



Turning the page on
India's paper industry
A new chapter in
investment potential
and growth

April 2012

The lay of the land: growth and opportunity

Since the opening of its economy in the '90s, India has become a frequent destination for multinational businesses. A significant increase in domestic demand, fueled by a burgeoning middle class, coupled with a growing workforce waiting to be added to the worldwide employment rolls, makes India a very attractive market to the global business community, including the pulp and paper industry.

This was most evident when U.S.-based International Paper (IP) acquired a 53.5 percent stake in Andhra Pradesh Paper Mills (APPM) in March 2011.^{*} The acquisition has generated a lot of interest in the Indian market despite the premium paid by IP to establish a position in this high-growth market. Until this acquisition, the paper industry in India did not appear to be on the radar of any multinational company, unlike China, which was perceived as a “must-enter” market. India is often compared to China, given that both have over a billion people, share a border, and have been growing in the last few decades. In contrast to China, however, India is a much-poorer country, with per capita income more than 50 percent less than China's.⁴

India's paper industry is expected to grow at 6 to 7 percent year over year,⁵ with the packaging industry poised to grow at 22 to 25 percent annually.⁶ Advances in education, a fast-growing middle class, strong growth in sectors like fast-moving consumer goods (FMCG)—pharmaceuticals, liquor, cosmetics, and the like—and organized retailing are the main drivers of demand for paper and packaging products.

Per capita consumption of paper in India remains woefully low at 22 lbs.⁷ (see Figure 1), compared to 770 lbs. in the United States and 363 lbs. in the European Union in 2010.⁸ Per capita consumption of paper has almost doubled in the last decade. India has 15 percent of the world's population, but consumes less than 2 percent of the world's paper.⁹

The upstream market demand for paper products, such as tissue paper, tea bags, filter paper, lightweight online coated paper, medical-grade coated paper, etc., is growing as well. These developments are expected to give a significant boost to the growth of the industry.

Meeting the growing demand will likely require a correspondingly significant investment in both new machines and upgrading of existing facilities. Currently, a small percentage of the demand is being met by imports due to the inability to produce certain segments profitably in India. India also allows 100 percent foreign direct investment (FDI) in this sector, making it an attractive landscape for foreign investment — one of the keys to growing the paper industry.

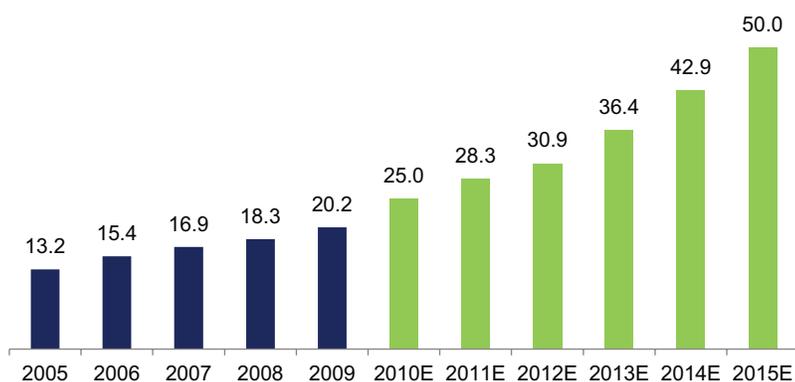


Figure 1: Paper per capita consumption in India, 2005–15E (lbs)

* International Paper (IP) acquired a 53.5 percent stake in Andhra Pradesh Paper Mills (APPM) for \$226 million in March 2011. IP had also paid a \$57 million non-compete payment to APPM promoters. In addition, International Paper acquired an additional 21.5 percent of APPM shares in a public tender offer completed on October 8, 2011, for approximately \$105 million in cash to take its shareholding to 75 percent.^{1, 2, 3}

The challenges: materials, infrastructure, labor, land

Despite the country's positive growth potential, however, investment in India is fraught with considerable challenges. Inadequate investment in infrastructure, limitations on raw materials, lack of a coherent and updated manufacturing policy, antiquated labor policies, and lack of a broad power supply has created a situation where only about 60 percent of paper-making capacity is being used, with approximately 200 small mills currently underperforming (having incurred losses exceeding their net worth) or closed.¹⁰ Here are some of the key issues:

1. **Raw Materials.** Availability of raw materials is one of the biggest barriers to growth of the industry. India depends on wood, recycled paper, and residues from the agriculture industry for its pulp needs, and the supply of each is limited and problematic.

- **Wood.** Availability of wood is very low compared to the United States and Europe. The forest land in India is owned by the government and is not available for use as plantations by the pulp and paper industries. Fallings from the forest, mainly bamboo, hardwood, and eucalyptus, are provided to the industry for pulping. With declining forest lands, this source of much-needed fiber is declining at a rapid rate.

Some in the paper industry have entered into particular partnerships with farmers to encourage planting trees. The paper companies provide the necessary financial backing and saplings for the farmer to plant trees and also guarantee a minimum price per tree once harvested. So far, this initiative, although very highly recognized and cheered on by many environmental and social groups, does very little to bridge the gap between supply and demand.

The Indian paper industry has proposed multiple scenarios in which degraded forest land around pulp mills is made available for plantations of pulpable species of trees. From all accounts, the idea appears to be a win-win scenario for all parties, increasing the amount of forests, generating rural employment, and providing much-needed relief to the industry. However, this proposal in various forms has been debated in government circles for over 15 years, with no resolution in sight in the immediate future.

- **Agro-based sources.** Agricultural residues such

as bagasse, rice and wheat straws, and cotton stalks provide approximately 21 percent of the industry's fiber source, according to the Indian Paper Manufacturers Association (IPMA).¹¹ Growth in agro residues has been encouraged by various fiscal policies of the government since the 1970s, but their use has many challenges, primarily due to their negative effect on paper quality and the investments in equipment required to combat pollution. In addition, India is not immune to the financially lucrative global phenomenon of using agriculture products as an alternative fuel source, thus limiting their availability for use in paper.

- **Wastepaper.** According to the IPMA, 44 percent of the industry's fiber needs are met by recycled fiber.¹² An effective system and infrastructure for sorting, collecting, and grading of recycled paper does not exist in India. Most of the recycled paper is imported from the United States and other western countries. Increase in demand from China and reduction in consumption of paper in developed countries are pushing the prices of paper upward. Relaxation of import duty on wastepaper could be well received by the industry.

2. **Infrastructure.** India's infrastructure has seen improvement, but still has a long way to go and pales in comparison to many developed countries. Improvements in roads, railways, and ports can benefit all industries, including pulp and paper.

3. **Labor.** India has a large available pool of unskilled and skilled labor and the advantage of very low labor costs. The outdated labor laws, however, (some predating India's independence) may not be conducive to a sound operating environment. The Trade Union Act of 1926 provides for the recognition of the unions. The act allows any seven workers to register as a trade union, but has no provision for union recognition (e.g., through a secret ballot procedure). This has led to a multiplicity of unions, with outsiders not concerned about the company or its employees playing a prominent role. Regulation of labor management relations are in the purview of state governments, and it varies among states. Resolutions of disputes are known to take an inordinate amount of time, sometimes lasting into years.

There have been some positive developments. According to a report published by The Associated Chambers of Commerce of India (ASSOCHAM), business strategies and improved industrial relations resulted in a steep decline in the number of strikes and lockouts. From 2005 to 2009 (Jan–Dec), the rate of disputes declined by 59 percent.¹³

In addition to disputes, another issue that can hinder growth is the lack of flexibility in adjusting workforce numbers to the volatile and shifting demand. In the '90s, it was virtually impossible to lay off employees for a large manufacturing unit, leading to a lack of hiring and a tendency to prefer automation over having a large labor pool. Recent steps taken by the government have been well received and may be considered a step in the right direction. For instance, as part of the restructuring of unprofitable public-sector enterprises, the government instituted a voluntary retirement scheme (assisted by the National Renewal Fund) to reduce its workforce. This, in turn, triggered similar programs in the private sector. In 2002, the government decided to amend the Industrial Disputes Act, allowing companies to lay off employees without seeking its permission if they employ fewer than 1,000 workers.¹⁴ This change is likely to impact 95 percent of Indian enterprises, provide employers with greater freedom in their labor decisions, and improve labor market flexibility. This may bode well for the use of large, highly automated paper machines that are capital intensive, but generally require less labor.

4. **Land acquisition.** Lack of a balanced law to enable acquisition of land for development has been heightened by some recent issues. These high-profile disputes between large companies and the local population have created a financial burden that might give pause to those considering setting up new large greenfield operations. The most notable disputes in 2010 included Tata Motors moving its factory from the state of West Bengal to Gujarat following the inability of Tata to acquire land from farmers. This was followed by POSCO, a large South Korean company, going to the highest courts in India to begin construction of the single largest foreign investment to date.

Most of the disputes have arisen because there are no clear guidelines or laws to address fair compensation and rehabilitation of displaced populations. A new bill that replaces the Land Acquisition Act of 1894 to address some of the concerns has been tabled in the Indian parliament and not passed.

Factors favoring investment: high growth and growth potential

1. Growth in consumption of paper and paper products driven by sustainable factors.

Several economic factors and lifestyle changes are driving the growth of paper consumption in India.

- **Growth in the education sector.** The government has increased focus on education and initiated several central and state-level programs such as Sarva Siksha Abhiyan (Education for All) and Operation Blackboard. This has had a positive effect on India’s literacy rate, which has increased by 9.2 percent in the last decade to reach approximately 74 percent in 2011.¹⁵ The result has been increased expenditure on textbooks and notebooks, providing a good opportunity for paper companies. Additionally, with higher literacy levels, circulation of other print media, such as newspapers, has also increased.

- **Increased corporate activity and lifestyle changes.** Economic development and globalization have led to an increase in corporate activity and increased per-capita consumption of paper. At the same time, increased commercial activity has spurred demand for packaged goods. Lifestyle changes have also pushed up the demand for specialty paper, such as tissue papers.

- **Growth in press publications.** India is the second largest print market in the world, with a readership base of over 250 million.¹⁶ There are approximately 130,000 printing presses in India.¹⁷ The printing and packaging industry is growing at a compound annual growth rate of over 16.2 percent since 1989.¹⁸ The strong growth in the printing industry is expected to continue to fuel the demand for paper.

- **Increased demand for packaging.** The Indian packaging industry is currently valued at INR 650 billion (US\$13.5 billion) and is expected to grow to INR 825 billion (US\$17 billion) by 2015.¹⁷ Additionally, the Indian FMCG sector is growing at a rapid rate due to strong demand from a large and growing middle class. As a result, the packaging industry, growing by more than 15 percent annually, will likely increase demand for corrugated boxes, leading to increased demand for kraft papers, the key raw material.

- **Growing affluence of the population.** The GDP has grown at a rate of more than 8 percent in the last decade, increasing affluence. This has led to increased consumption growth in key urban towns and rural markets. The higher consumption per capita leads to a higher newspaper and magazine reader base, which in turn can fuel demand for paper.

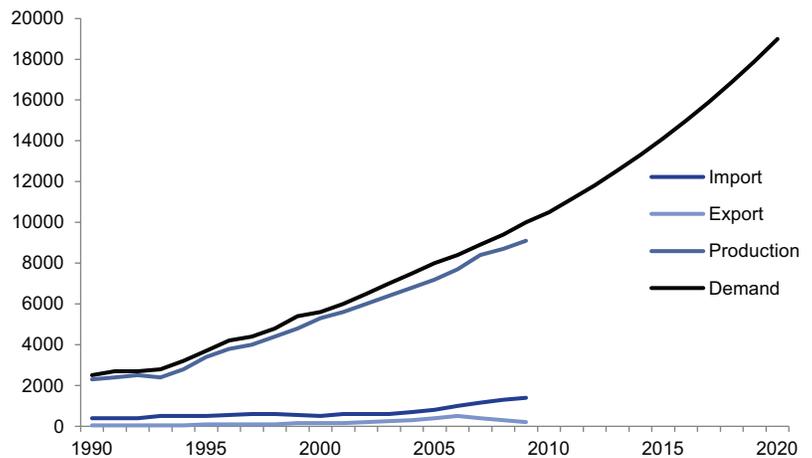


Figure 2: Indian paper industry capacity and demand projections

2. **Export potential.** As Figure 2 shows, exports of paper and paper products from India have not grown over the last three to four years in spite of steadily increasing domestic production.²⁰



Figure 3: Value of Indian paper industry imports and exports, 2011

This is primarily due to increasing domestic demand and low quality of finished product, making the products unsuitable for export to the developed markets.

Currently, exports form a very small proportion of paper production in India (2.1 percent) and are much lower than imports (see Figure 3). Major export destinations today are markets in the Middle East, Africa, and South Asia. The top three countries by value of exports are Nigeria, Sri Lanka, and the United Arab Emirates. These countries import paper, paperboard, and printed material. However, exports to developed markets in Europe and North America are restricted to books and printed material only.²¹ (See Figure 4.)

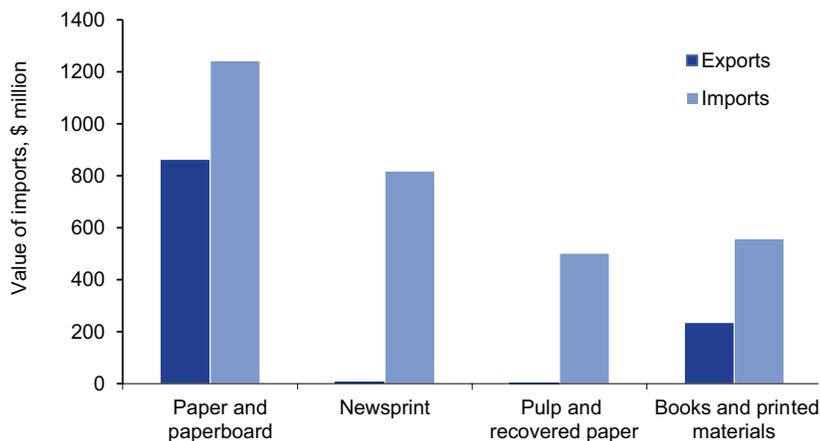


Figure 4: Value of Indian paper industry imports and exports by product (2010 - 2011)

With further increase in production capacity in India, there is scope for increased exports to the traditional export markets. In addition, by improving quality through better machinery, processes, and raw materials, there is further scope for exports of high-value-added paper products to quality-sensitive markets in Europe and North America.

3. **New manufacturing policy.** To address the concerns around labor and the challenging process of getting approvals in India, the government has recently approved a National Manufacturing Policy (NMP) that aims to increase the manufacturing sector's share in the economy to 25 percent from 16 percent and create 220 million jobs by 2025.²² The policy will promote this by facilitating national manufacturing investment zones, which can offer faster clearances. The policy also aims to ease the process for exiting the zones, along with providing companies flexibility while hiring and laying off. The NMP is expected to boost foreign investment; however, it is too early to predict the effect on paper industry. It will likely be dependent on the location of the new NMP zones, as paper industries require easy access to raw materials, coal, water, and other resources.
4. **Productivity.** The Indian paper industry is very fragmented with a lot of small and medium-sized mills. Fewer than 25 mills have the capacity to produce

over 50,000 tons,²³ and trim widths of most machines are less than 5 meters. Most of the technologies are obsolete or outdated. Energy consumption of most of the paper mills is very high compared to the machines in Europe and the United States. This, coupled with the high cost of energy, increases cost pressures. High water consumption, low chemical recovery, and inefficient labor productivity make the case for a significant investment in newer machines that are bigger, faster, and wider. Most of the mills are very far from meeting a brightness target of 89 percent. Investment is also required for improving the quality of paper using better quality control systems (QCS) and distribution control systems (DCS). Rewinders, calendering, coating technologies, and material handling systems all require upgrading to bring them up to international standards. Meeting the growing needs of environmental groups and regulations will require many mills to invest in the latest pollution prevention equipment and technologies. Such productivity-related issues can create a ripe environment for investments by multinational companies, which can bring the latest technologies and expertise in paper making. New investments will also aid other players in the entire value chain, such as machinery manufacturers and chemical suppliers.

5. **Potential for plantations.** There is potential to increase tree farming by teaming with farmers. The Indian paper industry players have launched an agro-forestry initiative,²² under which they have established a close relationship with the farming community in rural India for planting trees. By 2011, this initiative brought more than 40,000 hectare under cultivation with pulp wood plantations.²⁵ As a part of the agro-forestry initiative, big players in the Indian paper industry have also set up state-of-the-art research and Development centers for developing high-yielding saplings, which are then given to local farmers and land owners every year at subsidized rates for planting on their marginal lands. In return, farmers will have access to buyers at market pricing. In the process, their nonproductive land is converted into an economic entity, including greening of arid tracts.

While the agro-forestry model adopted by the industry has helped improve plantations and augment pulpwood availability to some extent, these efforts are by no means sufficient to meet the growing need. It is necessary to have captive plantations to access raw material at cost-effective prices.

Considerations for market entry: segment, location, mode

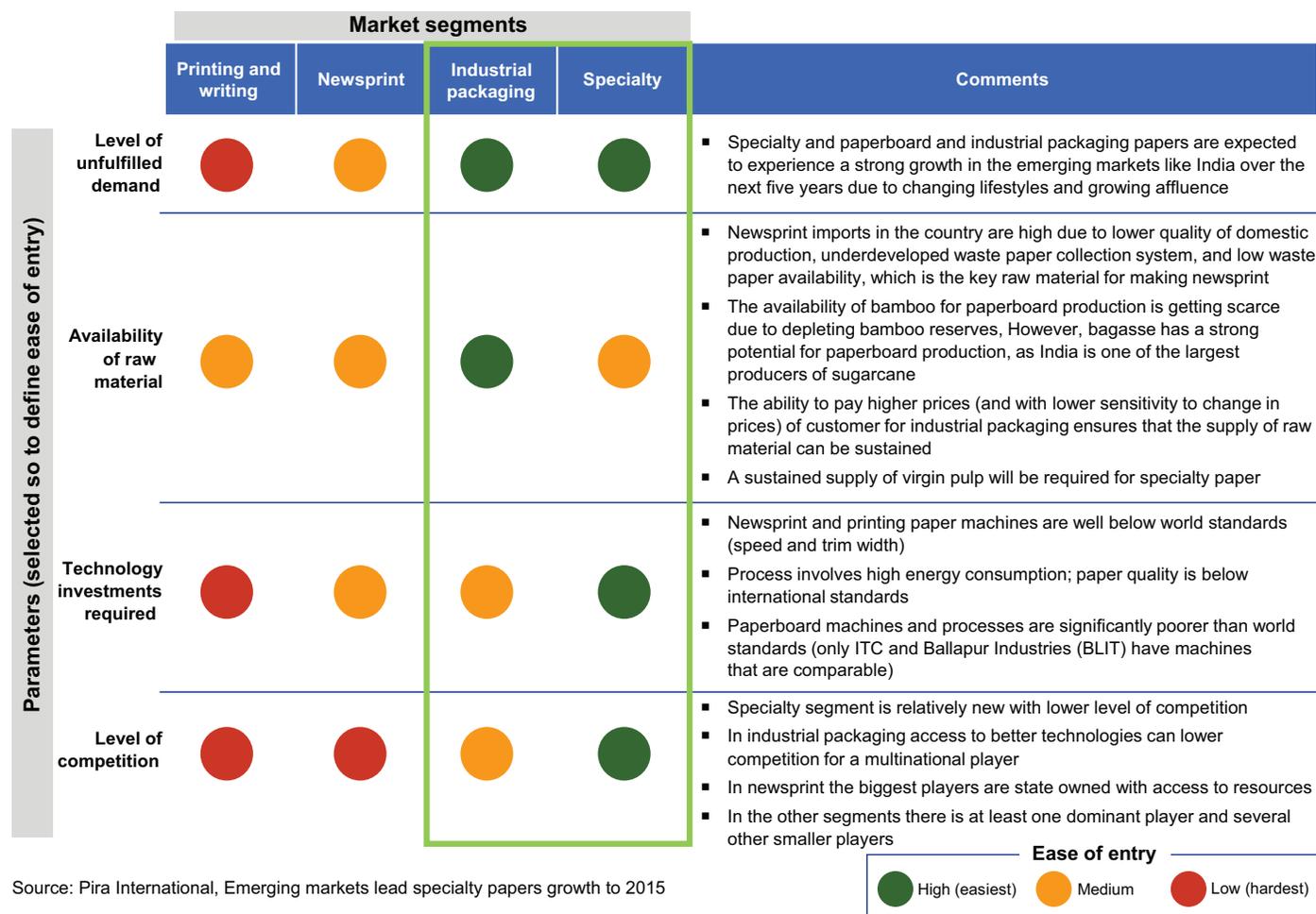


Figure 5: Analysis of ease of entry for various market segments

This report considers three factors for market entry.

1. **Segment.** The following key market segments cover most of the Indian paper market:

- Printing and writing
- Newsprint
- Paperboard and industrial packaging
- Specialty

The analysis in Figure 5 is based on identifying fast-growing market segments that are relatively easier to enter for a foreign player. Parameters selected were based on what are believed to be the key factors for ease of entry: level of unfulfilled demand, availability of raw material, technology investments required, and level of competition.

The segments were then compared to the potential growth rate.

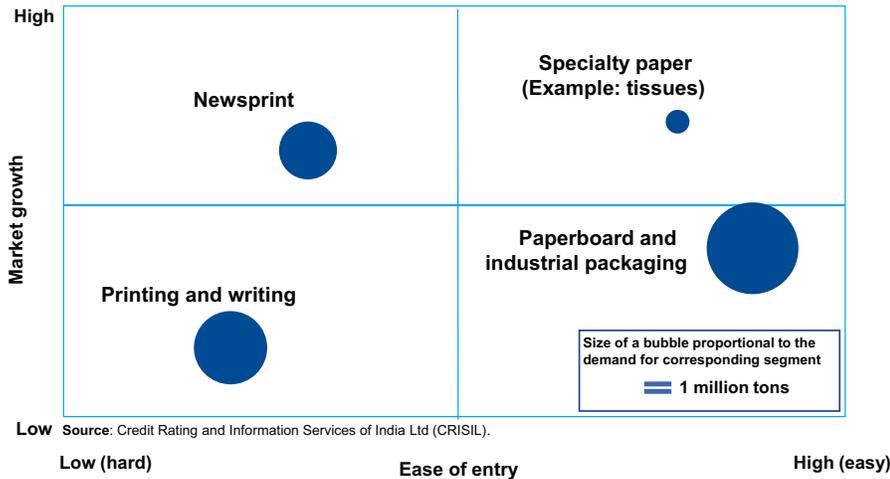


Figure 6: Ease of entry analysis across segments

The Specialty Paper market has grown at a compound rate of 7.46 percent in the last four years due to strong domestic demand.

The tissue paper industry is emerging as a new subsegment within the Specialty Paper market. It is at a very nascent stage, but is expected to grow quickly with the population's increasing affluence, education, and higher and more disposable income levels.

Paperboard and industrial packaging is the largest segment with about 46 percent of demand. It is relatively easy to enter and has good growth prospects.

2. **Location.** Since India is a vast market, it is important to understand locations that are conducive to achieving the leading possible return on investment. Two factors are dominant in determining the location of paper mills: the fact that small players in the Indian market provide acquisition opportunity and the proximity to raw materials. It is advantageous to stay close to raw

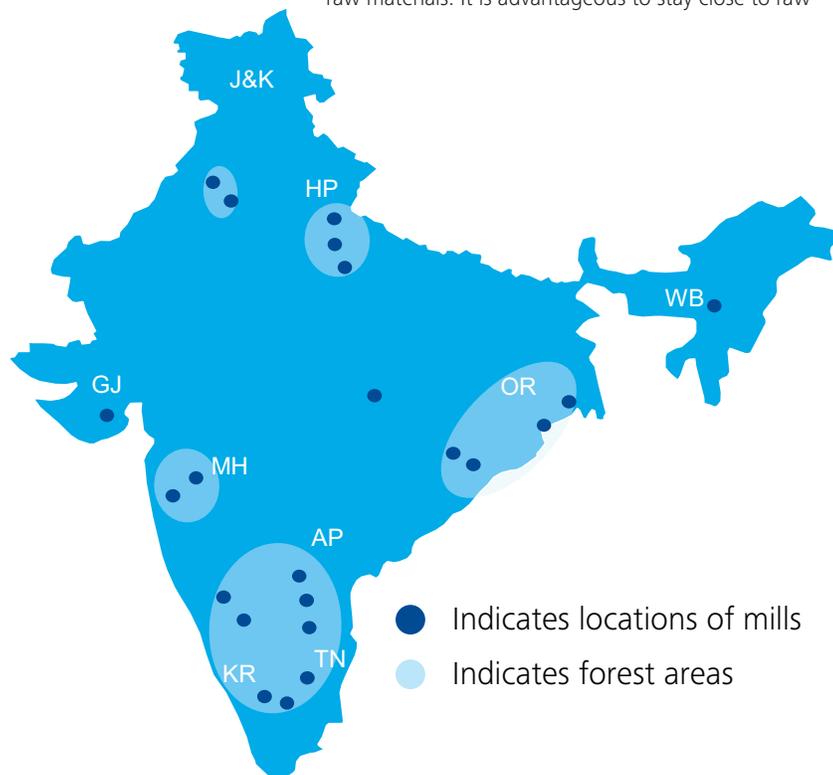


Figure 7: Concentration of paper mills

material availability due to inefficient distribution and prohibitive cost of transportation.

India's dense forest cover is in the northern states of Jammu & Kashmir (J&K), Himachal Pradesh (HP) and Uttaranchal (UA), the northeastern states (NE), the eastern states of West Bengal (WB) and Orissa (OR), and the western coastal state of Kerala (KR). The existing paper mills are in states close to the raw material. For example, BILT and ITC, the largest paper producers in India, have mills in Andhra Pradesh (AP), Maharashtra (MH), Tamil Nadu (TN), and West Bengal (WB).

States like Andhra Pradesh (AP), Karnataka (KA), Maharashtra (MH), and Gujarat (GJ) offer reasonable proximity to raw material. Additionally, these states' laws are conducive to both foreign and domestic investments. IP recently made an acquisition of a mill in Andhra Pradesh. Also, ITC has planned an expansion in the state.²⁶

WB is a natural hub for the industry due to raw material availability. However, the recent spate of events concerning land acquisition disputes with the Tatas has created an environment of uncertainty around new investments in the state.²⁷ Also, the political climate and security in certain states like J&K and the northeastern states make them undesirable for investment. Proximity to customers and/or markets and proximity to ports are the other two factors determining the location of paper mills in India.

3. **Mode of entry.** Segment and location analysis can help tackle the challenges around the supply of raw materials and the demand for finished product. However, considering that India is a large and complex market, albeit one with tremendous growth potential, the mode of entry into it is also a key success factor for a new entrant. The choice of mode of entry should be based on evaluating the tradeoffs between the risk appetite of the foreign player and the associated returns.

Figure 8 considers three modes of entry along with their associated advantages and disadvantages:

- Joint venture with an established player
- Acquisition of a major player
- Setting up greenfield operations

The analysis in Figure 8 leads to the conclusion that a new entrant to the Indian paper industry would be wise to consider acquiring an existing producer with sizeable assets. The existing producer should necessarily have a developed farm infrastructure and access to raw materials to enable an effective penetration into the Indian market.

	Joint venture	Acquisition	Greenfield
Concept	<ul style="list-style-type: none"> Equity joint venture with an established player with sizable assets (land, plantations, distribution network etc.) 	<ul style="list-style-type: none"> Purchase (complete or partial) of a major player with sizable assets similar to IP's acquisition of Andhra Mills 	<ul style="list-style-type: none"> Establishing a new operation from scratch
Pros	<ul style="list-style-type: none"> Distribution network already established Pipeline for raw materials already established Potential to increase the share in the investment later No land acquisition issues 	<ul style="list-style-type: none"> Distribution network already established Pipeline for raw materials already established Easing of regulations and allowing 100% FDI No land acquisition issues Total control of operations aligned with its global strategy Ability to phase in capital expansion 	<ul style="list-style-type: none"> Newly installed capacity will be more efficient and productive Easing of regulations and allowing 100% FDI Total control of operations aligned with its global strategy
Cons	<ul style="list-style-type: none"> Capital expansion of existing mill assets could be limited or challenging Willingness of the Indian partner to invest in capacity expansion is uncertain Challenge of exerting control over the entire operations Need to safeguard intellectual capital to prevent the partner from potentially starting a new entity at a later date Local partner might not be aligned with the global strategy of the foreign firm 	<ul style="list-style-type: none"> Could be cost-prohibitive and overvalued Capital expansion of existing mill assets could be limited due to age and poor infrastructure Legacy issues (inheriting poor plants, infrastructure, management) 	<ul style="list-style-type: none"> Land acquisition can take inordinate amount of time High political and financial risks Will take time to establish a pipeline for raw materials (plantations) Will need to establish new distribution systems

Figure 8: Analysis of modes of entry into the Indian paper market

Conclusion: enter now

The Indian paper industry is in the beginning stages of a major transformation, with key players investing in upgrading facilities and capturing market share. Though challenges and some barriers exist for entry, they may be overcome by investing in the right state and acquiring the right assets. Many policy changes being considered may ease the pain of doing business in India.

Based on entry investment criteria and current strategic considerations, multinationals in the paper industry may consider tapping into this growing market. To summarize the findings presented in this paper:

- Paperboard and printing, along with specialty papers, are the segments with the greatest ease of entry and long-term growth.
- States that are investor friendly and closer to raw materials, like Andhra Pradesh, Maharashtra, and Gujarat, are preferred locations for consideration.
- Acquisition of or a controlling stake in a joint venture with an existing player with sizable assets offers the most attractive option for entry.

Endnotes

- ¹ <http://www.kpmg.com/IN/en/ThoughtLeadership/In%20the%20interval-%20But%20ready%20for%20the%20next%20act.pdf>
- ² http://articles.economictimes.indiatimes.com/2011-06-06/news/29625978_1_ip-international-paper-practices-in-operational-excellence
- ³ <http://online.wsj.com/article/SB10001424052748704904604576334193144863006.html>
- ⁴ <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNIPC.pdf>
- ⁵ <http://www.ado.alabama.gov/content/media/publications/trade/mission/india/IND%20Paper%20112006.pdf>
- ⁶ <http://www.indiapackagingshow.com/industry.htm>
- ⁷ <http://www.tissueworldmagazine.com/11FebMar/country-report-3.php>
- ⁸ <http://www.greenpressinitiative.org/documents/StateOfPaperInd.pdf>
- ⁹ <http://papermart.in/2011/06/13/international-paper-first-company-to-enter-indian-territory-through-appm-acquisition/>
- ¹⁰ <http://www.slideshare.net/Harijan29/indian-paper-industry19902010>
- ¹¹ http://ipma.co.in/paper_industry_overview.asp
- ¹² Ibid.
- ¹³ States-Industrial disputes and labor laws, July 2010, ASSOCHAM Eco Pulse Study
- ¹⁴ <http://www.uoit.ca/sas/Labour/labour.mkt.india.pdf>
- ¹⁵ http://www.thaindian.com/newsportal/business/literacy-rises-by-92-percent-now-7404-percent_100520434.html
- ¹⁶ See note 1
- ¹⁷ <http://www.slideshare.net/jaaaspal/indian-paper-industry-presentation>
- ¹⁸ <http://www.globaltrade.net/f/market-research/text/India/Publishing-Services-Newspapers-Journals-and-Periodicals-Printing-and-Publishing-Industry.html>
- ¹⁹ <http://www.automotion.info/uploads/media/MM-E00707.502-06-07.pdf>
- ²⁰ <http://www.slideshare.net/jaaaspal/indian-paper-industry-presentation>
- ²¹ Dept. of Commerce, Govt. of India
- ²² <http://india.gov.in/allimpfrms/alldocs/16395.pdf>
- ²³ http://www.ipma.co.in/growth_pangs.asp
- ²⁴ http://www.ipma.co.in/news_events.asp
- ²⁵ http://www.worldagroforestry.org/units/library/books/PDFs/07_Agroforestry_a_decade_of_development.pdf
- ²⁶ <http://www.itcportal.com/about-itc/newsroom/press-reports/PressReport.aspx?id=1053&type=C&news=enough-untapped-opportunity-in-India>
- ²⁷ <http://knowledgetoday.wharton.upenn.edu/2011/07/landing-in-fights-over-land/>

Contacts

The authors welcome your comments and questions.

John Dixon

Deloitte Consulting LLP

jodixon@deloitte.com

Satish Damodaran

Deloitte Consulting LLP

sdamodaran@deloitte.com

Aditya Shrivastava

Deloitte Consulting LLP

adshrivastava@deloitte.com

Swati Bhatia

Deloitte Consulting LLP

swbhatia@deloitte.com

Contributors

Karan Clair

Deloitte Consulting LLP

kclair@deloitte.com

Philip Eranat

Deloitte Consulting LLP

Peranat@deloitte.com

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries. Certain services may not be available to attest clients under the rules and regulations of public accounting.