



Global & Indian T&A Industry: Disruptions and Innovations for Sustainable growth

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- A. Key change drivers & impact on textile manufacturing
- B. Global opportunities for Indian textile & apparel sector
- C. Opportunity in India's domestic market
- D. Two specific focus areas for textile manufacturers

The Textile World : Multiple Transformations & Disruptions

3

- Many concurrent change drivers that include:
 - Demography
 - Technology
 - Economic
 - Political

Key Impact Areas Of The Changes ...

4

1. Changes in Global consumption pattern
2. Re-Imagining Supply chains
3. Digitalization and adoption of Industrialization 4.0
4. Diminishing power of WTO

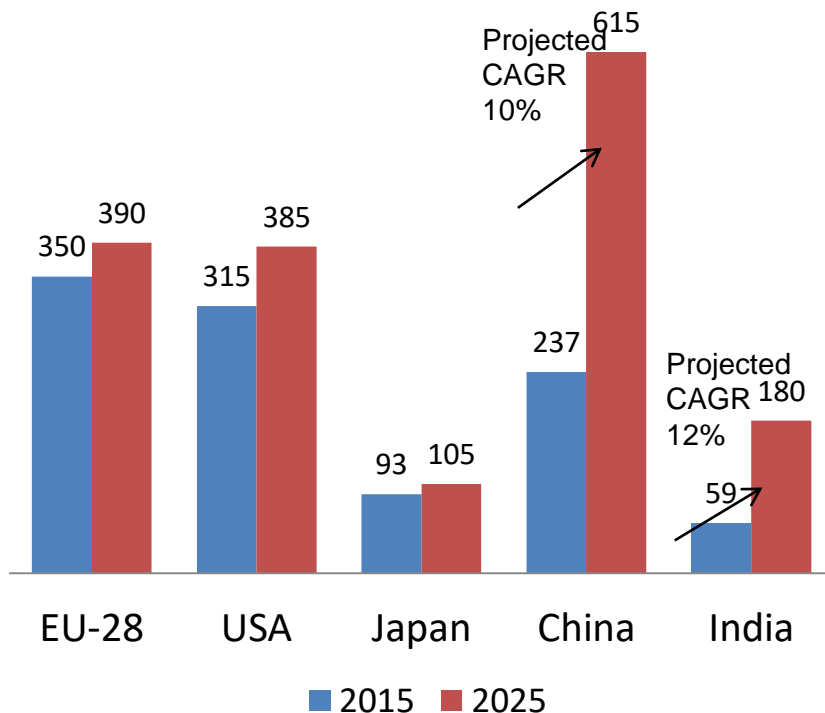
1. Changes In Global Consumption Pattern



1. Changes In Global Consumption Pattern

6

Global Apparel Market



Global Apparel Market Size (US\$ Bn.)
FICCI Report on Global shifts in Textiles Industry

- The global apparel market size is expected to reach US\$ 2.6 trillion in 2025 growing by a projected rate of 4%.
- EU, USA & China are the world's largest apparel markets with a combined share of approximately 54%.
- The growth in Key markets is almost stagnant on volume terms. The largest growth is likely to come from China & India due to their growing domestic demand coupled with increasing spending power of people.
- China will become the biggest apparel market, while India will be the second most attractive apparel market by 2025.

1. Changes In Global Consumption Pattern

7

Disruptions

Global Economy

- Volatility & Uncertainty
- Global interconnectedness and competition
- Growth shift from West to South And East
- Disruptive Technologies with accelerated adoption

Consumer Shifts

- Connected and in control
- Seamlessly move Omni channel during shopping journey
- Expecting zero friction
- Sharing peer-to-peer: information, reviews, opinions
- Expecting it all: convenience, quality, values orientation, newness and price

The Fashion System

- Digitization across the value chain, with refined cost structure
- Accelerated industry pace
- Brands experimenting with direct-to-consumer
- Brick-and-mortar traffic in decline - reinventing the store
- Proliferation of data, providing business opportunities & challenges in control and security

2. Re-imagining Supply Chains



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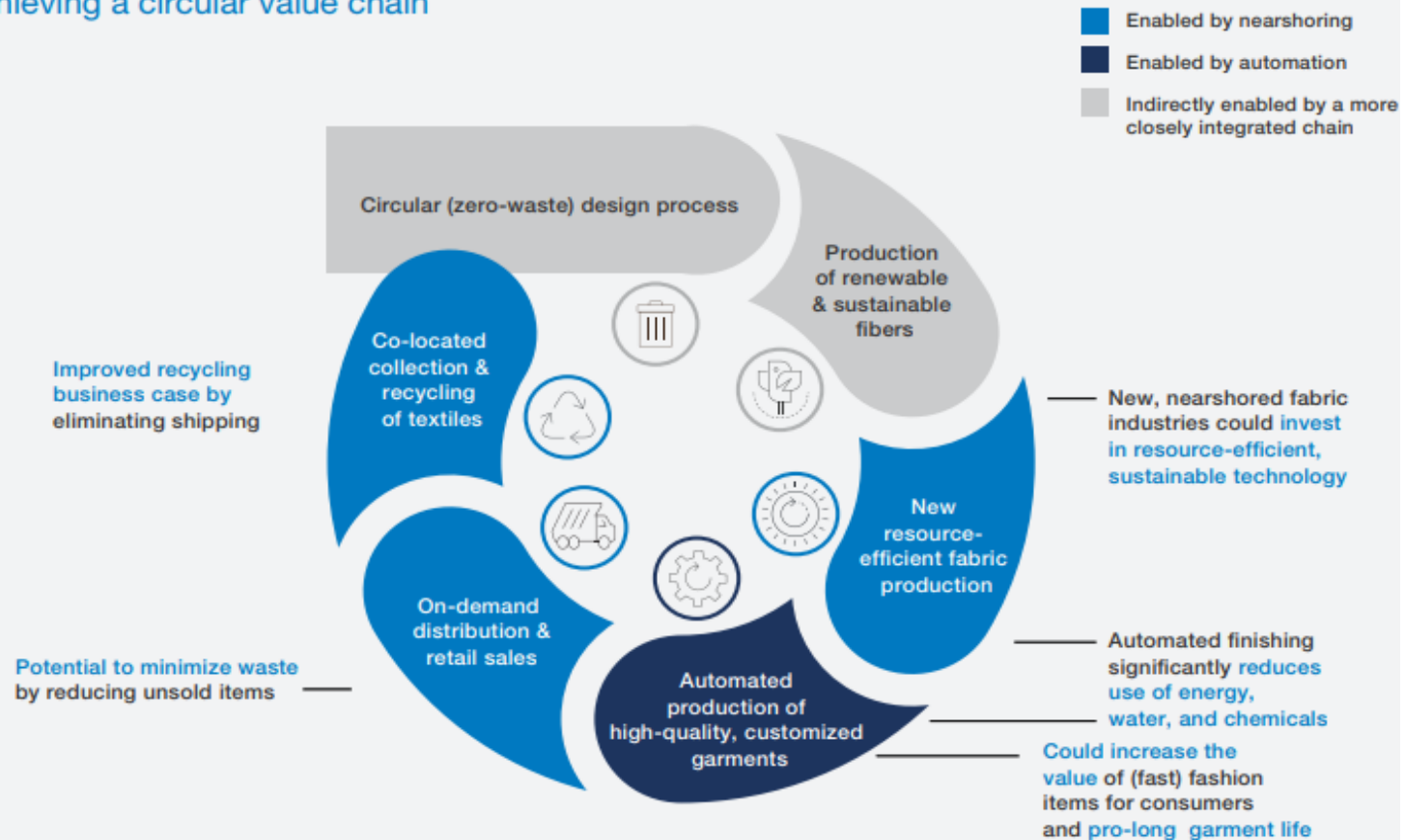
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- Key change drivers in the current dynamics are:
 - Rise of fast fashion is leading to changes in the existing supply chains. While new retailers are gearing up to cater to the trend, traditional retailers are finding it hard to shed legacy (almost linear) supply chains.
 - Smaller fashion cycles are forcing retailers to hold on to production orders till late in the product cycle. This is leading to reduced lead-time and hence increased pressure especially on the fabric processing and garment manufacturing.
 - Emergence of e-commerce has led to a significant behavioral change in the shopping habits of consumers. These changing shopping habits are forcing the retailer to adapt accordingly and push for quick response from across the supply chain.

2. Re-imagining Supply Chains

10

Nearshoring and automation could be important enablers in achieving a circular value chain



McKinsey & Co – Is Apparel manufacturing coming home

2. Re-imagining Supply Chains

11

- However, not all can be nearshored!
- Existing supplier countries will continue to produce because of the existing capability and scale. However, backward integration in these supplier countries will become significantly important
- Supplier countries will need to automate processes in sync with the requirements of the retailers to ensure an agile and responsive supply chain. Just in time (or almost so!) even for fashion forward products will be the key to success
- Various elements of the supply chain will change – starting from AI based demand forecasting to automated order processing resulting a high use of digital controls across the supply chain

3. Digitalisation & Adoption Of Industrialisation 4.0



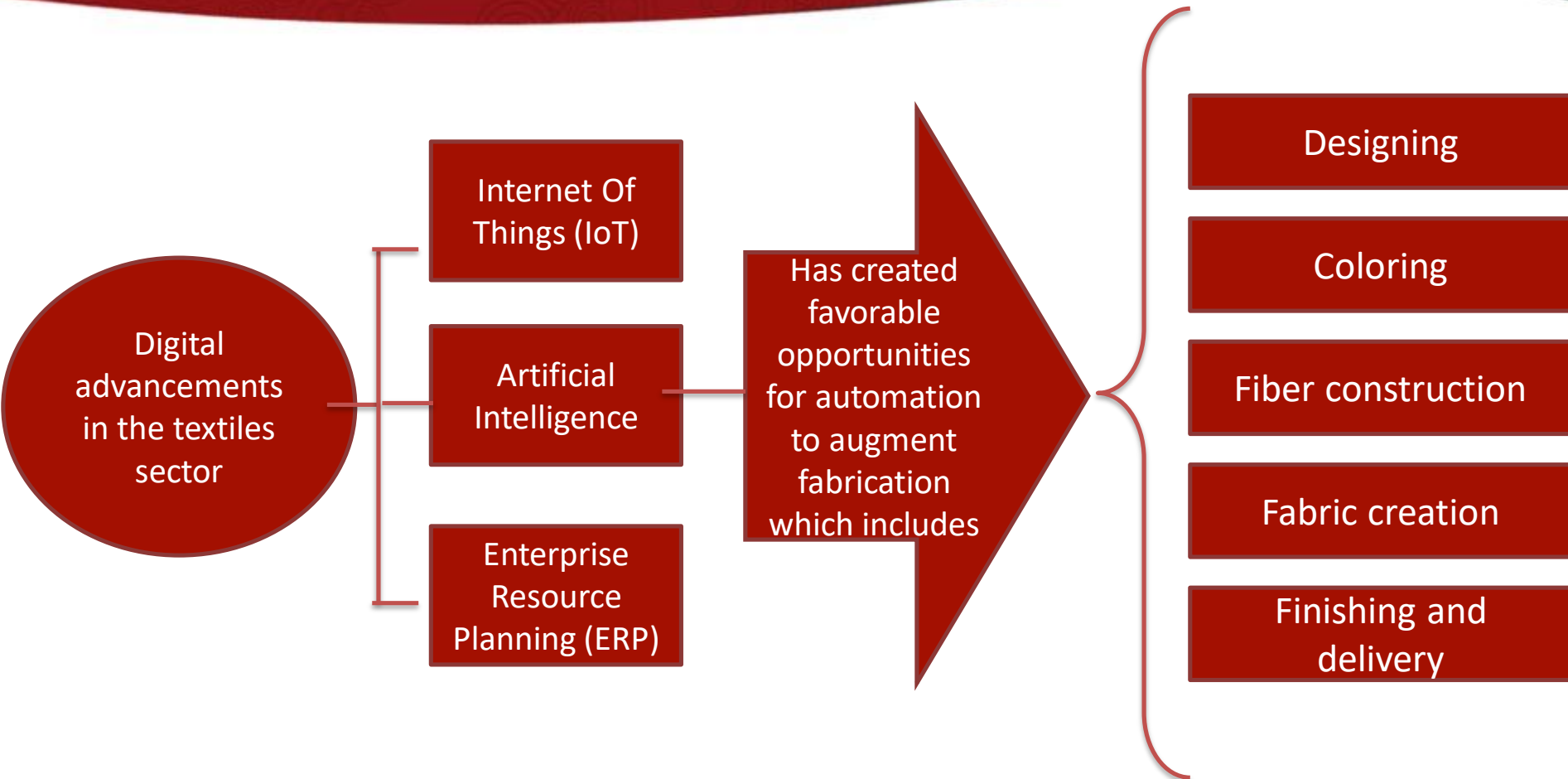
3. Digitalisation and Adoption of Industrialisation 4.0

13

- Digitalization and the adoption of Industry 4.0 principles are empowering purchase activated, on-demand manufacturing
- It reduces costly inventory and re-defines just-in-time manufacturing
- Higher use of information technology across the value chain, robotics in some critical parts, and automation of processes are becoming key to more adaptive supply chains
- To establish sustainable and circular value chains, textile manufacturers should understand and capitalise on all possibilities of digitalisation to save costs and resources
- Initial impact of automation in Textiles limited to lower value chain processes – going forward it will cover the entire ecosystem from Product Development to Manufacturing and then to fulfilment..

3. Digitalisation and Adoption of Industrialisation 4.0

14

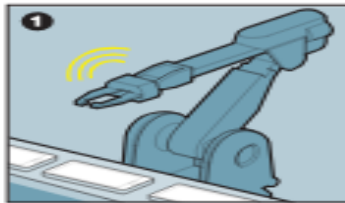


3. Digitalisation and Adoption of Industrialisation 4.0

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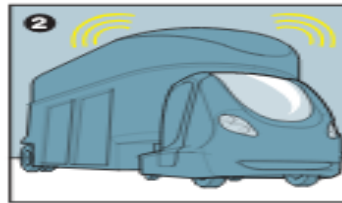
Increased Automation is changing global production networks

Automated production at factory



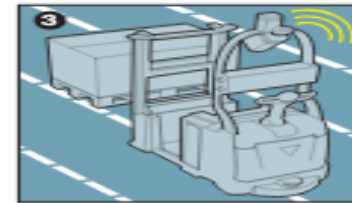
Machines provide constant feedback on production capacity and information on shipment-production status.

Autonomous truck to warehouse



Driverless trucks move goods to warehouses, with live transit-location updates via satellite link.

Automated warehouse



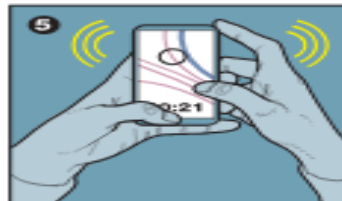
Machines handle all operations, from picking to transporting goods, with continuous information flow on status of goods.

Predictive shipping



Goods are dispatched from warehouses to stores and to online retail supply chains ahead of demand, based on anticipated demand.

Shipment rerouting by customer



Via mobile phone, customer has ability to view order status and input a new delivery destination.

Last-mile delivery



Drones perform last-mile delivery and return pickups.

3. Digitalisation and Adoption of Industrialisation 4.0

16

Disruptions caused by Automation

- Radical supplier consolidation
- Captive manufacturing technology as competitive advantage
- Open sourcing of manufacturing technologies
- Simple garments' manufacturing nearly automated
- Complex garments significantly automated
- Emergence of new business models
- On-demand automation production as key enabler

3. Digitalisation and Adoption of Industrialisation 4.0

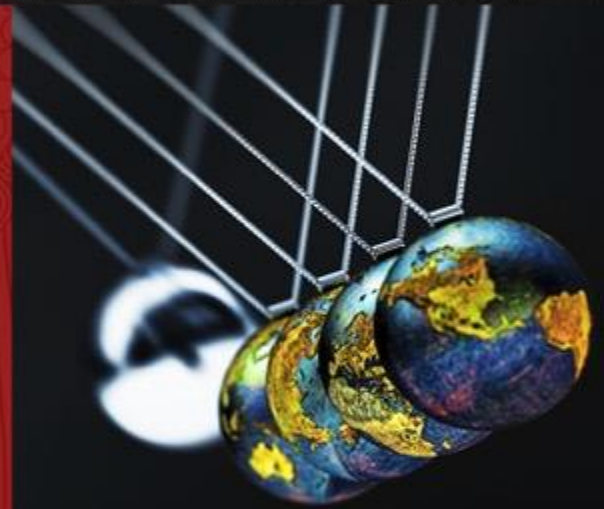
17

New Industrial developments to promote sustainable practices

- **Advanced Bio Farming** : Reduces agri-chemical pollution
- **Upcycled Textiles** : Reduces waste to landfill, Increased resource efficiency
- **Next Gen Bio-based Polyester**: CO2 emissions reduction, Renewable resource
- **Alternative Natural Fibers**: CO2 emissions reduction, Renewable resource, Reduced use of chemicals, Improved livelihoods of farmers
- **Adv. Organic Wastewater Treatment**: Reduced energy needs, Optimized water consumption
- **Gene edited Fiber Crops** : Increased yields, Decreased water use,
- **Blockchain For Fashion**: Value chain disintermediation and transparency
- **Nano-Tech Enhanced Fabric**: Reduced energy and water needs over product life cycle
- **Automated Sewing**: Efficiency and productivity gains

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4. Diminishing Power Of WTO



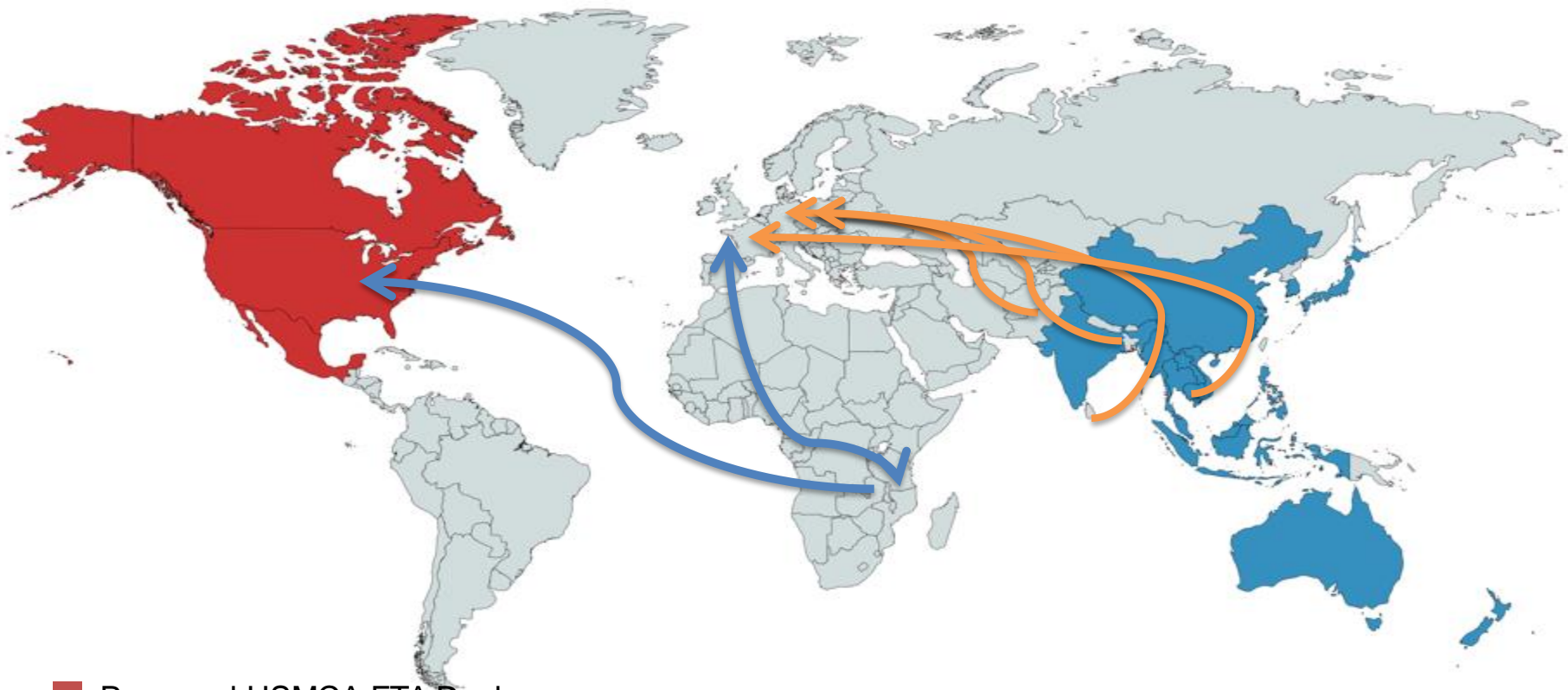
4. Diminishing Power of WTO

19

- New definitions of “nationalism” and “patriotism” leading to re-emergence of protectionism
- Geo-political considerations leading to rise of regionalism, with regional treaties gaining significant importance
- Most regional treaties seem to override WTO mandated framework for a freer trade
- Big impact on textile trade prospects in the years to come

4. Diminishing Power of WTO

20



Created with mapchart.net

■ Proposed USMCA FTA Deal

■ Proposed RCEP FTA Deal

→ Pakistan, Bangladesh, Sri Lanka & Cambodia get preferential access to EU Common Market among the South Asian supply countries

→ AGOA benefits from Africa to EU and US

B. Global Opportunities For Indian Textiles & Apparel Sector



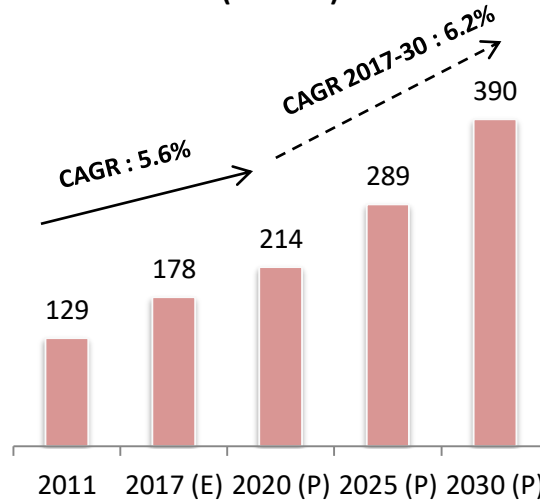
Opportunities for Indian Textiles and Apparel Sector

22

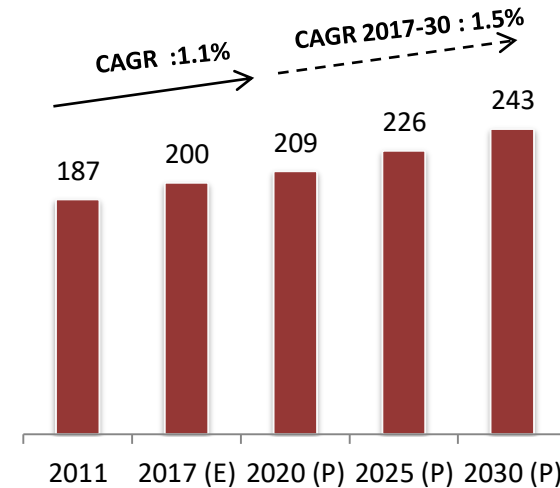
Synthetics driving growth

- Synthetic Apparel trade is witnessing a growth at 5.1 times higher than the cotton Apparel trade.
- The MMF segment has seen increase in production in India but still a long way to go

Global Synthetic Apparel Trade (USD Bn)



Global Cotton Apparel Trade (USD Bn)



India's production of Man-made fibre

Particulars	2011-12 (‘000 tons)	2015-16 (‘000 tons)	Growth (5 yrs CAGR)
Viscose	323	324	0.1%
Polyester	830	888	1.4%
Acrylic	78	107	6.6%
Total MMF	1230	1319	1.4%

Source: ITC Trademap, Ministry of Textiles, Technopak Analysis

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Opportunities for Indian Textiles and Apparel Sector

23

China's slowdown and the opportunities ahead

- China losing its edge due to rising labour and infrastructure cost
- India is in bright spot considering the entire Textile value chain capability, availability of raw material and abundant skilled workforce and conducive Central and State policies.



Source: ITC Trademap,, Technopak Analysis

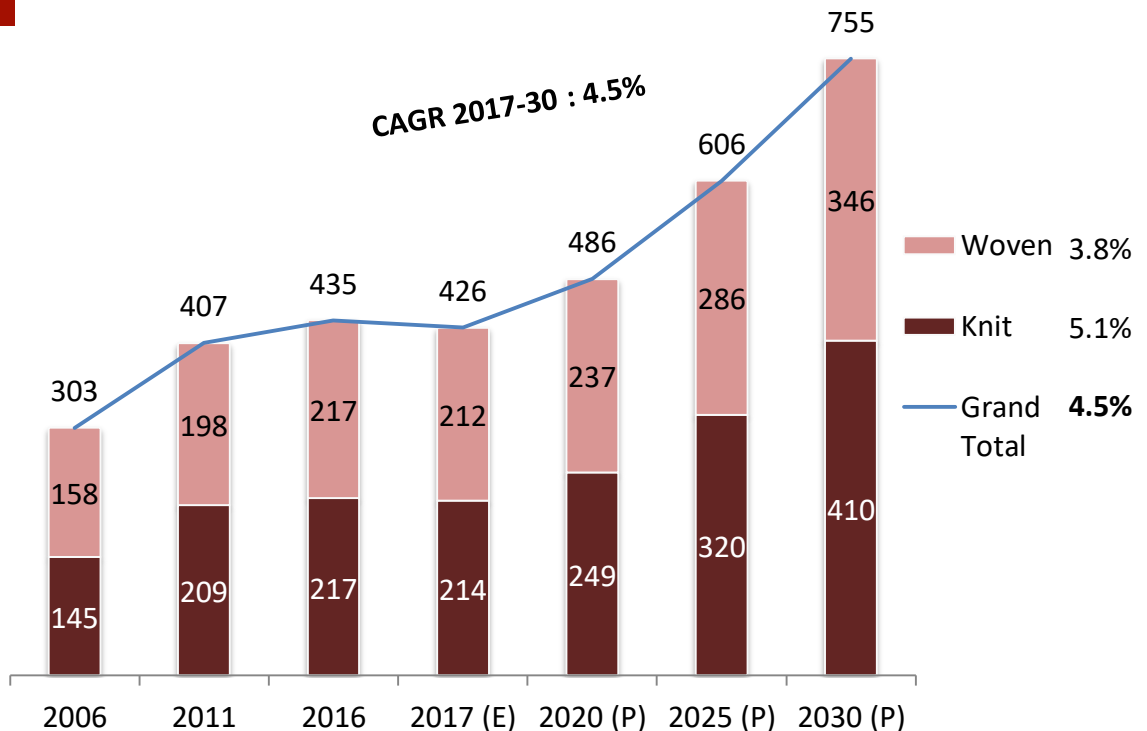
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24

Increasing demand of knitted garments over woven

- Knitted garments witnessing higher growth than woven garments
- Knitted garments will witness a high CAGR of 5.1% and will grow from USD 214 Bn in 2017 to USD 410 Bn by 2030.
- Woven garments will grow at a lower CAGR of 3.8% from USD 212 Bn in 2017 to USD 346 Bn by 2030.

Comparative growth of Knitted and Woven Apparel Trade(USD Bn)



Source: ITC Trademap,, Technopak Analysis

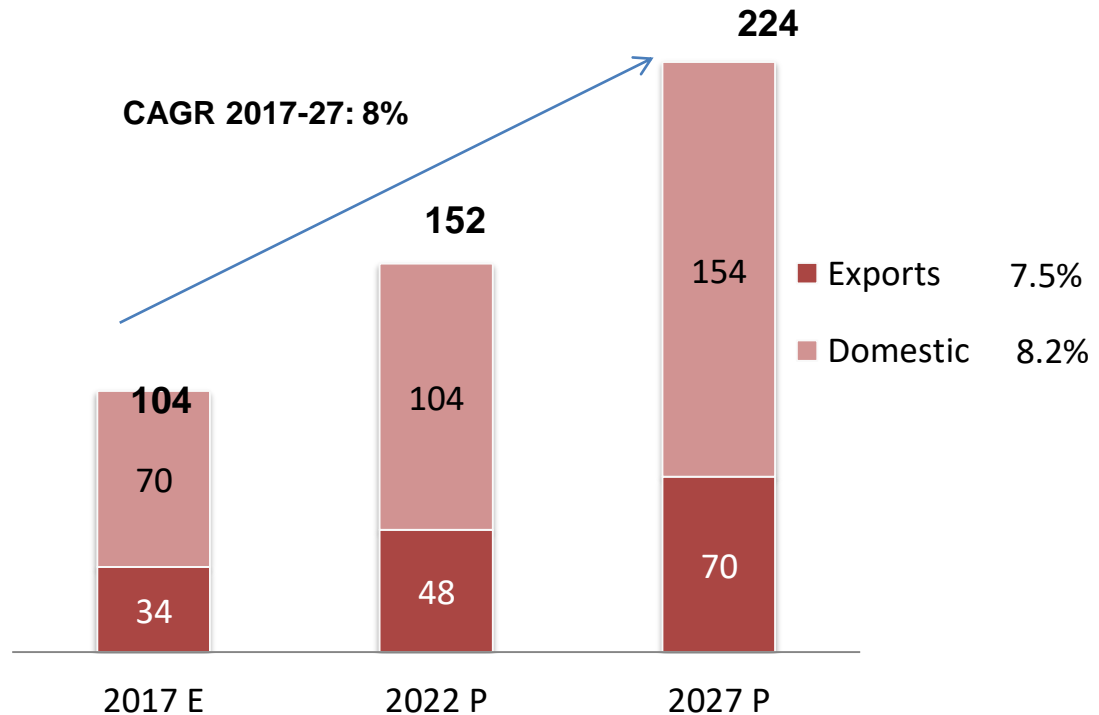
Opportunities for Indian Textiles and Apparel Sector

25

Immense growth potential

- The Indian T&A industry set for strong growth, buoyed by both strong domestic consumption as well as export demand
- India should try to increase its scale of production and increasing its exports in finished and high end products

Indian T&A Market (2017) (USD Bn)



*All numbers are rounded-off

E: Estimate P: Projection

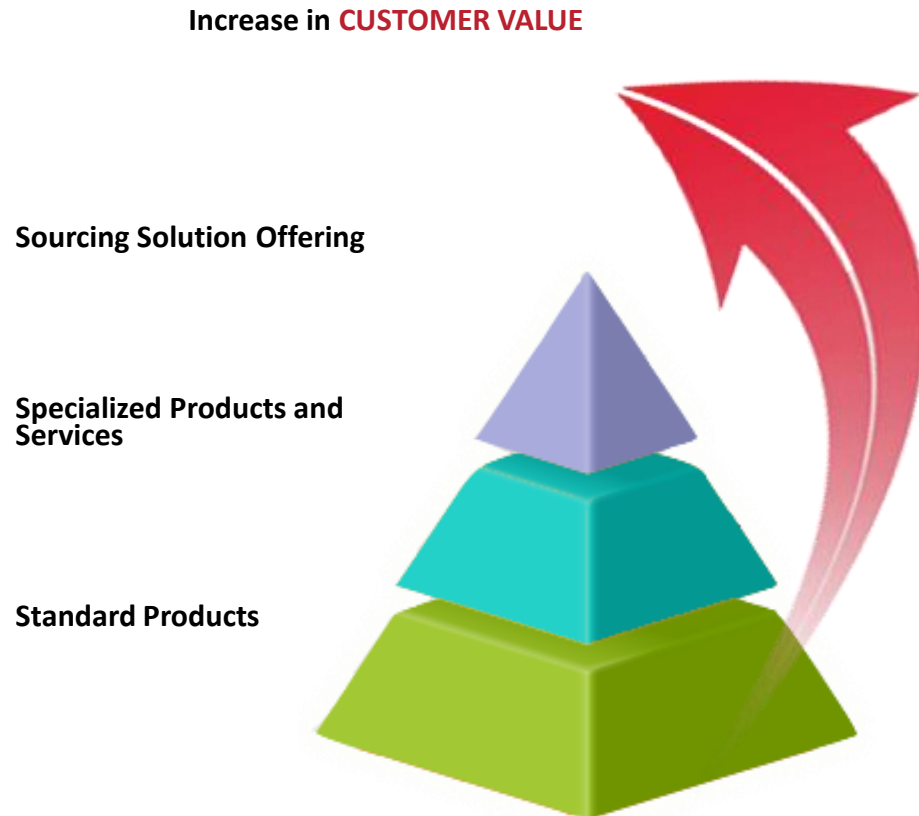
Source: ITC Trademaps & Technopak Analysis

Opportunities for Indian Textiles and Apparel Sector

26

Complete Sourcing Solution Offering

- India needs to move up the value chain and brand itself as a sourcing partner capable of exporting specialized products & services alongside offering the complete solution



Source: Technopak Analysis

C. Opportunities In India's Domestic Market



Opportunities In India's Domestic Market

28

Demand Factors

Continued rise of
'Corporatized Retail'

Rising income and purchasing
power

Growing aspirations and
appetite to experiment

Evolving E-tail market

Global brands going beyond
metros

Growing young population
and share of working women

Supply Factors

Rapid real estate and
infrastructure development

Proliferation of International
brands providing plethora of
options

Emergence of new categories

Expansion plans of existing
players

Development of supply chain
improving efficiency

R&D, Innovation and new
product development

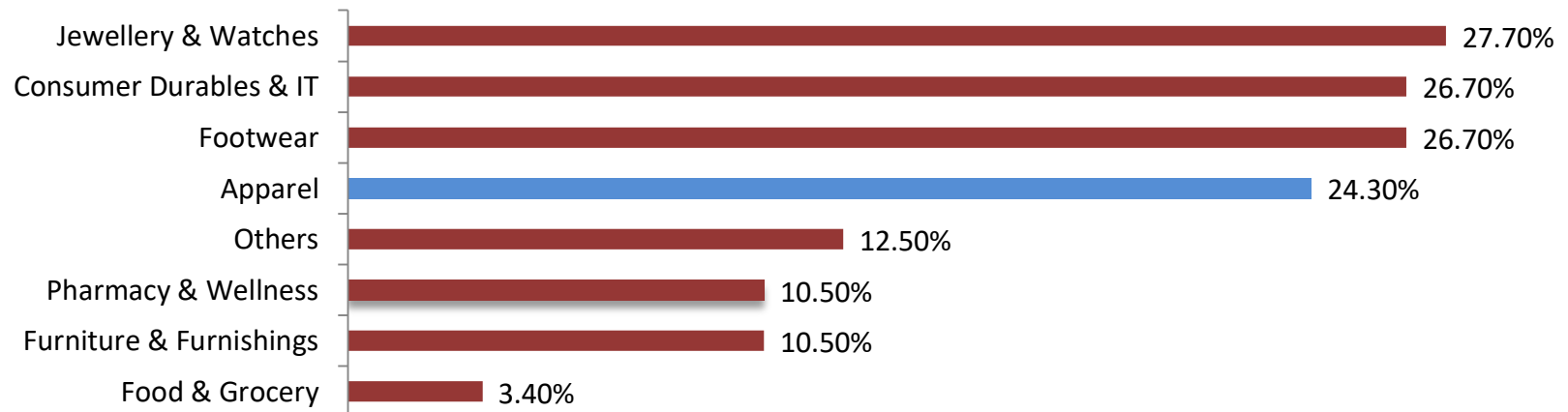
Opportunities In India's Domestic Market

29

Continued Rise of 'Corporatized Retail'

- Indian Fashion Retail industry is transforming rapidly & witnessing shift from unorganised to corporatized retail.
- Awareness of fashion trends coupled with rising disposable income is the major factor behind rising corporatized retail in the country.
- Penetration of corporatized retail is not limited to metros and Tier 1 cities only, but is growing increasingly in semi-urban markets.

Corporatized Retail Share in Indian Retail Market across different categories (2017)



**Accessories include Bags, Belts, and Wallets; Others include Books & Stationery, Toys, Eyewear, Sports Goods, Alcoholic Beverages & Tobacco etc.*

Source: Technopak analysis;

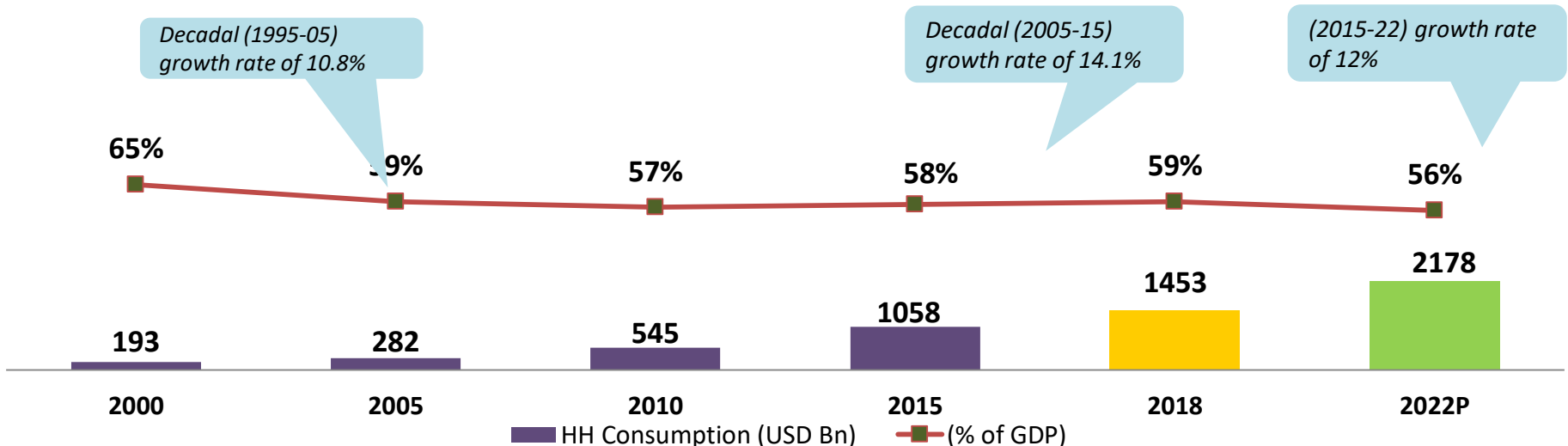
Opportunities In India's Domestic Market

30

Growing Domestic Market

- India has a growing population with increasing disposable income owing to significant increase in household earning
- Household Consumption currently accounts for ~60% of the Indian GDP.** This is much higher than the share of household consumption in China (~37%) and comparable to that of the UK (~65%) and US (~68%)

Household Consumption (USD bn)



Source : RBI data, Economic Survey, World Bank, EIU, IMF
1 USD = INR 68

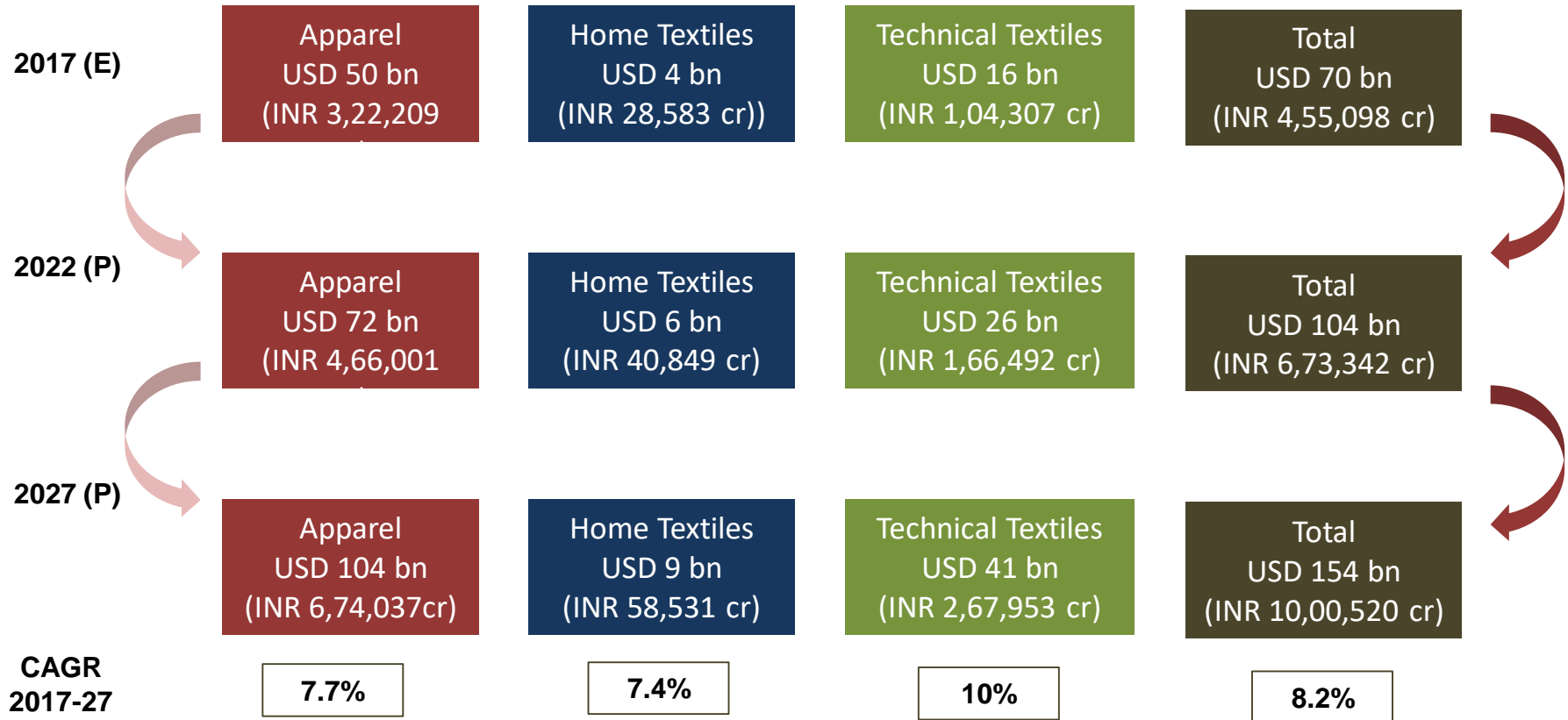
- Increase in the share of GDP due to the new methodology of calculating GDP and change in base
- Calculated at 2011-12 prices

^GCFC includes land improvements (fence, drain, etc.) , investments on plants & machinery, Infrastructure such as roads, railways, schools, hospitals, residential and commercial buildings, etc.

Opportunities In India's Domestic Market

31

Domestic T&A Market



*The values provided for apparel and home textiles are at the retail end, while those for technical textiles are a Combination of B2C and B2B, depending on the category's end use. *All numbers are rounded-off: Source: Technopak Analysis

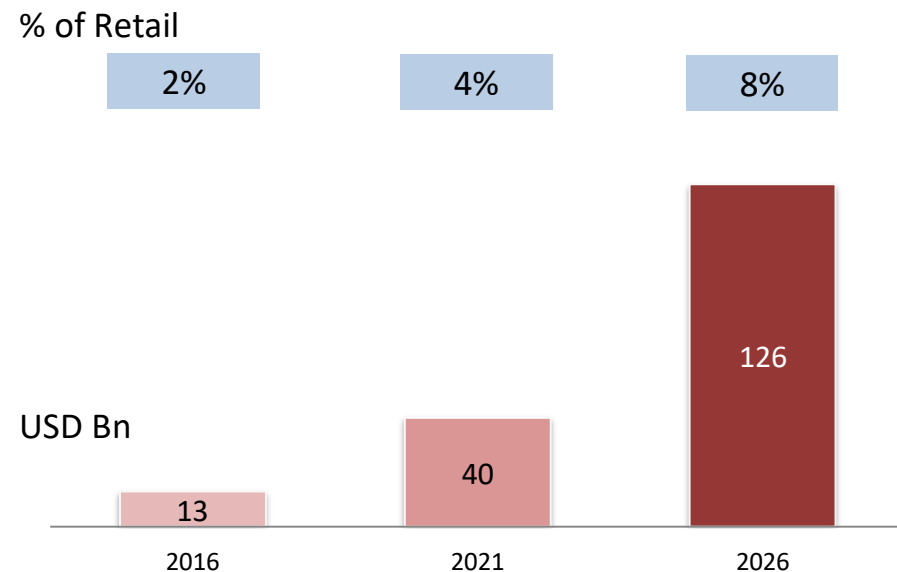
Opportunities In India's Domestic Market

32

Evolving E-tail Market

- India's online retail market is expected to grow from 2% of retail share in FY 2016 to 4-6% of retail share by FY 2021 and to 8-9% by 2026
- Affordable smartphone, increasing penetration of internet, advancement of mobile shopping, various payment options etc. are driving the growth

E-tail Market in India



E-tailing category Split in India

Category share	2014	2016	2020 (P)	2027 (P)
Apparel & Lifestyle	20-25%	25%	30%	30%
Electronics	50-55%	50%	45%	40%
Home & Living	Negligible	5%	8-10%	10-12%
Food & Grocery	Negligible	1%	3-5%	7-9%
Others	20-30%	19%	10-15%	9-13%

Source: Technopak Analysis

D. Two Specific Focus Areas ...



1. Sustainability In Textiles Value Chain



Sustainability in Textiles Value Chain

35

Sustainability issues facing Textiles & Apparel Industry

- The global fashion industry is the second most polluting industry in the world

The industry is being criticized on various fronts:

- Water Consumption
- Energy Emissions
- Chemical Usage
- Land use

Textile & Clothing Industry

By the number

2nd 17-20%



Global water polluter

Largest polluting industry

20,000

liters of water for



1 kg cotton

21 10%



Billion

Tons of garbage per year



Global carbon emission

Source: Pulse of the Fashion Industry ; Technopak Analysis

The Landscape will have the following change levers

Closed loop recycling

- No value leakage, e.g, one garment re-cycled for every new garment produced

Sustainable material mix

- 100% sustainable fibers with low foot- print e.g replacing conventional cotton

Reduced energy footprint

- Minimized energy consumption and 100% carbon neutrality

Chemical and water optimization

- No hazardous chemicals and no water pollution

Production-to-demand

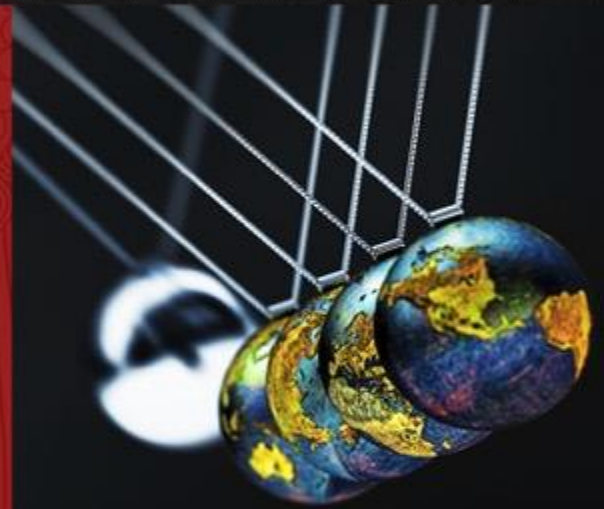
- No overproduction

Sustainability in Textiles Value Chain

37

- Sustainability should be looked as cost saving rather than expense
 - Energy management systems will help conserve energy and reduce costs
 - Better metering of water and chemicals will help conserve water
 - Use of solar will help conserve electricity and reduce costs
 - Reducing process wastages will help reduce the pressure on producing extra and reduce lead times
 - Innovations in using less resources will also help build sustainability
 - Recycling of water, garments (post consumer) etc. will assist in strengthening sustainability

2. Human Resource Skills Relevant For Digital Economy



Human resource skills relevant for Digital Economy

39

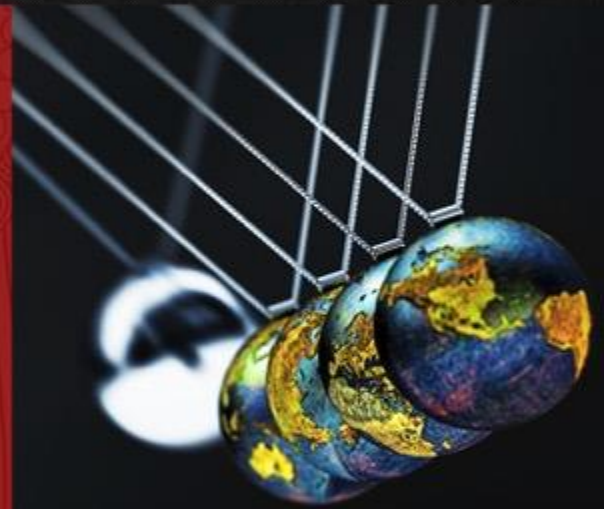
- Skill sets required for the digital economy will look very different from the current skill sets.
- These start from the leadership levels rather than from shop-floor level and require a deep understanding of the world & of digital economy
- Various areas and levels of disruptions need to be better understood and addressed. These could come from various facets like:
 - New Technology
 - Changing Customer requirements
 - Changing channels
 - Competitors etc.
- Skill sets required for the digital economy will look very different from the current skill sets.

To Conclude ...

40

- Major disruption already underway for the entire textile sector
- Textile companies need to completely reimagine and reinvent their business models
- Role of technology will encompass entire business and entire value chain, rather than only in manufacturing
- Sustainability is no longer an option – it has to be embedded deep into every facet of business
- New skills sets needed, especially at leadership levels

Thank You Very Much !



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