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**9B19M079**

GHCL LIMITED: SELLING THE REKOOP STORY

Utkarsh Majmudar and Namrata Rana wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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On a hot humid day in September 2018, Manu Kapur president and chief executive officer (CEO) of Home Textiles division of GHCL Limited (GHCL) sat in his office and thought about how the company’s new line of bedsheets, called Rekoop, had progressed so far. Rekoop bedsheets (see Exhibit 1) were unique. They were made from fibre, which had been extracted from recycled plastic bottles. This fibre was then combined with cotton and marked with a deoxyribonucleic acid (DNA) marker to certify its authenticity. Rekoop sheets were perhaps the only recycled polyester sheets worldwide that could genuinely vouch for the authenticity of their materials. Two selling points made Rekoop different from competition: (a) the use of recycled polyethylene terephthalate (r-PET) giving it a sustainable image; and (b) the DNA markers that made certification of the authenticity of its claims completely verifiable. The two differentiators enabled Rekoop to command a higher pricing of about 5 per cent.

The journey had been long. GHCL had linked up with Reliance Industries Limited (Reliance) to produce and supply polyester fibre; GHCL also linked up with Applied DNA Sciences, Inc. (Applied DNA) to provide the material for molecular DNA tagging of the polyester fibre and provide testing of the material at various stages of production. Once the final samples were ready, it was time to showcase them to the world. The product debuted at New York Home Fashions Week in March 2018. During the Fashion Week, several major corporations had shown a keen interest in stocking the product.

This had been transformational for GHCL, since the company had taken a strong position on sustainability and traceability. Given the interest in Rekoop, Kapur food for thought. He wondered how he could promote the product and move the textile division into a higher gear. In the past, GHCL had quoted low prices to buyers and run the plant at full capacity to lower overheads. Still, the low prices had affected the bottom line (see Exhibit 2). Kapur wanted to change that with Rekoop. It was time to shift the focus from volumes to profitability. Rekoop could give GHCL brand salience, visibility, and higher prices for the unique selling proposition of being sustainable. Kapur wondered how it could be done.

ABOUT GHCL LIMITED

Incorporated in 1983, GHCL had established itself by 2018 as a well-diversified group operating in chemicals, textiles, and consumer products segments. The chemicals division mainly manufactured soda ash (anhydrous sodium carbonate)—a major raw material for detergents and glass industries—and baking soda (sodium bicarbonate). The division contributed almost 25 per cent of the country’s annual domestic demand. Its textiles operation was an integrated vertical set-up starting from the spinning of yarn, weaving, dyeing, and printing to the finished products like sheets and duvets. GHCL exported its textile products worldwide. The consumer products division was a leader in manufacturing and selling edible salt, industrial grade salt, and honey in the country. The company undertook many sustainable activities focused on climate change—reducing, reusing, recycling, and causing zero harm (see Exhibit 3).

GHCL had an installed spinning capacity of 175,000 spindles and processing capacity of 36 million metres. The textile business contributed 42 per cent to the overall revenue and 26 per cent to its earnings before interest, tax, depreciation, and amortization in 2016–17.[[1]](#footnote-1) Within the textile business, home textiles accounted for 70 per cent of the revenue, while the remaining 30 per cent came from spinning.

The vision for GHCL’s Home Textiles business was to be recognized as a global industry leader in the areas of sustainability, traceability, innovation, and social responsibility. The promoters wanted to be recognized globally for their passion toward sustainable production, managing a sustainable supply chain, and consistently coming up with innovative product solutions that supported the circular economy. The textiles division undertook all the activities described below:

* Spinning: The company had 175,000 spindles in South India and could produce the best quality yarn; the company had recently invested US$8.5 million to upgrade its facilities and added vortex spinning to its portfolio.
* Weaving: The company had 190 wide-width air-jet looms and produced 16.5 million yards (15 million metres) annually, which was about a third of its fabric requirement. Weaving was also carried on outside GHCL’s facilities but was managed entirely by GHCL.
* Processing: The company processed 50 million yards (45 million metres) of wide-width fabric annually, using state-of-the-art equipment.
* Cutting and Sewing: GHCL sewed over 7 million sheet sets annually with 80 per cent of its fabric cut using automated machines.

For the Rekoop project, the company had partnered with Reliance and Applied DNA.

THE PARTNER COMPANIES

Reliance

Reliance owned businesses across India engaged in energy, petrochemicals, textiles, natural resources, retail, and telecommunications. It was one of the most profitable companies in India with a consolidated turnover of ₹4.307 trillion,[[2]](#footnote-2) and a net profit of ₹361 billion for the year ended March 31, 2018. It was the largest publicly traded company in India by market capitalization. Reliance’s textile division was a vertically integrated plant consisting of manufacturing, weaving, and finishing of both synthetic and worsted yarns. Reliance manufactured fabrics of various types—suiting, shirting, home textiles, and automotive furnishing.

Applied DNA[[3]](#footnote-3)

Applied DNA was a provider of molecular technologies used to create anti-counterfeiting and anti-theft solutions by embedding DNA molecules into products. These molecules could then be tracked throughout the supply chain. For example, the proprietary DNA-molecular based “CertainT” platform had three technology pillars—tag, test, and track. Once a raw material was tagged with a unique molecular identifier, the material could be tested and tracked through the production process.[[4]](#footnote-4) Molecular tracking helped assure companies, governments and consumers that the products they purchased were authentic. Molecular tracking helped prevent theft, counterfeiting, fraud, and diversion of materials and products.

THE INDIAN HOME TEXTILE INDUSTRY

The Indian textile industry was estimated at around US$150 billion[[5]](#footnote-5) in 2017. Of this, US$37 billion worth of textiles were exported, and these exports had grown at a compounded annual growth rate of 12 per cent. The Indian textile industry benefitted from increased penetration of organized retail, favourable demographics, and rising personal incomes. India benefitted from abundant availability of raw materials such as cotton, wool, silk, and jute, and enjoyed a comparative advantage in terms of skilled manpower and in cost of production relative to major textile producers. The government was also supportive of the industry. Huge investments were made by the government under the Scheme for Integrated Textile Parks, with an investment of US$184.98 million, and the Technology Upgradation Fund Scheme, with the release of US$2.2 billion to encourage more private equity and to train the workforce. The government permitted 100 per cent foreign direct investment (FDI) through the automatic route in the Indian textile sector. Under the union budget for 2018–19, the government allocated ₹71.48 billion for the textile industry. The government had launched the Make in India program to attract manufacturers and FDI. Free trade with the Association of Southeast Asian Nations and a proposed agreement with the European Union were likely to boost exports.

Apart from the large manufacturers, the Indian textile industry was largely fragmented with a large number of unorganized players. It faced significant threats from countries like Bangladesh, Vietnam, and China. Major clothing brands sought to control the market and applied price pressure on textile manufacturers. Many of the manufacturers produced similar types and quality of products. Suppliers contemplated forward integration to capture higher margins. Most suppliers of cotton were small, and manufacturers could exert little pressure on them. However, GHCL had several key competitors (see Exhibit 4).

Himatsingka Seide Limited (Himatsingka)

Himatsingka was a home textile company engaged in spinning, weaving, and finishing textiles, and in manufacturing other textiles.[[6]](#footnote-6) The company manufactured, marketed, and distributed textiles consisting of fabric and yarn. Its geographic segments included India, North America, Europe, and others. Himatsingka manufactured, retailed, and distributed bedding, bath, drapery, upholstery, and lifestyle accessory products. Its portfolio of brands included Calvin Klein Home, Barbara Barry, Kelly Wearstler, Beekman 1802, Pimacott, atmosphere, and Esprit.[[7]](#footnote-7) The company had manufacturing facilities in India and retail and distribution businesses across North America, Europe, and Asia.

Welspun India Ltd (Welspun)

Welspun was an India-based company that manufactured and marketed home textiles.[[8]](#footnote-8) Welspun employed 20,000 people, and was the largest exporter of home textile products from India. It produced bedding products (e.g., bedsheets, pillow covers, and mattresses), bath products (e.g., towels, bathrobes, and bath rugs.), advanced textiles (e.g., non-woven materials, wet wipes, and filters) and flooring products (e.g., carpets, carpet tiles, and artificial grass). Welspun supplied its products to top retailers in over 50 countries.

Trident Limited (Trident)

Trident was a terry towel, yarn, and wheat straw-based paper manufacturer. The company’s segments included textiles, paper, chemicals, and others.[[9]](#footnote-9) The company’s geographical segments included the United States and the rest of the world. The textiles segment included yarn, towels, bed sheets, and dyed yarn manufacturing (including utility service). The company’s product portfolio included solid bath ensembles, beach towels, embroidered towels, bath mats, bathrobes, printed bed linen, duvets, duvet covers, cushion covers, viscose blended yarn, core spun yarn, bamboo and cotton yarn, dyed bed linen sets, micro modal or cotton blended yarn, drawing paper, and Bible and offset print paper. The company’s brands included Trident Spectra, Trident My Choice, and Trident Natural, and it had manufacturing facilities in Punjab and Madhya Pradesh.

Indo Count Industries Limited (Indo Count)

Indo Count was an India-based home textile company engaged in the activity of manufacturing textile products.[[10]](#footnote-10) The company was involved in the manufacture of bedding, quilts, pillows, and sleeping bags, among others, and preparation and spinning of cotton fibres, including blended cotton. The company operated as an end-to-end bedding provider and offered products under various categories, including bed sheets, fashion bedding, utility bedding, and institutional bedding. The company's brands included Boutique Living, Revival, Pure Collection, NeoFresh, Haven, Thermal Balance, Touch Sense, and Color Sense. The company was a manufacturer and exporter of bed linen and exported its products to approximately 50 countries in over five continents. The company had showroom and distribution centres in the United States, the United Kingdom, and Australia. It also sold products online through e-tailers. The company had manufacturing factories located in Kolhapur and Maharashtra.

Century Textiles and Industries Limited (Century)

Century was engaged in the business of textiles, rayon, cement, and pulp and paper.[[11]](#footnote-11) The company's segments included textiles, which included yarn, cloth and denim, viscose filament yarn, and tire yarn; pulp and paper, which included pulp, writing and printing paper, tissue paper, and multilayer packaging board; cement, which included cement and clinker; real estate, which included leased properties; and others, which included salt works, chemicals, and floriculture. The company operated through various divisions, such as Birla Century, Century Cement, Century Yarn, Maihar Cement, Century Denim, Manikgarh Cement, Cottons by Century, Century Pulp and Paper, and Century Rayon.

THE REKOOP BRAND

GHCL produced a range of bedding products under the brand name Rekoop. Rekoop bedding was made by recycling PET bottles into an eco-friendly polyester fibre. The polyester fibre was manufactured by Reliance and the polyester fibre was then spun by GHCL into yarn and processed into ultra-soft fabric. The bedding made from this fabric was sustainable and free of any hazardous chemicals. In order to authenticate that the bedding came from recycled fibre, molecular tagging was undertaken through the CertainT platform of Applied DNA. Molecular tagging ensured source verification and complete traceability. The Rekoop brand boasted two features: (a) use of r-PET bottles to produce yarn providing it with a sustainable status; and (b) molecular tagging to certify the sustainable nature of the bedding. By converting PET to r-PET, Reliance and GHCL contributed to the circular economy (see Exhibit 5).

THE REKOOP MANUFACTURING PROCESS

The manufacture of Rekoop entailed the following steps: [[12]](#footnote-12)

* Collection of PET bottles: PET bottles thrown away by people were collected and bundled together into large bales. These bales came from all parts of India to Reliance’s plant in Barabanki, North India.
* Removal, cleaning and sorting: Labels and caps were removed, and then the bottles were thoroughly cleaned and separated by colour.
* Grinding and mixing: The bottles went into grinders and were shredded into small flakes. The SignatureT molecular tag prepared by Applied DNA was then applied to the master-batch pellets (an additive). This verified all tagged pellets. The master-batch pellets (with molecular signature) were then mixed with PET flakes.
* Extrusion: The marked PET flakes were processed through an extruder and transformed into tagged r-PET fibre.
* Yarn production: This fibre was transported to a GHCL facility in Madurai where the fibres were spun along with cotton to make a cotton/polyester blended yarn.
* Yarn to fabric: The spun fabric was then woven, processed, cut, and sewn into finished bedding products at GHCL’s manufacturing plant at Vapi in Western India.
* Retailing: CertainT certified products arrived at retail stores, where customers, driven by a desire for proven sustainability and authenticity, were assured of the integrity of their purchase.

The production of Rekoop had many constraints. One was the availability of PET bottles. PET bottle availability was a function of the efficiency of the reverse supply chain (see the section Reverse Supply Logistics) and was seasonal in nature. Because people drank more water in summer than in winter, more bottles were available in summer than winter. Manufacturing capacity at Reliance was another factor. Reliance in 2018 had a capacity to produce 800,000 tonnes per year and was producing 600,000 tonnes per year. Another factor was the availability of DNA marker chips. This constraint came from the quantity of chips that Applied DNA could make available to GHCL. Also, there could be lag of 30–45 days between ordering and receiving DNA marker chips. Both were not a significant problem in the beginning, but could come into play when volumes rose.

REVERSE SUPPLY LOGISTICS

The reverse logistics of water bottles was a somewhat involved process but was an important component of the production of r-PET fibres and yarn. Water bottling companies shipped their products to large distribution centres to further push the water bottles to the point of sale where they reached either the end-consumer directly or the restaurants that served water to the end-consumer. Water bottles were often thrown away to be picked up by ragpickers who sold them to the scrap collectors in the vicinity. In turn, scrap collectors sent the water bottles to the local scrap vendor who covered a particular territory. All the scrap vendors in a particular region supplied the water bottles to bottle collectors. Large restaurants delivered the empty bottles directly to the bottle collectors. All bottle collectors then moved the bottles to the primary supplier who contracted with the recycling company (Reliance). Bottles were voluminous and were often compressed and transported in bales. Alternatively, they could be crushed and converted to flakes for transportation.

THE INTERNATIONAL HOME TEXTILE INDUSTRY

The home textile industry (see Exhibits 6 and 7) was growing and had an expected compound annual growth rate of 7 per cent and revenues of about US$80 billion during the period 2018–2025. A key factor driving the market’s growth was the premiumization that resulted from both innovation and portfolio extension. In the global home textile retail market, the textile products with their utility, designs, and innovative features were priced relatively higher than other types of regular home textile products. The superior quality of these comfortable and innovative home textiles put them in high demand among customers around the world.

The vendors were adopting different strategies in the global home textile retail market to widen their customer reach. One of the successful strategies adopted by vendors was the expansion of distribution channels. The omnichannel strategy was trending among the home textile manufacturers as they were entering the retail space to gain a larger customer base and improve brand recognition.

The global home-textile retail market was comprised of bed linen, bedspreads, bath linen, carpets and rugs, upholstery, and kitchen linen. In 2017, the largest market share was held by the bedroom textiles segment including bed linen, bedspreads, and others, accounting for more than 40 per cent of the market. This product segment was expected to dominate the global market throughout the forecast period.

Sustainable fashion (see Exhibit 8) gained prominence in stores. Sale of home textile products took place through large retail stores—some were specialty stores (e.g., Bed, Bath and Beyond) while others were department stores (e.g., Walmart, IKEA, and others). From the customers’ perspective, once the stores approved the labelling, the customers relied on it.

PROBLEM OF AUTHENTICITY IN TEXTILE INDUSTRY AND THE ROLE OF DNA MARKERS

Since 2016, retailers and manufacturers were trying to avoid the fate of Target, which recalled 750,000 fake Egyptian cotton sheets and pillowcases after discovering they contained a less expensive form of cotton. Following Target’s move, Walmart said it would also offer customers refunds on Egyptian cotton sheets made by the same manufacturer—Welspun India. JCPenney and Bed, Bath & Beyond were investigating their products. Welspun was sued for consumer fraud in federal courts; the company decided to adopt new labelling practices and hired Ernst & Young to audit its supply process.

In 2014, 23,140 intellectual property-right seizures took place with a total manufacturers’ suggested retail value of US$1.2 billion, according to a U.S. Department of Homeland Security report.[[13]](#footnote-13) Apparel and accessories made up 28 per cent of those commodities seized, topping the chart regarding the number of seizures. Counterfeit activities continued to cause problems and posed a challenge for many companies to ensure quality, especially in the textile and apparel industry. Finding an effective way to protect against ongoing counterfeiting issues was critical for brands globally.

Even before the Welspun story broke, forensic scientists at the biotech company, Applied DNA, had started looking for a unique DNA stamp in the fibres to see whether the textiles were made of the premium cotton their labels claimed.

Anti-counterfeiting systems helped to ensure authenticity and provided a means for traceability as products were transformed from fibre into fabric. For example, a unique plant-based DNA marker helped by tagging a product at the source, which allowed it to be authenticated at any point in the supply chain. This marker was designed to help companies track and trace their products and assure their customers that their products were made of exactly what was stated on the label. Consequently, if consumers were concerned that their sweaters might be fake or that they might not be 100 per cent cashmere as the label stated, the end product could be tested for the DNA marker to see if it was genuine. For companies, this level of forensic security ensured more extensive control over their products, offered higher protection from counterfeiters, and provided a concrete way to both back up their label claims and track their profitability.

The DNA markers were resistant to wash-offs as they were formulated to stay bound to the substrates when they were applied. DNA markers survive the different stages of manufacturing, as well as multiple launderings and even some industrial treatment processes. The fact that a DNA marker could not have been copied prevented counterfeiters from reproducing the marker and implementing it into their products.

DNA markers were used to protect a wide range of apparel and textile products, woven and non-woven labels, and yarns of wool, cashmere, polyester threads, and fabric selvedge (or selvage). DNA markers were compatible and stable in a wide range of textile substrates and manufacturing processes. Also, the use of DNA had no impact on the quality or performance of the textile being marked.

Many competing technologies had existed—markers, holograms, radio-frequency identification, and chips—yet none of them seemed to be as effective at handling the complexity of tracing the source as DNA marking. Although DNA marking by Applied DNA was proprietary and protected by a trademark, the possibility existed that someone could replicate the technology. Since Applied DNA alone could test the marker that it had impregnated, Rekoop had an element of protection.

PURCHASING DECiSIONS FOR SUSTAINABLE FASHION[[14]](#footnote-14)

A study on the purchasing behaviour of consumers had shown increased levels of customers’ ethical and ecological concerns about the social consequences of their fashion purchases. The social consequences included human rights violations in factories and workshops, as well as environmental damage related to the creation discarding of clothing and home textiles. Thus, buying decisions at one level were influenced by doing the right thing. However, customers cared about their appearance and valued self-expression; therefore, clothing and home textiles played an essential role in a consumer’s need for self-esteem. Thus, buying decisions were influenced not only doing the right thing, but also by the ability of the product to well-being.

GLOBAL AND INDIAN ECONOMIC ENVIRONMENT

Global

The last decade experienced a series of broad-based economic crises, including negative shocks. It all began with the global financial crisis of 2008–09, followed by the European sovereign debt crisis of 2010–2012, and the global commodity price realignments of 2014–2016. As these crises, persistent headwinds, and several accompanying aftershocks subsided, the world economy strengthened and offered greater scope to reorient and reorganize policy toward long-term issues that had held back progress and affected the economic, social, and environmental dimensions of sustainable development.

In 2017, global economic growth was estimated to reach 3.0 per cent—the highest rate of global growth recorded since 2011—which was a significant acceleration compared to the earlier growth in 2016 of just 2.4 per cent.[[15]](#footnote-15) Labour market indicators continued to improve in many countries. Roughly two-thirds of countries worldwide experienced stronger growth in 2017 than in the previous year. Globally, growth was expected to remain steady at 3.0 per cent in 2018 and 2019.

There were adjustments in major trade relationships—the United Kingdom and Northern Ireland decided to withdraw from the European Union, and the United States decided to renegotiate the North American Free Trade Agreement and reassess the terms of its other existing trade agreements. These issues raised concerns over a potential escalation in trade barriers and disputes. Trade barrier disputes could be amplified if met by retaliatory measures by other countries, and an increasingly restrictive trade environment could hinder medium-term growth prospects, given the mutually reinforcing linkages between trade, investment, and productivity growth.

Indian

The outlook for India remained largely positive, despite the slowdown observed in early 2017 and the lingering effects from the demonetization policy. The positive outlook was supported by robust private consumption and public investment as well as ongoing structural reforms. The country’s gross domestic product was projected to grow from 6.7 per cent in 2017 to 7.2 per cent in 2018 and 7.4 per cent in 2019.[[16]](#footnote-16)

Nevertheless, the anaemic performance of private investment remained a key macroeconomic concern. In 2017, the gross fixed capital formation as a share of the gross domestic product saw a decline from about 40 per cent in 2010 to less than 30 per cent.[[17]](#footnote-17) The decline came amid subdued credit growth and low capacity use in some industrial sectors. Banking and corporate sectors were facing balance sheet problems. Vigorous public investment in infrastructure had been critical in propping up overall investment growth.

Consumer price inflation reached a multi-year record low of 4.9 per cent in 2017,[[18]](#footnote-18) due to relatively low commodity prices, waning rupee depreciation pressures, and good harvest seasons in most countries that supported lower food prices. The Indian government had implemented a range of policy measures to address the relatively elevated levels of non-performing loans. These measures included a large recapitalization plan for state-owned banks and implementation of new insolvency proceedings.

LOOKING to THE FUTURE

“We are proud to introduce Rekoop, the first fully source-verified r-PET-bedding product line,” said Kapur. The first step of the arduous process of creating the product, getting Reliance and Applied DNA on board and unveiling at the New York Fashion show, was done. The success of the project determined GHCL’s ability to move from volume-based production to margin-based production. Kapur had to decide which markets to enter. He looked at opportunities where the retailers had a large-scale global footprint, omnichannel possibilities, and focus on sustainability.

Other decisions were needed: What distribution strategy should the company follow—department stores, specialty stores, or online? Or a combination of these? How could the company get stores and customers to buy the product? How could GHCL create customer awareness for the product? Was GHCL able to sustain the Rekoop brand, or if it sold through chain stores, would that reduce Rekoop’s brand salience?

Pricing was another issue. Should Rekoop be priced at opening price points or better? Kapur also worried about competition. Could someone else trip them at their game? Several industry players had been in the textile business for a long time and had far deeper pockets. How would his competitors react? If they reacted quickly and came up with a comparable product, would GHCL lose its early-mover advantage? Many parts of the world had moved toward protectionist policies. Would tariff and non-tariff barriers impinge his ambitions? The questions were many, and he had to get his strategy in place quickly.

EXHIBIT 1: BEDDING PRODUCT of GHCL limited



Source: Company documents.

EXHIBIT 2: SEGMENT-WISE PERFORMANCE OF GHCL Limited (in ₹ billion)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Inorganic chemicals** | | | | | **Textiles** | | | | |
|  | March 2016 | March 2017 | March 2018 | Q1 2017–18 | Q1 2018–19 | March2016 | March 2017 | March2018 | Q1  2017–18 | Q1 2018–19 |
| Revenue | 16.51 | 17.45 | 19.35 | 4.85 | 4.90 | 10.58 | 12.24 | 10.22 | 3.10 | 2.64 |
| Profit | 4.56 | 5.19 | 5.54 | 1.20 | 1.20 | 1.10 | 1.37 | 0.03 | 0.22 | 0.07 |
| Assets | 15.15 | 19.19 | 20.39 | 19.84 | 20.87 | 13.50 | 15 | 15.22 | 15.31 | 15.90 |
| Depreciation and amortization | 0.53 | 0.51 | 0.64 | NA | NA | 0.29 | 0.34 | 0.45 | NA | NA |
| Capital expenditure | 0.41 | 3.36 | 0.96 | NA | NA | 0.01 | 1.04 | 1.13 | NA | NA |

Note: ₹ = INR = Indian rupee; US$1 = ₹66.08 on March 31, 2017; Q = quarter; NA = not available

Source: Company documents.

EXHIBIT 3: GHCL limited Sustainability Activities

Climate Change:

* 27.3 megawatts of renewable wind energy
* Working toward carbon neutrality for textiles by 2021
* Solar-powered heaters at plants and residential colonies

Reduce:

* Reduction of steam consumption, lime wastage, and liquor for soda ash production
* Reduction of water, chemical fertilizers, and pesticides (through the usage of “more sustainable cotton.” Aim: 50% of the cotton that we use should be “more sustainable” by 2020)
* Reduction of landfill space, crude oil consumption, and carbon emissions (through the usage of recycled polyester. Aim: 100% of our polyester staple fibre should be recycled by 2020)

Reuse:

* Paver blocks made of fly ash, limestone fines, and plastic waste
* Recovered ammonia during soda ash manufacture

Recycle:

* Rekoop—bedding concept with recycled polyester
* CIRKULARITY—post-industrial and post-consumer cotton waste upcycled in a couple of collections

Source: Company documents.

EXHIBIT 4: FINANCIAL SUMMARY OF COMPETITORS TO GHCL limited (in ₹ billion)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Himatsingka Seide Ltd.** | **Welspun India Ltd** | **Trident Ltd.** | **Indo Count Industries Ltd.** | **Century Textiles India Ltd.** |
| Revenue | 22.50 | 613.2 | 467.0 | 18.1 | 22.4 |
| Net Profit | 2.01 | 38.5 | 26.4 | 1.3 | 1.1 |
| Assets | 42.20 | 732.8 | 629.7 | 16.4 | 103.3 |

Note: ₹ = INR = Indian rupee; US$1 = ₹66.08 on March 31, 2017

Source: Compiled by authors from “Annual Reports,” Himatsingka, accessed July 13, 2019, <https://himatsingka.com/anual-report.html>; “Financial Results,” Welspun India, accessed July 13, 2019, www.welspunindia.com/investor-corner.php; “Financial Reports,” Trident Group, accessed July 13, 2019, www.tridentindia.com/financialreports; “Annual Reports,” Indo Count, accessed July 13, 2019, www.indocount.com/investors/financial-reporting/annual-reports; “Investor Centre: Financial Results,” Century Textiles and Industries Limited, accessed July 13, 2019, [www.centurytextind.com/investors.html](http://www.centurytextind.com/investors.html).

EXHIBIT 5: THE CIRCULAR ECONOMY

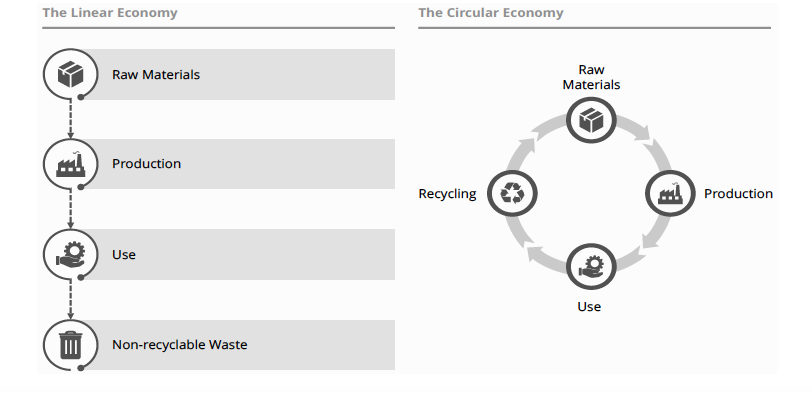
A circular economy, as the name suggests, works as a loop. Resources that enter the loop remain there for their entire life delivering maximum value and at the end are recovered to regenerate other products and materials. It attempts to overcome issues such as waste that are posed by a linear economy.

Almost all of our existing processes are linear in nature. It follows a “make, use, dispose” philosophy. Here, resources enter the process, change form, and often cannot be reused or recycled at the end of intended use. These have led to a rise in landfills and exhaustion of natural resources through the systematic generation of waste. While some products do get recycled with similar others resulting in a down-cycling of precious metals and other resources, this proportion is on the lower side.

In contrast, a circular economy is designed to eliminate waste. It does so by designing products and optimizing them for a cycle of disassembly and reuse. Hence embedded energy and labour are not lost. A circular economy differentiates between consumable and durable components of a product. Consumables are primarily made of biological ingredients and non-toxic ‘nutrients’ that can be safely returned to the biosphere. Durables, on the other hand, are made of technical nutrients, such as metals and most plastics that are unsuitable for the biosphere. These are designed from the start for reuse, and products subject to rapid technological advance are designed for an upgrade.

Renewable energy is used in a circular economy.

Apart from waste reduction and elimination, the other benefits of a circular economy are greater resource productivity, lower environmental impact of production and consumption, a greater ability to address emerging resource security or scarcity issues in future, and a more competitive economy.

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Source: Namrata Rana and Utkarsh Majmudar, *Balance: Responsible Business for the Digital Age* (India: Westland Publishers Ltd., 2018). Reproduced with permission from authors.

EXHIBIT 6: MARKET SIZE OF HOME TEXTILES IN the UNITED STATES (in US$ million)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2020\*** |
| Bed linen and bed spread | 10,271.8 | 10,512.0 | 10,819.8 | 12,746.0 |
| Bath and toilet | 4,466.0 | 4,566.5 | 4,578.5 | 5,437.1 |
| Kitchen linen | 1,786.4 | 1,802.9 | 1,822.8 | 1,977.6 |
| Upholstery | 893.2 | 903.7 | 916.1 | 1,007.8 |
| Floor | 4,912.6 | 5,016.1 | 5,131.8 | 5,922.0 |

Note: \* indicates a forecast

Source: Statista Research Department, “Home Textiles Market Size in the United States from 2013 to 2020, by Category (in Million U.S. Dollars),” Statista, September 1, 2016, accessed December 5, 2018, www.statista.com/statistics/791732/us-home-textiles-market-size-by-category/.

EXHIBIT 7: MARKET SIZE OF HOME TEXTILES BY REGION (in US$ million)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2020\*** |
| Asia Pacific | 44,150 | 46,336 | 48,635 | 63,148 |
| Europe | 28,580 | 28,756 | 28,992 | 30,829 |
| North America | 24,430 | 24,974 | 25,571 | 29,481 |
| Rest of the World | 7,050 | 7,171 | 7,302 | 8,042 |

Note: \* indicates a forecast

Source: “Global Home Textiles Market Size from 2013 to 2020, by Region (in Million U.S. Dollars),” Statista, September 1, 2016, accessed December 5, 2018, www.statista.com/statistics/791682/global-home-textiles-market-size-by-region/.

EXHIBIT 8: SUSTAINABLE FASHION

Sustainable fashion, similar to sustainability, encompasses a variety of attributes which aim to attain a balance between social, environmental, and business goals, simultaneously. Some of these include working ethically (e.g., having no worker exploitation), reusing products, using green or organic products, increasing the durability of apparel, and prohibiting animal cruelty.

The quest for sustainable fashion started in the 1980s with the anti-fur campaigns. In the late 1990s, various sweatshop scandals surfaced. These exerted pressure on fashion companies to implement better monitoring practices at their factories. Since then many designers such as Stella McCartney and Edun, established fashion houses like Louis Vuitton Moët Hennessy, and large-scale fashion retailers like H&M, have joined the trend.

The goal of sustainable fashion is to rationalize production and consumption of garments at the global scale. It includes the replacement of harmful chemicals with environmentally friendly ones and the reduction of waste and resource consumption through recycling.

To achieve this goal, changes or choices have to be made during both production and consumption. At the production end, two key aspects need consideration—choice of fibre and production method. Moreover, at the consumption end of the value chain, consumer education is essential to make a shift from “quantity to quality.”

**Production—Choice of fibre**: Cotton and polyester fibre account for around 80 per cent of the global textile market with demand for polyester exceeding demand for cotton. Both these fibres have the following types of lifecycle impact on the environment:

* Large quantities of water and pesticides are used for cotton cultivation.
* Emissions to water and air arise from producing synthetic and cellulosic fibres.
* A significant amount of non-renewable energy is used for the production of synthetics, such as polyester.
* Polyester is non-degradable.

The impact of some of these fibres can be reduced by replacing conventional cotton with organic or low chemical cotton, flax, hemp, and lyocell. Similarly, a shift from polyester to renewable and biodegradable fibres, such as those from wool and corn, could also help. The following table outlines some fibres that could be explored.

|  |  |  |
| --- | --- | --- |
| **Fibre** | **Source** | **Features** |
| Hemp | Marijuana plant | Versatile, fast growing, low environmental impact |
| Chitin fibre | Food waste (crustaceans’ shells) | Super cheap, versatile, helps manage waste; decreases use of artificial dyes due to its bonding property |
| Seaweed | Seaweed | Versatile, low environmental impact |
| Banana fibre | Banana plant | Versatile when softened, cheap, strong, biodegradable |
| Pineapple leather and silk | Pineapple plant waste | Biodegradable |
| Coconut fibre | Coconut husks | Can be used for bags, shoes, brushes  Not versatile; rough |
| Corn fibre | Corn plant | Versatile and cheap material; no environmental impact |

**Production method:** To uphold and promote sustainable fashion, companies need to facilitate production that does not exploit both natural and human resources to expedite manufacturing speed.

While individually the companies can work on these aspects, some have combined efforts in the form of a multi-stakeholder coalition—Partnership for Sustainable Textiles. This coalition was formed in 2014 to make improvements along the entire textile supply chain. The members focus on specific targets such as fighting child labour, avoiding hazardous chemicals, implementing living wages, and ensuring sustainable use of water resources. They aim to increase their use of sustainable and organic cotton to 35 per cent by 2020.

Source: Compiled by the authors with information from various sources, including Zhanna Kutsenkova, “The Sustainable Future of the Modern Fashion Industry,” Honors Theses and Capstone Projects, Dominican University of California, 2017, accessed April 5, 2019, https://scholar.dominican.edu/honors-theses/21; Kate Fletcher, *Sustainable Fashion and Textiles: Design Journeys* (London: Earthscan, 2008).

1. The company’s financial year was from April to March. Consequently, 2016–17 refers to the period April 1, 2016 to March 31, 2017. [↑](#footnote-ref-1)
2. ₹ = INR = Indian rupee; US$1 = ₹66.08 on March 31, 2017; all currency amounts are in ₹ unless otherwise specified. [↑](#footnote-ref-2)
3. “Home Page,” Applied DNA Sciences, accessed July 13, 2019, https://adnas.com/. [↑](#footnote-ref-3)
4. “CertainT Platform,” Applied DNA Sciences, accessed July 13, 2019, https://adnas.com/certaint-supply-chain-platform/. [↑](#footnote-ref-4)
5. “Textiles and Apparels,” India Brand Equity Foundation, March 2018, accessed December 5, 2018, www.ibef.org/download/Textiles-and-Apparel-March-2018.pdf. [↑](#footnote-ref-5)
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13. “$1.2 Billion in Counterfeit Seizures for CBP, ICE in 2014,” FEDagent, April 8, 2015, www.fedagent.com/featured/16-general-news/1540-billion-counterfeit-seizures. [↑](#footnote-ref-13)
14. Based on Zhanna Kutsenkova, “The Sustainable Future of the Modern Fashion Industry,” Honors Theses and Capstone Projects, Dominican University of California, 2017, accessed April 5, 2019, https://scholar.dominican.edu/honors-theses/21. [↑](#footnote-ref-14)
15. “World Economic situation and Prospects 2018,” United Nations, 2018, www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/WESP2018\_Full\_Web.pdf. [↑](#footnote-ref-15)
16. Ibid. [↑](#footnote-ref-16)
17. Ibid. [↑](#footnote-ref-17)
18. Ibid. [↑](#footnote-ref-18)