechnics/Short-term Training Institutes



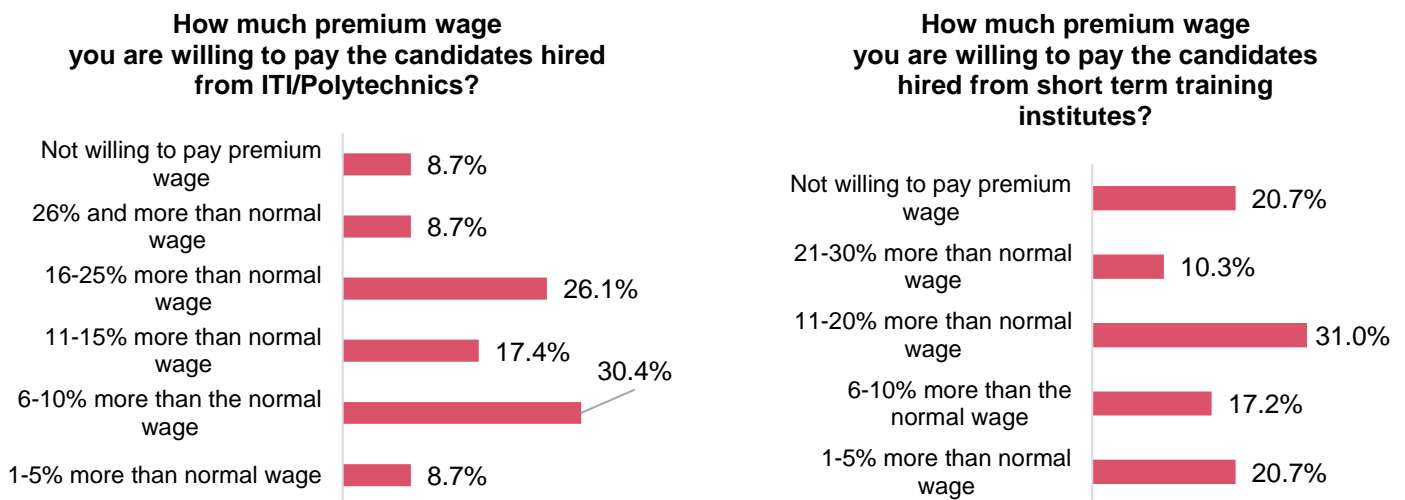
In Figure 51, we observe that employers from the organized sector who recruited candidates from ITI/Polytechnics and short-term training Institutes, opined that recruits lacked in technical skills such as i) quality product delivery (56 and 55 per cent respectively), ii) machine control (43 and 44 per cent respectively) and iii) delivering efficient output (39 and 44 per cent respectively). The candidates recruited by the employers in the organized sector from short-term training institutes lacked in soft skills such as workplace behavior (59 per cent). Similarly, among recruits from ITI/Polytechnics, this was reported around 35 per cent.

Figure 51: Skill that was lacking among recruits from ITI/Polytechnics and Short-Term Training Institutes



50 per cent of employers from the organized sector informed that they shall pay 10 per cent or more premium wage on the entry level wage to the candidates coming from ITI/Polytechnics- given they are trained adequately. Similarly, 41 per cent of them also informed that they shall pay 11 per cent or more premium wage on the entry level wage to the candidates coming from short term training institutes.

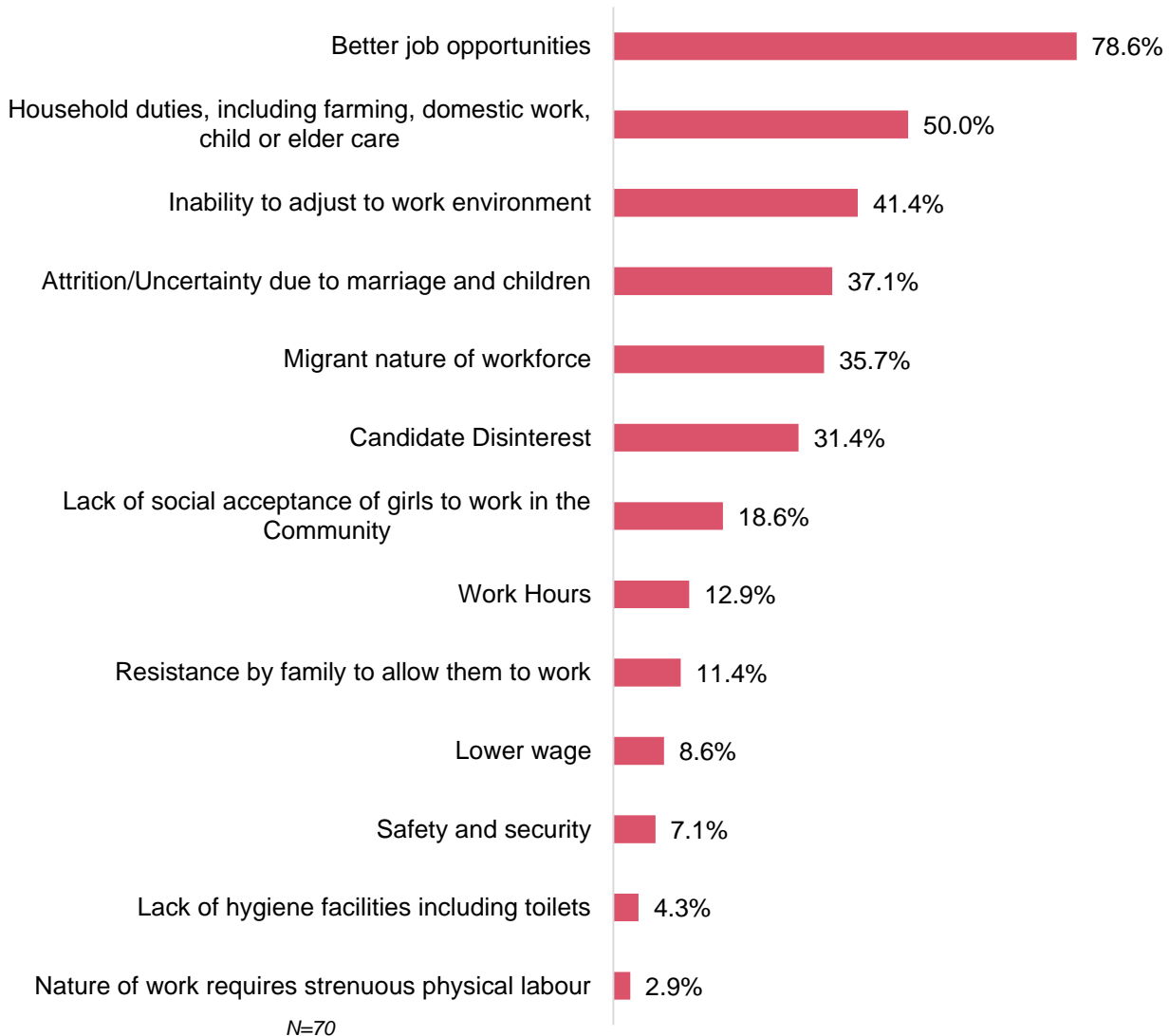
Figure 52: Premium wage paid if recruits are hired from ITI/Polytechnics/Short-term training institutes



Attrition and Overall Awareness of Skill Development Related Schemes

About 20 per cent of attrition rate was observed in our sample of employers from the organized sector. The major cause of attrition included workers leaving because of a better job opportunity (78 per cent) and inability to adjust to work environment (41 per cent). Household duties including farming, domestic work (50 per cent), marriage and child-birth (37 per cent), lack of social acceptance of girls (19 per cent) and hygiene and toilet facilities (4 per cent) were cited as major reasons for the attrition among women.

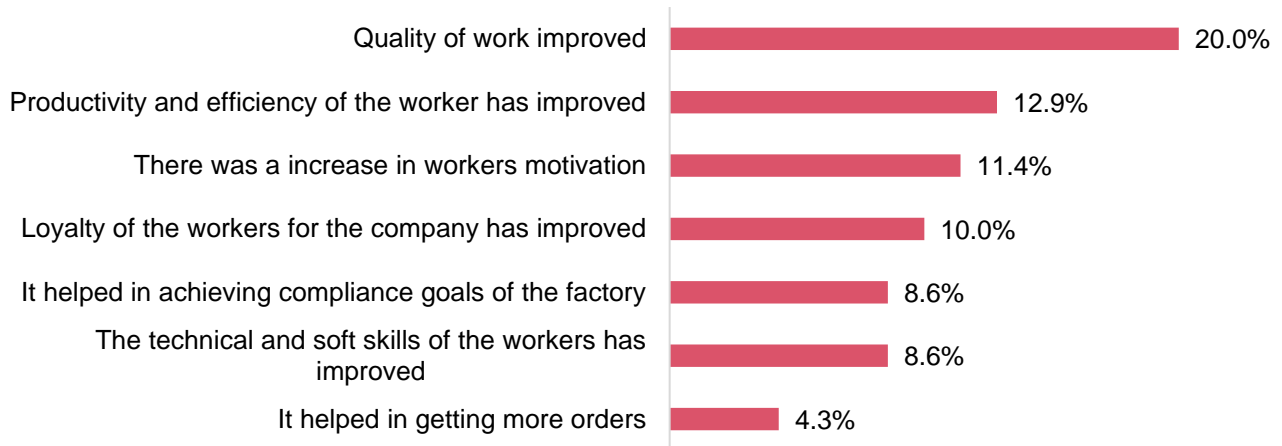
Figure 53: Major causes of attrition



**Multiple Choice Question, Respondents may add up to more than 100 per cent.

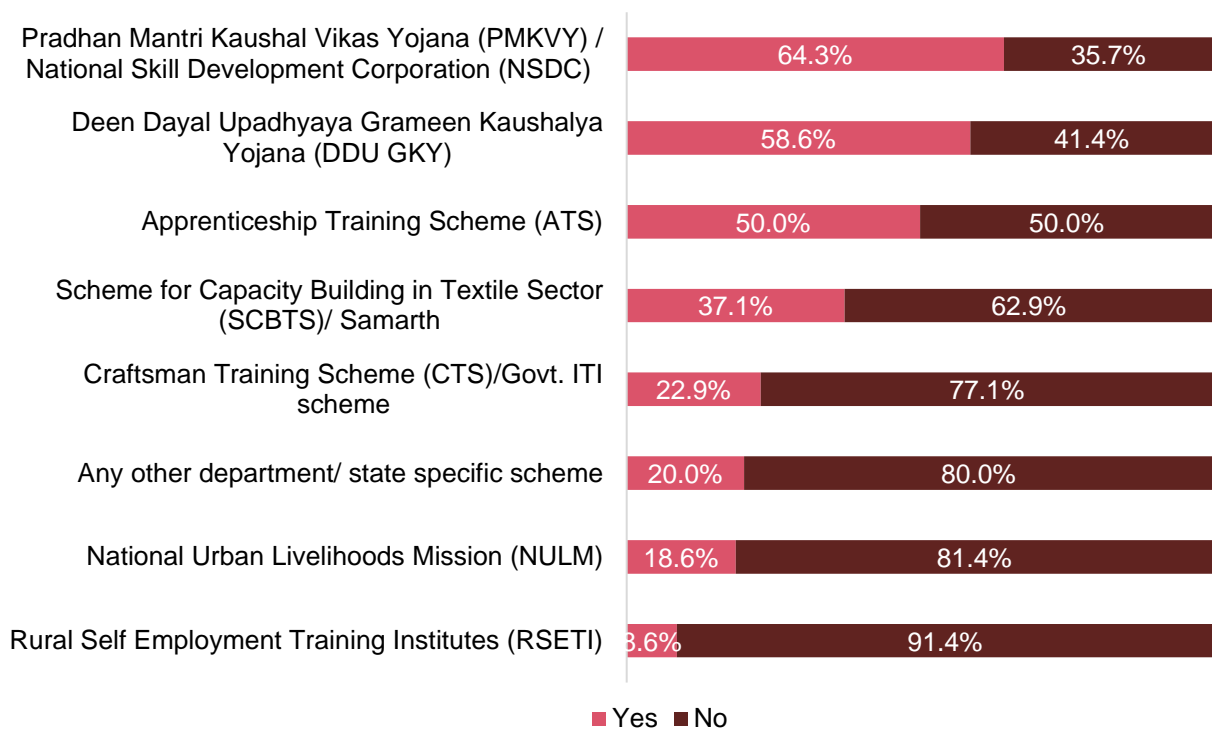
Awareness and impact of RPL and other skill development schemes were probed with the employers. 27 per cent of employers surveyed knew about RPL certification. Employers who employed RPL certified employees felt that the overall quality of work improved (20 per cent) post the RPL certification.

Figure 54: Impact of RPL Certification



More than 50 percent of the employers from the organized sector are aware of skill development programmes such as PMKVY, NSDC and ATS. Samarth programme was known by around 40 per cent of the employers. In general, awareness of Government run schemes are less.

Figure 55: Awareness of skill development related schemes



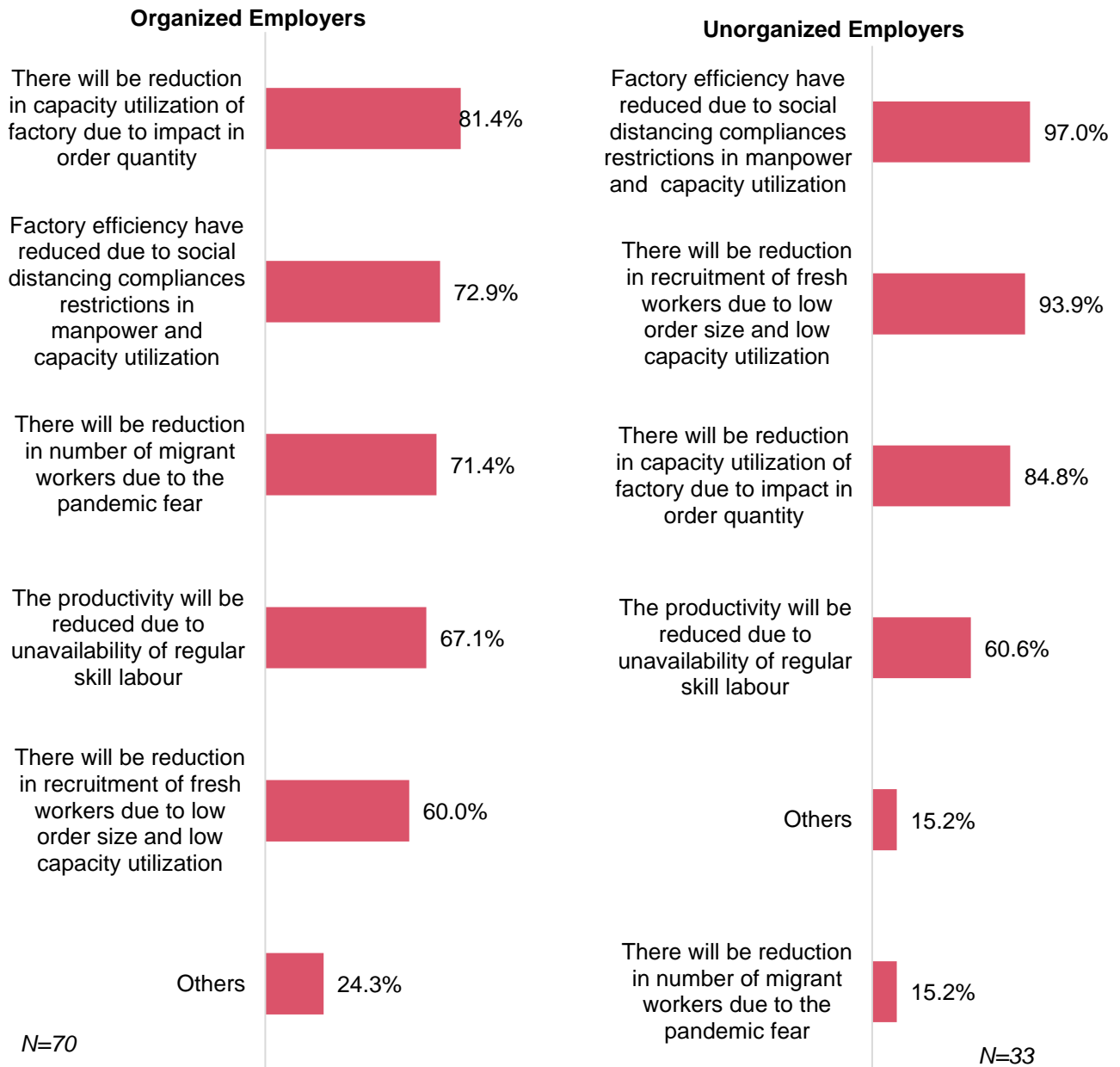
More than two-thirds of the sampled employers from the organized sector are not aware of the NSQF Skill Norms and RPL certification. Although, 3/4th of these employers were willing to get their employees RPL certification when we they came to know about such certification. Majority of the employers were willing to

participate in the short-term training programmes going so far as to put some initial investment for it as well. Although, the current participation of the employers in the skill development schemes are low.

Impact of COVID-19

Nearly 81 per cent employers from organized sector and 84 per cent from the unorganized sector reported that the impact of the current pandemic COVID-19 was apparent and has been resulted in reduced capacity utilization due to impact in work orders as well as uncertainty from buyers' side. Also, reduction in migrant labor force availability and drop in efficiency (72 per cent) have resulted in bearish demand trend for the employers in the organized sector as observed in Figure 57.

Figure 56: Perceived impact of Covid-19 among the organized and unorganized employers



**Multiple Choice Question, Respondents may add up to more than 100per cent.

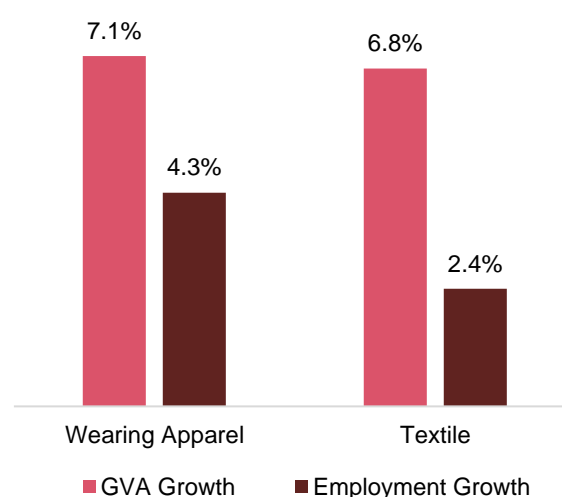
9- Skill Gap Assessment

Comparative analysis of Wearing Apparel and Textile

Employment in Manufacturing (Organized)

Total number of persons engaged in manufacturing of wearing apparel and textile was 28.7 Lakh in year 2017-18 11.9 Lakh in wearing apparel and 16.8 Lakh in textile⁴⁴. During the period between 2011-12 and 2017-18, employment in manufacturing of wearing apparel grew at a CAGR of 4.3 per cent from 9.2 Lakh to 11.9 Lakh, while employment in manufacturing of textile increased at a CAGR of 2.4 per cent from 14.6 Lakh to 16.8 Lakh. **Employment growth in manufacturing of wearing apparel was higher than employment growth in manufacturing of textile, although the real Gross Value-Added growth in both the sector were about similar.** Gross Value Added in manufacturing wearing apparel increased at a nominal CAGR of 12.8 per cent (real CAGR of 7.1 per cent) while Gross Value Added in manufacturing of textile increased at a nominal CAGR of 9.1 per cent ((real CAGR of 6.8 per cent)^{45,46}. **Number of registered factories engaged in manufacturing of wearing apparel increased from 9,168 to 10,498 whereas number of registered factories engaged in the manufacturing of textile fell from 18,790 to 17,958, during the 2011-17 period.**

Figure 57: Real GVA and Employment CAGR (Organized Sector) – 2011-12 to 2017-18



Source: Annual Survey of Industries

Figure 58: Employment Numbers in '000 (Organized sector) - 2008-09 to 2017-18



Source: Annual Survey of Industries

⁴⁴ Employment numbers are inclusive of workers employed directly or through contracts, employee at supervisory and managerial level, unpaid family members, proprietor etc.

⁴⁵ Real CAGR of 7.1 per cent, calculated by deflating GVA value by WPI (Wearing Apparel)

⁴⁶ Real CAGR of 6.8 per cent, calculated by deflating GVA value by WPI (Textiles).

Employment trend in organized - wearing apparel sector and textile sector - is analyzed using ASI data at NIC 2-digit level. However, ASI data at industry level is available only till 2017-18. For year 2018-19, employment data is derived from PLFS. Based on PLFS data on “employment by enterprise type” and NCEUS definition of informal sector, total employment in organized wearing apparel sector was estimated to be 11.91 Lakh in 2018-19⁴⁷. This is about 1,000 more than the employment of 11.90 Lakh in 2017-18, derived from ASI industry level data. Similarly, employment in organized textile sector for year 2018-19 is estimated to be 11.3 Lakh.

Employment in Manufacturing (Unorganized)

Employment in manufacturing of textile - unorganized sector - declined during 2010-to-2015 period due to the fall in number of establishments⁴⁸. Number of establishments engaged in manufacturing of textile declined from 3.70 Lakh in 2010-11 to 2.75 Lakh in 2015-16. **Unlike textile sector, employment in manufacturing of wearing apparel(unorganized sector) rose during 2010-15 period owing to the increase in number of own-account enterprises⁴⁹.** Number of own-account enterprises engaged in manufacturing of wearing apparel increased from 38.3 Lakh in 2010-11 to 51 Lakh in 2015-16.

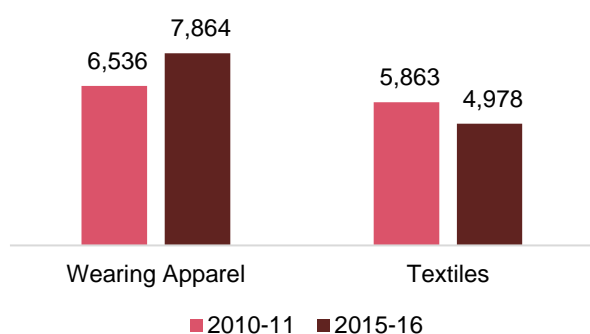
Table 16: Number of Unincorporated enterprises (Value in '000)

	2015-16			2010-11		
	OAE	Establishments	Total	OAE	Establishments	Total
Wearing Apparel	5,097	514	5,610	3,827	494	4,320
Textiles	2,328	275	2,604	2,272	370	2,642

Source: NSS unincorporated enterprises survey 2010 & 2015

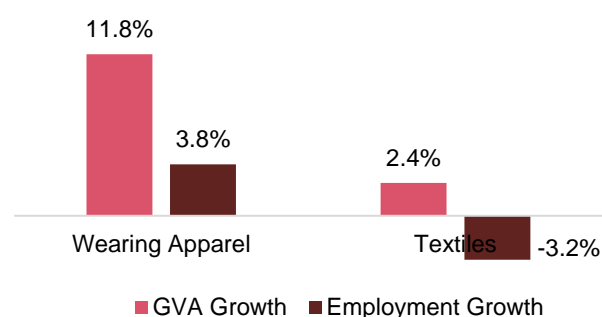
Number of workers involved in manufacturing of Textile contracted at a CAGR of -3.2 per cent between 2010-11 & 2015-16, although the GVA in the sector grew at a nominal CAGR of 5.9 per cent (real CAGR of 2.4 per cent) during the same period⁵⁰. On the other hand, the number of workers involved in manufacturing of wearing apparel increased at a CAGR of 3.8 per cent and the GVA in the sector grew at a nominal CAGR of 15.6 per cent (real CAGR of 11.8 per cent) between 2010-11 and 2015-16⁵¹. **The share of textiles in total unorganised manufacturing GVA declined from 14.5 per cent in 2010-11 to 11.1 per cent in 2015-16, whereas the share of wearing apparel in unorganized manufacturing GVA grew from 16.2 per cent to 19.3 per cent.**

Figure 59: Employment Numbers in '000



Source: NSS unincorporated enterprises survey 2010 & 2015

Figure 60: Real GVA & Employment CAGR (Unorganized Sector) - 2010-11 to 2015-16



⁴⁷ According to NCEUS “the informal sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers”.

⁴⁸ Establishments are enterprises that employ at least one hired worker.

⁴⁹ Own account enterprises are those enterprises that does not have any hired worker.

⁵⁰ Real CAGR of 2.4 per cent, calculated by deflating unorganized manufacturing sector GVA by WPI (manufactured products)

⁵¹ Real CAGR of 11.8 per cent, calculated by deflating unorganized manufacturing sector GVA by WPI (manufactured products)

According to PLFS 2018-19, total employment in wearing apparel sector and textile sector under unorganized category stood at 96.2 Lakh and 54.4 Lakh, respectively.

As stated in the previous section, employment trend in wearing apparel sector and textile sector is analyzed using data from enterprise surveys such as ASI and NSS for organised and unorganised sector, respectively. However, industry level data from ASI is available only till 2017-18, whereas NSS unincorporated enterprise survey data is available only till 2015-16. Therefore, employment numbers for year 2018-19 is obtained from PLFS. The table below shows employment numbers for wearing apparel and textile sector – organised, unorganised and combined – for year 2018-19. **Total number of persons engaged in manufacturing of wearing apparel – organised and unorganised combined – was 108.1 Lakh. Comparing employment numbers of PLFS 2018-19 with enterprise survey of 2015-16, we observe an increase in number of workers in wearing apparel sector over the years at both organized and unorganized level, as opposed to no growth in textile sector.**

Table 17: Comparison of household survey and enterprise survey (Value in '000)

	Household Survey (2018-19)			Enterprise Survey 2015-16		
	Organized	Unorganized	Total	Organized	Unorganized	Total
Wearing Apparel	1,191	9,618	10,810	1,083	7,864	8,948
Textile	1,129	5,436	6,565	1,565	4,978	6,543

Source: ASI 2011 to 2017, NSS unincorporated enterprises survey 2010 & 2015, PLFS 2018

Employment Elasticity

Employment elasticity is the per centage change in employment level for every one-per cent change in output/GVA. High employment elasticity means growth in output/GVA is translating into growth in employment whereas low employment elasticity means growth in output/GVA is driven more by capital than labor, i.e. the case of jobless growth. **Manufacturing of wearing apparel witnessed positive employment elasticity in both organized and unorganized sector. Employment elasticity in organized wearing apparel sector was about twice as large as elasticity in organized textile sector. One per cent growth in GVA of organized wearing apparel sector resulted in 0.61 per cent growth in employment level whereas one per cent growth in GVA of organized textile sector resulted in 0.35 per cent growth in employment level, during the period of 2011 and 2017.** One per cent growth in GVA of unorganized wearing apparel sector resulted in 0.32 per cent growth in employment. Unorganised textile sector experienced negative employment elasticity between year 2010-11 & 2015-16.

Figure 61: Employment Elasticity (organized and unorganized)



Source: ASI 2011 to 2017, NSS unincorporated enterprises survey 2010 & 2015

Wearing apparel sector has undergone transformation over the years in terms of employment generated in the sector per unit of real fixed capital invested⁵². **Ratio of total employment to real fixed capital has declined over the years i.e. more capital is required to be invested in the sector to generate same level of employment.** One crore of fixed capital invested in organized wearing apparel sector generated on an average

⁵² Value of fixed capital deflated by WPI (machinery and machine tool), base 2004.

fifty-five employment in the sector in 2016-17, compared to seventy-one generated in year 2008-09. Similarly, in organized textile sector average employment generated for each one crore of fixed capital invested, has declined from 19 to 14. **For one crore of fixed capital, wearing apparel sector generated four times the employment generated by textile sector in 2016-17.** Overall, average employment generated in the organized wearing apparel and textile sector per one crore fixed capital invested, has declined from 31 in 2005-06 to 20 in 2016-17, implying that the sector has become more capital intensive.

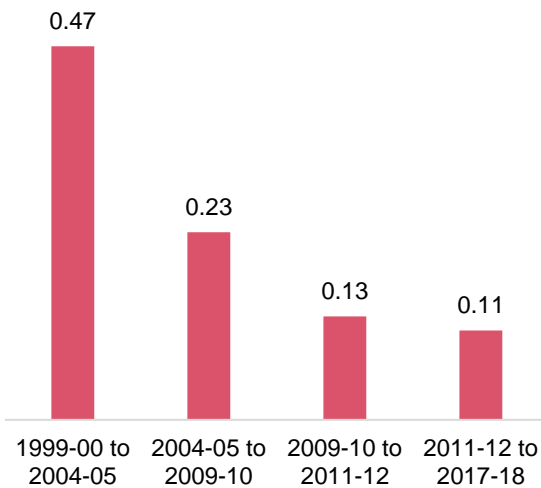
Figure 62: Employment generated per one crore of fixed capital



Wholesale and retail trade of wearing apparel

Total number of workers engaged in wholesale and retail trade of AMH products in 2018-19 is estimated to be 55.1 Lakh, which is about 10 per cent of total workers engaged in wholesale and retail trade activity in India (533.6 Lakh workers were engaged in wholesale and retail trade activity in 2018-19). Although India's wholesale and retail trade sector has witnessed increased GVA growth rate in last 10 years, it has not led to higher employment growth in the sector. For every 10 per cent CAGR in trade sector GVA, the employment grew by only about 1 per cent on average during 2011-12 to 2017-18 period.

Figure 63: Employment elasticity (Trade sector)



Source: RBI KLEMS Database 2019

Figure 64: GVA and Employment CAGR (Trade sector)



Ancillary Sectors

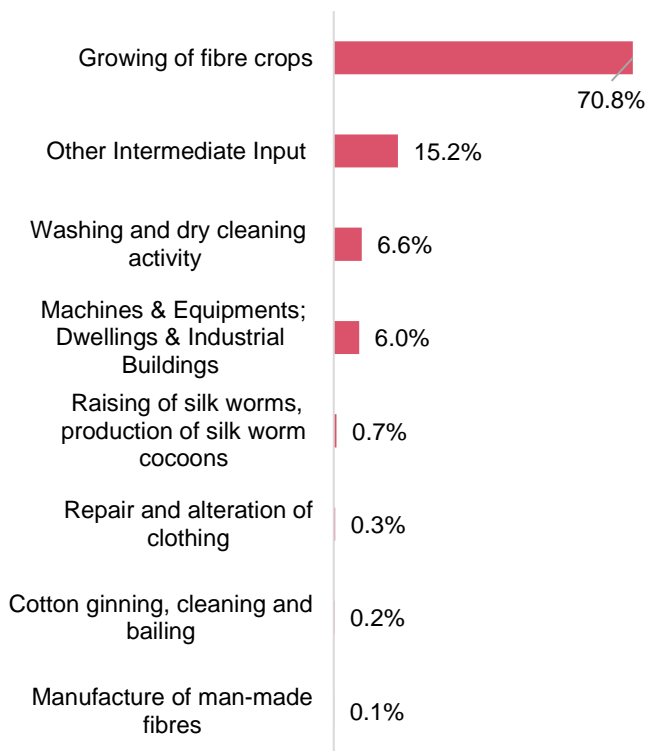
Manufacturing of Apparel, Made-up and Home furnishing (AMH) require intermediate input, such as energy, material (natural fibres, manmade fibres etc.) and service input and Capital, such as Machinery and equipment, buildings and other structures. **All those involved in production of intermediate input & capital used in manufactured AMH products are considered part of ancillary sector.** Apart from intermediate input and capital, Repair and alteration of clothing and washing and dry-cleaning activities are also considered part of sectors ancillary to AMH.

Following are the sectors considered as ancillary sector in our analysis:

- Growing of fibre crops
- Cotton ginning, cleaning and bailing
- Raising of silkworms, production of silkworm cocoons
- Manufacture of man-made fibres
- Other Intermediate Input
- Machines & Equipment; Dwellings & Industrial Buildings
- Repair and alteration of clothing
- Washing and dry-cleaning activities

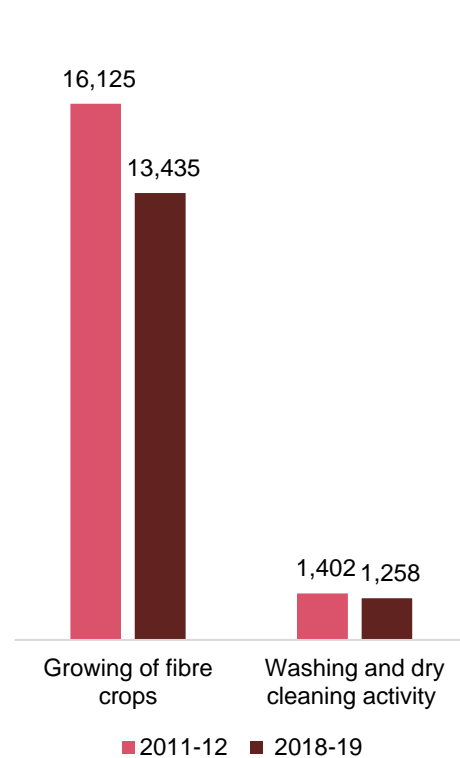
Total number of workers engaged in the above-mentioned ancillary sectors, in 2018-19, is estimated to be 189.6 Lakh, of which 134.4 Lakh (71 per cent) were engaged in growing of natural fibre crops. Number of workers engaged in growing of fibres crops declined by 26.9 Lakh, from 161.2 Lakh in 2011-12 to 134.4 Lakh in 2018-19, at a CAGR of -2.6 per cent. Such large-scale fall can be attributed to almost negligible growth in production of major fibre crop i.e., cotton. Production of cotton was 367 Lakh bales in 2011-12 and 370 Lakh bales in 2017-18. Workers engaged in washing and dry-cleaning activity declined from 14 Lakh to 12.6 Lakh at a CAGR of -1.5 per cent. Increased mechanization in ancillary sectors could possibly be one of the reasons behind fall in employment numbers in the sector.

Figure 65: Ancillary sectors employment distribution - 2018-19



Source: PLFS 2018, PwC Analysis

Figure 66: Ancillary sectors employment numbers in '000 - 2011-12 to 2018-19



Source: NSS Employment survey 2011 & PLFS 2018

Total number of workers engaged in manufacturing and trade of Apparel, Made-up and Home furnishing (AMH) products, in 2018-19, is estimated to be 168.2 Lakh. In addition, 189.6 Lakh were engaged in ancillary sector, leading the total employment due to AMH sector up to 357.9 Lakh.

Table 18: Core and Ancillary sector employment - 2018-19 (value in '000)

Employment (2018-19)	
Core Sector (Manufacture and Trade of AMH products)	16,821
Ancillary Sector	18,964
Total	35,785

Source: PLFS 2018, PwC Analysis

Incremental Human resource requirement & Skill Gap in AMH sector

Incremental human resource requirement in AMH sector – including manufacturing and trade – in the 5-year period between 2021-22 and 2025-26, is estimated to be about 35 Lakh. Of the total incremental human resource demand, 89 per cent demand is projected to be in manufacturing of AMH products, while 11 per cent demand is projected to be in trade related activity. Furthermore, about 52 Lakh incremental labour demand is also projected in ancillary sector, making the total incremental labour demand due to AMH sector (core sector) to 86.8 Lakh.

Table 19: Incremental Demand 2019-25 (value in '000)

	Employment (2018-19)	Incremental Demand (2021-22 to 2025-26)
Manufacture of Apparel, Made-up and Home furnishing	11,316	3,100
Wholesale and retail trade of AMH products	5,505	381
Core Sector (Manufacture and Trade of AMH products)	16,821	3,481
Ancillary Sector	18,964	5,195
Total	35,785	8,676

Source: PLFS 2018, PwC Analysis

Total incremental supply at all skill level, during the 2021-25 period, is projected to be of 18.4 Lakh. With the incremental demand of 31 Lakh, the skill gap in AMH - manufacturing is projected to be of 12.6 Lakh. Note that no skill gap is assumed in elementary occupations since there are surplus unskilled worker available in the economy to perform such task. Further, it has been assumed that the economy will rebound to its pre covid19 level by the first quarter of financial year 2021-22.

Table 20: Skill Gap in Manufacturing of Apparel, Made-ups and Home furnishing (value in '000)

NSQF Level	Sector	Employment (2018-19)	Incremental Demand (2021-22 to 2025-26)	Incremental Supply (2021-22 to 2025-26)	GAP
All	Apparel, Made-up and Home furnishing (Manufacturing)	11,316	3,100	1,844	1,256

Source: PLFS 2018, PwC Analysis



10- Recommendations for Stakeholders

Based on our study and the feedback from the relevant stakeholders, following are the key challenges faced and the recommendations from our end.

Training Needs

With the onset of the industry 4.0, the nature of work is changing, several jobs will cease to exist, and several new jobs shall be created. Around 80% of the current garment sector jobs may be impacted due to technology and automations. Job roles which may be impacted are Fabric Spreaders, Cutters, Pressman, Packers, Sewing Machine Operators. New occupation shall be emerging such as Computer-aided process planning professional, Computer-aided quality-control professional, Computer-aided testing professional, Automated inspection, Automated material handling devices, Artificial neural network expert, Pick and place robot operator, Numerical controller, Automated fusing and pressing machine operator, Enterprise resource planning expert, etc.

Recommendation 1:

- AMH SSC shall initiate the process to prepare the Qualification Packs and Model Curriculum related to the emerging job roles.
- Industry partner shall be involved in making the strategies for up-skilling and re-skilling for the future requirements to adopt technological upgradation and future ready for their workforce ready and expected shift.

The technologies are changing rapidly, and the current employees needs to be equipped with skills as per the upcoming technological demands

Recommendation 2:

- AMH SSC shall define the upskilling requirement of all the present job roles and design modules for upskilling and reskilling of the existing and new employees in the emerging areas of industry 4.0 such as Smart Clothing, Autonomous robots, Big data analytics, Simulation technology, Horizontal and vertical system integration, Industrial Internet of Things, Cybersecurity and cyber-physical systems, Cloud computing, Value additive manufacturing, Smart factory solutions, 3D printing technology, Machine to Machine (M2M) communication in knitting machines, Smart fabrics, AI-infused industrial ERP, etc.
- Industry partner will have to up-skill their workforce via in-house or external training centres. For e.g., an assembly line worker involved in manually fitting a part will be required to operate a robot or other tools to do so.
- Industry partner should be encouraged to plan, prepare, build and develop its employees to facilitate smooth transition to advanced manufacturing processes and technologies upgradation.

The soft skills module currently adopted by educational institutes and training providers needs to be aligned with the requirements of job roles defined in apparel sector

Recommendation 3:

- AMH SSC shall develop soft skill modules as per the needs of the apparel specific job roles with more focus on communication skills, behavioral skills, inter-personal skills, problem-solving and team building etc. and basic writing skills.

Training providers and assessment agencies are the key drivers for the project quality and executions however, their monitoring and evaluation is should be regulated at the central level

Recommendation 4:

- An independent monitoring cum auditing body shall be established by the AMH SSC in order to supervise and conduct frequent audits.
- A framework can be developed for evaluating the performance and ranking parameters for the training partner and assessment agencies.
- A framework can be developed for rating master trainers, trainers for continuously learning and skill upgradation as per the industry requirements.

Awareness among stakeholders

When it comes to choose as an ambitious career opportunity, lack of awareness has limited aspiration among the youth about the AMH sector over other sectors.

Recommendation 5:

- AMH SSC can collaborate with schools and colleges, to help them in setting up the lab facilities according to the norms defined by the MSDE, MHRD, NSDC/AMH SSC.
- AMH SSC shall conduct counselling sessions and awareness programmes in schools to increase the aspiration of students in the sector and make them aware about the career prospects in the sector.
- AMH SSC shall define career path for an individual workforce in the sector and to help individuals to choose AMH sector as an aspirational sector.
- The National Education Policy (NEP) 2020 could be leveraged by introducing courses related to apparel sector like fashion designing, self-employed tailor, etc. at school level.

Small and medium scale factories/ unorganized segment factories are unaware about the benefits of the skill development schemes

Recommendation 6:

- Awareness programmes should be organized by the MSDE, AMH SSC/NSDC to promote skill development schemes related to AMH sector for schemes visibility and to promote skill development schemes awareness to unorganized segments.
- Majority of organized and unorganized employers have not enrolled their employees in the RPL scheme. RPL is a great opportunity for the employees to get certification and recognition for his/her skills and competencies.

Industry Institute collaboration

There is gap between industries requirement and currently ongoing vocational training programmes. Candidates are not being trained on the latest machineries and technologies as per the industry requirements.

Recommendation 7:

- Industry and institutional tie-up should be encouraged so that the training content can be customized as per the industry requirement, trainers and candidates can be given exposure visit, representative from industry can visit the institution to guide and help the trainers/candidates and placement opportunities to the candidates.
- AMH SSC can act as a bridge between the industry and the educational/ training institutions, ultimately leading in improvement of the quality of content, digital content, training of trainers, assessment and certification, infrastructure requirements etc.
- Establishment of a knowledge management body constitution of industry players, prominent players/ people from industry with adequate representation from academia and other stakeholders to provide timely inputs to the industry according to the changes taking place in the sector.
- AMH SSC should leverage its strong industry partnership to support placement to its associated training partners. This can be done by creating a pool of trained candidates across institutes and mapping it with the demand from industry which will be further helpful in deciding which job role to focus on while imparting training.

Focus on entrepreneurship

In 2018-19, almost two-thirds (64%) of the workforce in Apparel Manufacturing were in self-employment activities, however there are not adequate job roles which can cater to the need of the self-employment. During our interaction with the boutique owner, tailors and pressman who are working independently, it was observed that they lack entrepreneurship skills, which hinder their growth and restrict their livelihood generation.

Recommendation 9:

- AMH SSC shall develop more modules to improve the entrepreneurship skills or can also develop job role specific to self-employment like self-employed tailor.
- AMH SSC should build job role related to stitching like soft toy making, hand crafted apparel like sarees, shawls, stoles, handkerchiefs, etc. should be identified and included as short-term courses. There is huge demand in the market and so far, but these job roles have been not yet developed.

Training of Trainers and Assessors

It is difficult to get competent trainers and assessors for the training and assessment activities respectively.

Recommendation 10:

- Trainers and Assessors selection criteria should be relooked and aligned according to the industry requirement. Since the apparel industry has majority of people working without much educational qualification but having rich industrial exposure. They should be considered as industrial experts and should be eligible to be a trainer or assessor.
- Trainers and Assessors should be reskilled as per the new technological advancement time to time so that they can impart adequate skills to the trainees.
- AMH SSC should build growth path for the trainers and framework shall be defined for upskilled and entrepreneurship skills.
- Trainers should be given industrial exposure so that they can update their knowledge.
- Training of Trainers (ToT) should be a continuous process to enhance learning path of trainers.
- Considering unprecedented seniors like COVID-19, online assessment tools should be developed.

Building Relationships, Creating Value

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