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## INDUSTRY OUTLOOK

### INDIA'S PAPER INDUSTRY: FROM PULP TO PROSPERITY - HIGH GROWTH POTENTIAL AMID LINGERING CONCERNS

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#### Introduction

Paper is a pre-requisite to literacy and education. The rising use of paper manifests both the general well-being of society and the progress made in those domains. The Pulp and Paper industry aligns with the national priority of fostering a knowledge-based economy. The Pulp and Paper industry is the most important of all the forest-based industries. It can also be treated as a chemical industry due to the use of chemicals used in its manufacturing process.

As a large proportion of the basic raw materials are derived from the forests, it seems logical to treat it as a forest-based or Agro-based industry. The paper industry has a bright future, especially in emerging markets. It is a growing industry with many opportunities. Of the paper produced worldwide, roughly 5 per cent comes from India's paper industry. There is an approximate ₹ 80,000 crore turnover in this business, and it contributes around ₹ 5,000 crore to the exchequer. Approximately, 1.5 million people are indirectly employed by the sector in addition to the 500,000 people directly employed, contributing to the socio-economic development of India.



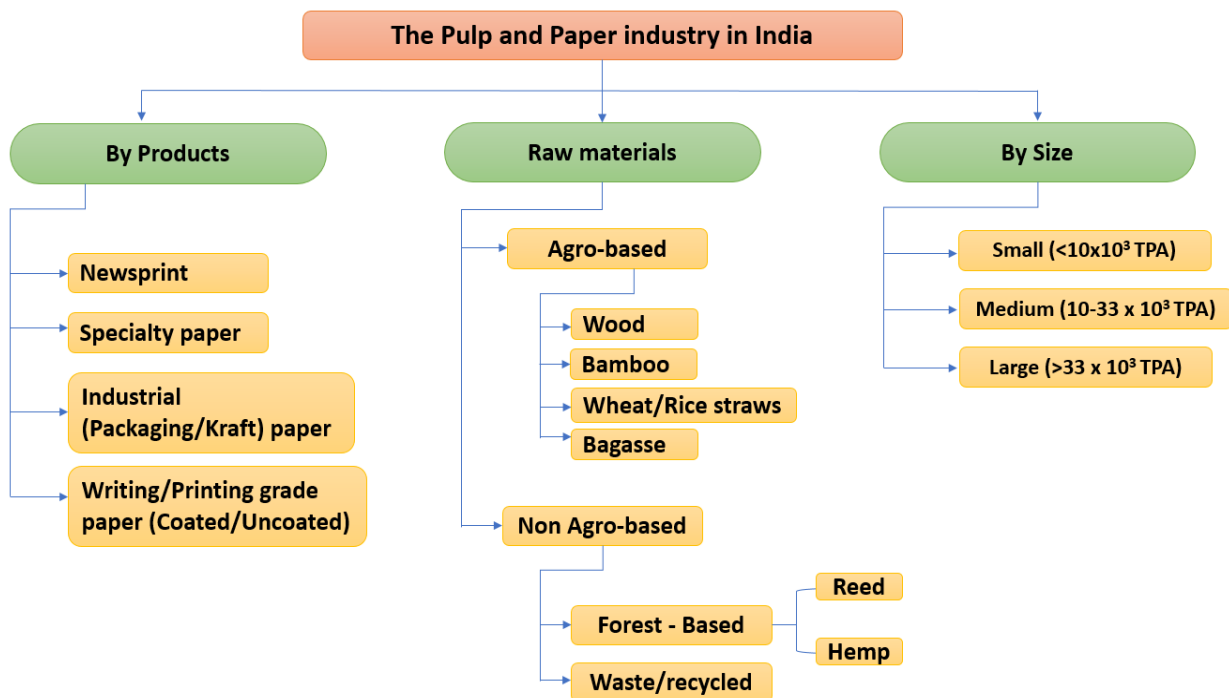
In the 13th century, a captive monarch, Sultan Zainul Abedin, in Samarkand brought papermakers with him to Kashmir, India. In 1417–57 AD, he founded India's first paper producing enterprise.<sup>1</sup> Subsequently, in 1816 a factory was set up near Chennai. This venture proved abortive. In 1832, the first Fourdrinier paper machine was established at Serampore, West Bengal. It is a pre-colonial city on the west bank of the Hooghly River in Kolkata. However, shortages of demand resulted in its shut-down. The second mill was set up in 1870 at Ballygunge, near Kolkata.<sup>2</sup> And India's oldest and core paper industry was Dyed in the Wool.

Subsequent successful efforts were made at Lucknow in 1879, Titagarh in 1882, Pune in 1887, Raniganj in 1892, Kaukinra in 1892, and Naihati in 1918. In the year 1950-51, there were 17 mills with a total installed capacity of 1.37 lakh tonnes. The corresponding figures reached 77 mills and 14.40 lakh tonnes in 1977-78 and 379 mills and 37.78 lakh tonnes in 1995-96.<sup>3</sup>

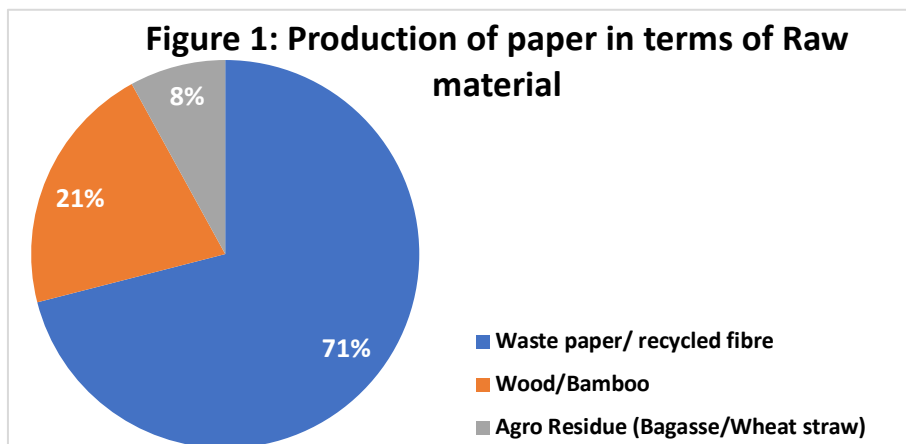
Globally, the production capacity in Asia and Europe has gone up drastically but is not in proportion to consumption. It is going to take a long time for the demand to catch up with production capacity. It is a good time for Asia to take advantage of this situation as the USA is experiencing low exports and war has created a recession-like situation in many European regions.

### Raw materials

Indian paper industry remains largely a fragmented sector. It consists of small, medium, and large paper mills, having production ranging from 5 to 2000 Tonnes per day. Presently, there are more than 860 paper mills functioning all over the country, producing various types of papers, such as, printing and writing, packaging, tissue, newsprint, etc.



Paper is produced by using three kinds of raw materials, such as recycled fiber, wood and Agro residue. Pulp is the primary raw material used for manufacturing of paper, and is obtained through processing of fibers separated from wood, wastepaper, agriculture residues etc. Distribution of its use in paper production is described in figure 1.



Source: CPPRI

## Distribution of Paper Mills

The paper industry in India is concentrated in a few key regions. Maharashtra is the leading paper producing state in India. The states of Maharashtra, Gujarat, Andhra Pradesh, and Karnataka account for over 60 per cent of the country's paper production capacity. Major market players are JK Paper, ITC, TNPL, Orient Paper, Westcoast, Andhra Paper, Naini papers, etc.

From just 17 paper mills in the year 1951 with a capacity of 1.37 lakh tonnes, India now has 861 paper mills, 526 of which are operating, with a total installed capacity of 27.15 million tonnes.<sup>4</sup>

## Major players

Table 1: Financial Performance of the top paper producing companies

Mill Name	Production Capacity (MTPA)	Actual Production (MT)	Turnover (₹ Crores)	EBITDA (₹ Crores)	Growth Turnover (%)
ITC Limited -PSPD	9,80,000	NA	9,081	2,294	18.9
JK Paper Limited	7,61,000	8,72,226	6,208	1,759	60
Tamil Nadu Newsprint & Paper Limited	6,00,000	5,88,828	5,180	1,048	28.8
Century Pulp & Paper	481,130	4,55,225	3,571	NA	27
West Coast Paper Mills Limited	3,20,000	3,14,919	2,605	948	40
Andhra Paper	2,41,000	2,50,292	2,098	787	52.5
Seshasayee Paper & Boards	2,55,000	2,41,145	2,083	565	54
Emami Paper Mills	3,40,000	2,96,594	2,308	237	18
Satia Industries Limited	2,19,000	2,09,910	1,884	426	111
Kuantum Papers Limited	1,64,250	1,52,304	1,313	383	57
Bindals Paper Mills Limited & Bindals Group	4,70,600	3,97,459	2,215	179	20.5

Trident Limited (Paper & Chemicals Division)	NA	1,48,145	1,343	368	37
NR Agarwal Industries Limited	2,88,000	2,70,941	1,766	197	9.3
Naini Papers Limited	1,25,000	1,26,415	1,114	376	71
Orient Paper & Industries Limited	1,00,000	79,933	943	191	61
Silverton Pulp & Papers Private Limited	1,80,000	1,39,858	866	128	40
Shreyans	94,000	92,996	866	112	48
Ruchira Papers Limited	NA	1,46,758	803	109	31
Pudumjee Paper	72,000	57,600	759	95	36.6
Star Paper	75,000	67,000	514	101	47.7
Dev Priya Products	1,66,000	1,46,303	737	43	7.4
Genus Paper & Boards Limited	4,50,000	NA	655	24	49
Pakka Limited	39,100	39,768	408	94	40.3

**Source: Paper Mart Issue Oct-Nov, 2023; IDBI Capital Research**

## Domestic Statistics

In India, per capita consumption of paper is about 15-16 kg, which is much lower than the world average (57 kg).<sup>5</sup> In FY23, paper consumption grew by 37.6 per cent YoY. In a robust demand scenario, imports rose at a rapid pace of over 23 per cent. On the back of such rapid consumption growth in the paper industry, the IPMA estimates a growth of 6-7 per cent per annum in paper consumption in the country for many years. About one million TPA (tonnes per annum) of integrated pulp, paper, and paperboard capacity is required to be created in India annually over the current capacity to meet the growing demand. By 2024-25, the default scenario predicts an increase in domestic demand to 23.5 million TPA and output to 22 million TPA.<sup>6</sup>

It is estimated that the total paper production in the country is more than 25 million TPA. In FY23 paper production grew by nearly 6 per cent. This is the highest year-on-year growth in paper production reported since 2015-16. The paper industry saw a volume growth of 7 per cent in FY23.

The operating margin of the paper & newsprint industry for FY23 was 18.1 per cent. This is the highest ever. The net margin of the industry was 9.5 per cent, again, the highest ever. The Wholesale Price Index (WPI) of writing and printing paper declined by 7.3 per cent and by 8.2 per cent year-on-year in the September 2023 and December 2023 quarters, respectively.

The decline was steeper for kraft paper. The price of kraft paper (in WPI terms) declined by 16.4 per cent and 11.6 per cent in the September 2023 and December 2023 quarters, respectively. Prices of newsprint fell by 7.8 per cent and 10.5 per cent in the September 2023 and December 2023 quarters, respectively.

**Table 2: Production, Imports, Exports and Consumption of Paper, Newsprint and Paper Products**

Year	Newsprint				Paper			
	Production (Tonnes)	Imports (Tonnes)	Exports (Tonnes)	Consumption (Tonnes)	Production (Tonnes)	Imports (Tonnes)	Exports (Tonnes)	Consumption (Tonnes)
2011-12	1,070,850	1,431,693	9,871	2,492,672	8,145,160	881,345	550,270	8,476,235
2012-13	1,131,636	1,240,804	8,557	2,363,883	8,605,000	1,060,821	552,537	9,113,284
2013-14	1,237,247	1,379,414	3,789	2,612,873	9,479,200	1,122,839	581,723	10,020,316
2014-15	1,156,751	1,335,813	9,641	2,482,922	10,043,100	1,289,130	684,304	10,647,927
2015-16	1,048,398	1,496,898	5,066	2,540,230	10,711,900	1,410,819	721,513	11,401,207
2016-17	1,012,169	1,584,440	4,354	2,592,255	11,225,200	2,639,929	788,689	13,076,440
2017-18	1,004,101	1,448,006	6,849	2,445,257	9,933,300	2,035,714	1,041,781	10,927,233
2018-19	1,061,692	1,366,473	12,726	2,415,439	6,861,700	1,798,494	1,563,260	7,096,934
2019-20	800,246	1,353,868	16,020	2,138,094	6,442,500	1,990,591	1,725,139	6,707,952
2020-21	443,421	662,515	3,181	1,102,754	6,167,700	1,373,002	2,259,091	5,281,611
2021-22	568,481	605,693	6,767	1,167,408	6,279,800	1,455,418	2,965,782	4,769,436
2022-23	<b>498,705</b>	<b>622,222</b>	<b>8,787</b>	<b>1,112,140</b>	<b>6,653,500</b>	<b>1,790,492</b>	<b>1,879,387</b>	<b>6,564,605</b>
Year	Paper Product							
	Imports (Tonnes)	Exports (Tonnes)	Total supply Rs. million	Consumption Rs. million				
2011-12	76,964	211,891	87,095	69,530				
2012-13	87,305	239,890	89,537	65,642				
2013-14	68,274	247,497	101,647	73,271				
2014-15	69,184	262,431	112,502	81,226				
2015-16	75,011	249,737	124,187	90,354				
2016-17	88,423	266,989	118,005	81,249				
2017-18	95,582	274,544	124,254	85,989				
2018-19	90,314	334,677	143,507	84,372				
2019-20	198,194	355,924	137,372	79,259				
2020-21	104,941	319,360	118,341	65,087				
2021-22	117,352	564,387	163,600	86,382				
2022-23	<b>102,518</b>	<b>573,627</b>	<b>207,608</b>	<b>110,256</b>				

Source: CMIE

## Packaging segment

Globally, there has been substantial traction in recyclable packaging innovations. There are meaningful examples of recyclable packaging innovations from Walmart, Coca-Cola, and Diageo from ThePackHub's Innovation Zone. Such initiatives represent important milestones in the pursuit of discovering practical sustainable solutions in manufacturing, materials, design and more.

India's packaging paper segment has grown strongly in recent years, and today the segment makes up 63 per cent of total paper demand in India, up from 52 per cent six years ago. The e-commerce trend has resulted in an increased demand for packaging products such as corrugated boxes, cartons, and wrapping sheets.

Furthermore, packing paper and paperboard offers an environmentally beneficial alternative for firms looking to ship their products safely and quickly. Paper's suitability as a biodegradable and ecological packaging material, particularly for substituting single-

use plastic<sup>1</sup>, is increasing its use across the economy. The packaging industry will grow in conformity with the pace of GDP growth in terms of volume.



The realization levels in packaging paper started falling from the Q2 of FY23 with rising competition although some stabilization was seen from Q3 of FY24 onwards. The next five years the demand for packaging paper in India will increase in the range of 10-11 per cent.

With increasing penetration of specialized and modern forms of packaging in more sectors dependent on the paper industry, e.g., FMCG, healthcare, pharmaceuticals, and consumer industries, demand for packaging is increasing. The increase in the e-commerce sector, especially after the lockdown in 2020, has also increased the revenue for browning the packaging paper and paperboards. Some of the popular e-commerce businesses that deal with that are Blinkit, Zepto, Swiggy instamart, Myntra, Nykka, Amazon.in, etc.

In a strategically significant e-comm initiative, right-sized boxing tech was dovetailed with on-demand digital printing in a joint venture stakeholders in the world's first full colour on-demand right-sized case erecting & digital printing called the X5 Nozomi from Packsize EFI system. Fiery Digital Front End (DFE) technology is driving X5 Nozomi customers with strong digital print performance, superior colour management, and automated workflow tools.

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<sup>1</sup> On August 12, 2021, the Indian Government's Ministry of Environment, Forest, and Climate Change issued the Plastic Waste Management Amendment Rules, 2021 to reduce plastic waste and promote eco-friendliness. The ban on single-use plastic came into effect in July 2022 and has led to good traction in demand for paper-based alternatives such as paper bags and cups, presenting attractive growth prospects for the paperboard and packaging paper segment.

## Product Authentication and Traceability

Product authentication refers to the verification process of ensuring that a product is genuine and has not been tampered with. Uniquely coded labels help to achieve that by including unique identifiers, such as, RFID and NFC Tags, Blockchain technology, watermarks, Holograms and QR codes, which are to be scanned and verified.

By watermarking the paper with special ink, incorporating holograms and QR codes into their packaging, embedding security threads or fibers into it, companies prevent counterfeits. It adds another level of security or traceability which further helps in protecting the brand's reputation and ensuring customer trust.

Traceability is the ability to track a product from its origin to its destination. Uniquely coded labels can be used to improve traceability by including information about the product's origin, destination and other critical data. By tracing the paper production process, manufacturers can ensure that quality standards are maintained, and any deviations can be quickly identified and rectified. Each step, from raw material sourcing to the final product, can be recorded on an immutable ledger, providing a clear traceable path. Traceability helps paper manufacturers comply with environmental regulations by ensuring that the wood used for paper production comes from certified and sustainable sources.

## Trade

There is an unprecedented rise in imports from countries, which are part of the ASEAN. Paper imports from Indonesia more than doubled (108.3 per cent) during the April-October period of the ongoing financial year. Imports from Thailand grew by 73.4 per cent during the same period. The biggest rise is seen from Singapore, as paper imports surged by over 500 per cent. The rapid rise in paper imports, i.e., of almost about 142 per cent from ASEAN countries, is because they enjoy zero import duty on paper on account of the free-trade agreement.<sup>7</sup>

**Table 3: Trade statistics for different kinds of paper, paperboard & newsprint (2022-23) in '000 tonnes.**

Product description	Import	Exports
Newsprint	622	9
Uncoated Paper & paperboard for Writing, Printing, or other Graphic Work	247	420
Toilet or facial tissue stock, Towel or Napkin stock	13	25
Uncoated Kraft paper & paperboard	315	174
Other Uncoated paper & paperboard	171	486
Paper & paperboard, corrugated, creped, crinkled, embossed, or perforated	6	2
Paper & paperboard coated on one or both sides	685	660
<b>Total</b>	<b>2059</b>	<b>1776</b>

Source: DGCI&S

On top of a 25 per cent jump in volume during FY23, paper imports increased further by 43 per cent in the first half of FY24.<sup>8</sup> However, the second half of FY24 was not good for the exports either because paper prices went through a lot of corrections due to low global demands. The prices of writing and printing paper, graph paper and packaging boards that are used to export high-end medicines have dropped by 30 per cent on an average compared to six months ago due to the European economic glut.<sup>9</sup> In case of a global recession, export segment will definitely take a hit except for the market in India, which is self-sufficient because India is not entirely dependent on exports and industry generally exports around 7-8 per cent of its total production.

## Government Initiatives

In the past, India signed free-trade agreements (FTAs) with the Association of Southeast Asian Nations (ASEAN) and South Korea. Consequently, under the FTA, such countries are allowed to export paper to India at zero import duty. India provides import tariff concessions to China and other countries under the Asia Pacific Trade Agreement (APTA). It offers a 30 per cent margin of preference. This reduces the import duty on most grades of paper to seven per cent from 10 per cent. The domestic industry is urging the government to take steps to reduce imports. It is only after the July 2024 Union Budget that we can understand the government's intention in respect of the basic customs duty on paper and paper board from the Budget 2024. The IPMA is lobbying to increase the import duty to 25 per cent from the current 10 per cent.

There has been a growing trend of energy consciousness within the industry in recent times. Their focus is mainly to reduce energy consumption. It depends upon the kind of water pumps they are using that will lead to conservation of water. As pulp and paper is a large carrier of water, sludge generation is a major concern, also in view of the guidelines issued by the national green tribunal (NGT) regarding plant discharges in April 2019 and upheld by the Supreme Court in June 2021.

The consumption of Printing & Writing (P&W) segment is enhanced by rising literacy rate. The results of the 2011 Census revealed an increase in literacy in the country. The literacy rate in the country is 74.04 per cent, 82.14 for males and 65.46 for females.<sup>10</sup> This rise is largely attributable to the Government's following flagships schemes:

1. Pradhan Mantri Kaushal Vikas Yojana (PMKVY),
2. Mahila Samakhya Programme,
3. Sarva Shiksha Abhiyan (SSA),
4. Beti Bachao Beti Padhao,
5. Strengthening for providing quality Education in Madrassas (SPQEM),
6. Rashtriya Madhyamik Shiksha Abhiyan (RMSA),
7. Saakshar Bharat (Adult Education) and lastly,
8. Goods & Service Tax (GST) and the Make in India program



Coal is a critical input in various industries such as steel, sponge iron, cement, and paper. The initiatives like 'Make in India' are likely to increase demand and lead to higher economic growth. The adoption of gasification technology in India will revolutionize the coal sector, reducing reliance on imports of Natural Gas, Methanol, Ammonia, and other essential products. It will contribute to India's vision of becoming Atmanirbhar and create a surge in employment opportunities. The implementation of coal gasification is expected to make significant contributions to the nation's development by reducing imports by 2030.<sup>11</sup>

## Industry Risk

The countries like ASEAN, South Korea, and China continue to benefit from policies like cheaper raw materials in their FTAs, and therefore the paper produced in these countries is cheaper in comparison to paper produced by domestic Indian manufacturers. Competition from imports, which ought to be cheaper than domestic produce, is likely to dissuade enterprises from investing in capacity expansion. Paper businesses claim that lower-cost imports from import destinations are harming the domestic industry.

Inadequate raw material availability is a challenge faced by the Paper Industry in India. The Indian paper sector relies mainly on wood-based raw materials like wood chips and bamboo. However, there is a shortage of suitable wood and bamboo in many places. This leads to high reliance on imported wood pulp, increasing industry costs and reliability on imports. The IPMA has requested the government to offer paper mills with degraded land on long-term lease for pulpwood planting in order to alleviate raw material shortages and increase rural employment.<sup>12</sup> The paper industry has faced shortage of wood, the key raw material, and it is the biggest concern for mills in India. India needs to bring an additional 25-30 million hectares of degraded land under forest and tree cover to create an additional carbon sink of 2.5-3 billion tonnes of carbon dioxide equivalent by 2030.

Since the pulp and paper industry in India is largely considered as a polluting and non-sustainable industry and significant contributor to environmental pollution, and therefore, it is subject to stringent environmental regulations. Many environmental issues, such as climate change, human toxicity, ecotoxicity, photochemical oxidation, acidification, nutrification, deforestation and solid refuse production, are exacerbated by this resource- and capital-intensive nature of this business. Paper mills are often blamed for excessive water wastage.<sup>13</sup>

The process of implementing automation is necessary to improve efficiency and reduce risks. With the rise of digital news platforms, e-books, and online magazines, there is a declining demand for newspapers, books, and magazines in their physical form. Businesses and governments are increasingly adopting digital documentation practices, reducing the need for printing paper, photocopy paper, and forms. There is a growing

emphasis on sustainable practices within the paper industry. Companies are investing in recycling technologies and sustainable forestry practices to meet consumer and regulatory demands. Digitization contributes to a reduction in the carbon footprint associated with paper production and distribution, aligning with global environmental goals. Reduced demand for traditional paper products has led to job cuts in some areas of the paper industry. The industry's future will likely be shaped by how well it can not just adopt but also adapt to these digital trends, consumer behaviour, policy and regulation and environmental considerations.

Previously, the Indian paper industry was designated a core sector business, and as a result, it received coal on a priority basis and at subsidized rates; but, since 2005, it has been classified as a noncore industry, and paper players must pay higher domestic coal prices. For that matter, Indian paper companies mostly rely on imported coal, which is cheaper than domestic coal.

## Way forward

The paper industry is highly energy-intensive, and the rising costs of traditional energy sources have driven the industry to seek cost-effective and sustainable energy solutions. Many paper mills use biomass as a primary energy source. Biomass includes wood chips, bark, and other organic materials that are by-products of paper manufacturing. Using biomass can reduce reliance on fossil fuels and lower energy costs. Similarly, harnessing wind or solar energy can also be useful in driving the growth of this industry. Installing solar panels on the rooftops of manufacturing facilities or nearby land can provide a significant portion of a mill's energy needs. Initial investments in solar technology can be offset by long-term savings and government incentives. Wind turbines can be another renewable energy source, especially in regions with high wind potential. Long-term power purchase agreements (PPAs) can provide stable energy prices.

The paper & paper products market in India is expected to be driven in the coming years by the growing manufacturing sector, the need for better quality packaging of FMCG products marketed through organized retail, and the demand for the upstream market of paper products such as tissue paper, filter paper, tea bags, and medical grade coated paper.

Despite the continued emphasis on digitization, India's demand for paper is expected to increase by 53 per cent over the next six years, owing to a sustained increase in rural education, growing ecommerce, and an increase in organized modern retailing. Strategies for effective automation implementation are necessary to enhance manufacturing and production logistics. The issues of production disruptions and innovative automation solutions customized for the food and beverage and consumer goods industries need to be given a sharper focus. All these factors are expected to positively influence paper consumption and demand in India.

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