

Economical Growth and Development under Paper Industry: An Empirical Study with special references to India

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Abstract

Paper has a long history, beginning with the ancient Egyptians and continuing to the present day. For thousands of years, hand-made methods dominated and then, during the 21st century, paper production became industrialized. Indian Paper Manufacturers Association (IPMA), apex body of the Indian Pulp and Paper Industry, appreciates the pragmatic measures being taken by the Government to revitalize the health of the Indian industry and place it back on a high growth trajectory. The Indian Pulp and Paper Industry provide direct employment to 5 lakh persons, and indirectly to around 15 lakhs, and have an annual turnover of about Rs. 50,000 crores. The domestic market or consumption of paper is over 16 million tonnes per annum (TPA), with over 2 million TPA being imported. By 2024 – 25, under the baseline scenario, domestic consumption is projected to rise to 23.50 million TPA (in the optimistic scenario, consumption is expected to rise to 36.90 million TPA by 2024 – 25). While the industry has already made significant capital investments to ramp-up capacities, the gestation period is long and the economic viability of the investments are impacted significantly by availability and cost of raw materials and other inputs, and escalating imports.

Through this paper the researcher an attempt has been made to analyze the trends in the growth and development of paper industry in India.

Keywords

Pulp and paper industry, Wastage paper, Economic growth, Economic development, Supply chain management, SWOT analysis, PEST analysis

1. Preamble

The word 'paper' is derived from the Latin word from the name of the reedy plant 'papyrus' and French 'papier' (Kulshrestha: 1988). It is a web composed of vegetable fibres, roughly oriented and matted together to form sheets. Paper is made of raw material of the manufacture of paper is cellulose fibre, which is obtained from trees, recovered paper and annual vegetable fibres like cereal straws, kaolin, starch and other products are used as auxiliary materials in the paper production process.

Paper can be defined as a sheet or continuous web of material formed by the deposition of vegetable, mineral, animal or synthetic fibres or mixtures with or without the addition of other substances into liquid vapors, or gas in such a way that the fibres are intermeshed together (Kulshrestha: 1988). Paper is a material made of cellulose pulp, derived mainly from wood, rags and certain grasses, processed into flexible sheets or rolls by deposit from an aqueous suspension and used chiefly for writing, printing and drawing, wrapping and covering walls. It is a thin material used for writing upon, printing upon or packaging, produced by the amalgamation of fibers, typically vegetable fibers composed of cellulose, which are subsequently held together by hydrogen bonding. While the fibers used are usually natural in origin, a wide variety of synthetic fibres, such as polypropylene and polyethylene, may be incorporated into paper as a way of

imparting desirable physical properties. The most common source of these kinds of fibres is wood pulp from pulpwood trees vegetable fibre materials such as cotton, hemp, linen, and rice are also used.

The Indian Pulp and Paper Industry have agro forestry roots and strong backward linkages with the farming community, from whom wood is sourced, which is a key raw material. Of the total demand for wood, around 90 per cent is sourced from industry driven agro or farm forestry, with the rest from Government sources and imports. This has generated significant employment opportunities for the local community, especially in rural areas. India is a wood fibre deficient country and inadequate raw material availability domestically is a major constraint for the Indian Pulp and Paper Industry as there is no dedicated enabling policy for industrial plantation. Current demand for wood by Paper industry is about 11 million TPA, against domestic availability of 9 million TPA, and is projected to rise to 15 million TPA by 2024 - 25. Wood prices have gone up steeply, more than doubling in the last three-four years, making the Indian Pulp and Paper Industry non-competitive.

Paper industry has a special significance in the country for the educational, cultural and economic development of the people. Growing cost of raw material coupled with significant increase in fuel cost has resulted in a substantial increase in the cost of domestic manufacture of paper and paper-board. Such input price pressures, coupled with huge differential costs of fuel and energy, including logistics costs, and the high cost of capital, have made the Indian market amenable to imports, leading to underutilization of existing production capacity. Imports of paper, paper-board and news-print into India have been steadily increasing. In the last five years, imports have risen at a CAGR of 11.4 per cent in value terms (from Rs. 7,152 crores in 2010 - 11 to Rs. 12,284 crores in 2015 - 16), and 7.9 per cent in volume

terms (from 1.8 million tonnes in 2010 - 11 to 2.6 million tonnes in 2015 - 16).

Paper is more than an industrial product. It is the cultural barometer of the nation. We need paper every day for widening the frontier of our knowledge. The new millennium is going to be the millennium of the knowledge. Paper is one of the significant discoveries that turned the history of the world around. Pulp and paper constitute one of the most important segments of India's industrial economy and is treated as a basic sector. Paper pervades all sectors of our activity from book to bullets and from morning news-paper to nuclear technology. From the time immemorial, paper has played a key role in the evolution of our civilization. The importance of paper and paper product in the modern life is so obvious that no other manufactured product processes such diversity of use. It is a basic medium of communication and dissemination of information. It helps all the human beings for the growth of education, reading, writing, storing, knowledge, quality of life, culture, and other sectors of the economy. Kids to kings, all human being, are using paper either directly or indirectly. It is very difficult to imagine modern life without paper (Reddy.et.al:2003).

2. Literature Survey

"They cannot make history; who forget history".

Dr. B. R. Ambedker

Rao¹ has given a small sketch of the evolution of paper industry in India. He analyzed problems relating to raw material supply, major sources of raw materials and price regulations. As observed by him the paper industry had a good increase of production during the period when there was price control. The consumers, however, felt that there was black marketing indicating that the growth rate of production was insufficient to meet the demand. Control could also depress production because of poor profitability.

Rao² has analyzed the growth and the structural and sectoral characteristics of the industry during the Five Year Plan period. Regarding exports and imports the study finds that India is, by and large, self-sufficient in respect of requirement of paper and paper board. The ordinary varieties of printing and writing paper are not imported in any significant quantity due to the high customs duties of nearly 140 per cent and valorem. The main varieties of paper which are being imported are specialty papers. After analyzing the news-print industry he comes to the conclusion that raw material scarcity and high capital cost are the two important difficulties in setting up additional capacity. In the raw material front, he observes that though there are a number of agro-based raw materials such as cereal straws, grass, kenaf, jute, waste paper, etc... they fail to meet the requirements of the mills. These raw materials can at best be utilized to supplement conventional raw materials, but are not capable of substituting them.

A study by Naik³ has shown that there are signs of a turn-around in the fortunes of the paper industry which witnessed a steady decline for far a decade since 1979 - 80. He attributes this to the scrapping of the price and distribution control on white printing paper and a significant pick up in the demand for packaging quality paper. However, the industry is not free from problems. As observed by him there was an impressive increase in the installed capacity of the industry during the Sixth and Seventh Plan periods. The addition to new capacity during the period was far in excess of the requirements leading to a fall in the capacity utilization and a rise in the average fixed cost. Moreover, the bulk of the new capacity created is accounted for by a large number of small paper mills. Unfortunately, most of these small paper mills have been saddled with obsolete technology. Their operations have become all the more uneconomical because of inadequate availability of biogases and other agricultural residues. Not surprisingly, the performance of small paper mills has been dismal. He opines that there

is an imperative need for the government to evolve a comprehensive policy relating to the raw material requirements of the industry.

Andrew. J. Ewing⁴ has made a study on energy efficiency in the pulp and paper industry with emphasis on developing countries. The objectives of the study were to quantify the consumption of energy in the paper industries of industrialized and developing countries, to show the extent and nature of energy saving which have been achieved in the industrialized countries and to suggest some preliminary approaches to encourage the transfer of energy saving technology to the paper industries of developing countries. Ewing found that the production of paper is relatively energy intensive and industrialized countries have been measurably successful in reducing the energy consumption in paper production. The problems of the developing countries in reducing energy consumption in paper production are small plant size, the technology employed, the operational employment and the skill level of the operational management and personnel.

¹ Mahadeva Rao, K. (1983), Rape; Lndustrx in Lndia, Ph.D. Thesis, Osmania University

² Y. A. R80 (1989). Raga; Industrx in India; Status and Ennseants. Oxford & IBH Publishing Co., New Delhi

³ S. D. Naik (1990), "Not Out of Woods Yet", The Economic Times, Sept. 6, p.9

⁴ Andrew J.Ewing (1983), Energy Efficiency in Pulp & Paper Industry with special Emphasis on Developing Contries, World Bank Technical Paper No. 34, Washington.

3. Objectives

The central objective of my research study is to find out the trends in the coverage of Indian paper industry in the main-stream growth and development of paper industry and its socio-economic impact on our daily life. The objectives are –

- (a) To evaluate the growth of paper industry from past to present
- (b) To evaluate the development of paper industry from past to present
- (c) To understand the socio-economic impact of paper industry on our daily life
- (d) To understand the correlation between supply chain management and paper industry
- (e) To evaluate the paper industry with SWOT analysis and PEST analysis

4. Back-ground

The history of paper making goes back to over 2000 years while first official report on the manufacture of paper was reported in China in 105 AD. The knowledge of paper manufacturing spread westward, along with the silk and trade routes, reaching India is round 605 AD. There are about 500 kraft mills and many thousands of other types of pulp and paper mills all over the world. Pulp and paper industry is one of the oldest industries in India. With a 20 mills and installed capacity of one lakhs tonnes per annum at the time of independence the paper industry have made continuous strides and now there are about 380 mills with a production of 4.0 million tonnes. Of all the writing and drawing materials that people have employed down the ages, paper is the most widely used around the world. Its name derived from papyrus the material used by the ancient Egyptian, Greeks and Romans. Papyrus, however, is only one of the predecessors of paper that together are known by the generic term 'tapa' and are mostly made from the inner bark of paper mulberry, fig and Daphne. Recent archaeological excavations in china have revealed some of the oldest 'tapa' paper ever found which shows that paper was being produced in china before western records began.

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of year, hand-made methods dominated and then, during the 21st century, paper production became industrialized. Recent archaeological excavations in china have revealed some of the oldest 'tapa' paper ever found which shows that paper was being produced in china before western records began. Followings are the

AD 105 – In AD 105, the Chinese court official, Ts'ai Lun, (if we are to believe the chronicle recording the claim) invented papermaking from textile waste using rags. This can be considered as the birth of paper.

AD 610 – Chinese papermaking techniques reached Korea at an early date and were introduced to Japan in the year 610. In these two countries, paper is still made by hand on a large scale in the old tradition, preferably from the fresh bast fibres of the mulberry tree (koko in Japanese). Very soon, knowledge of papermaking spread to Central Asia and Tibet and then on to India. When the Arabs, in the course of their eastern expansion, neared Samarkand they too became acquainted with the production of paper and paper mills were subsequently set up in Baghdad, Damascus and Cairo, and later in morocco, Spain and Sicily.

14th Century – In the course of the rapid expansion of trade in the late middle ages, more and more merchants dealt in the commodity called 'paper' that was growing in importance for public and intellectual life. The Nuremberg councilor Ulmann Stromer (Stromeir) mulled over the advantages of making his own paper and, with the help of skilled workers from Italy, transformed the 'Gleismuhle' by the gates of his home town into a paper mill. The dates noted in his diary, 24 June 1390 (start of work on the waterwheel) and 7 and 11 august 1390 (oaths sworn by his Nuremberg foremen), are the first assured records of papermaking on German soil.

16th Century – The advantages of this mill-based papermaking technique, which spread throughout Europe in the 15th and 16th centuries: far outweighed the disadvantages of considerable outlays of time and capital

for building and fitting out with new machinery and equipment.

17th Century – Technical progress continued in the 17th century. Smoothing the sheet by hand, using a creasing knife or ‘blood stone’ was supplemented by the use of a smoothing hammer (similar to a forging hammer). Towards the end of the 17th century, a new and much more efficient beater, called a ‘Hollander’, was invented. This supplemented, or even replaced the stamping mill and further divided papermakers into two new camps.

18th Century – During the 18th century there had been some concentration of craft activities in large operations, the ‘manufactories’, which were dependent on skilled papermakers organized into craft groups. The initial model was the vat that was used by J.N.L. Robert, who built the first flat-screen papermaking machine in 1798. This was further developed in England, mostly by Donking and the Fourdrinier brothers.

19th and 20th Century – The history of the paper industry in the 19th and 20th centuries can be broken down into following five partly overlapping periods, each marked by definite trends. *In the first stage (from about 1800 to 1860)*, all work sequences previously performed by hand were mechanized. *During the second stage (about 1840 to 1880)*, efforts were made to obtain rag substitutes on an industrial scale (ground wood pulp and chemical pulp) and appropriate industrial plants (ground wood and chemical pulp mills) were developed. *The third stage (1860 to 1950)* was marked by the enlargement of the web width, an increase in working speeds, the introduction of electric drive and further improvements to various machine parts. *The fourth stage (1950 to 1980)*, which was still dependent on the old methods as far as the mechanics were concerned, brought unprecedented changes in papermaking. *The fifth stage* leads into the future. The evolution of new sheet-forming principles (with fluid boundaries between paper and non-woven fabrics) and chemical pulp processes have been the main process improvements. *During the 20th Century* machines

were designed specifically for the production of particular paper and boards. New materials and chemicals were introduced into the process and automation occurred. New sheet forming principles and chemical pulp processes also evolved.

21st Century & its beyond – Paper is an amazing product: it is renewable, clean and incredibly versatile. It continuously offers new possibilities, applications and end-uses. Paper can be impregnated, enameled, creped, waterproofed, waxed, glazed, sensitized, bent, folded, twisted, crumpled, cut, torn, dissolved, molded and embossed. Who knows to what uses it will be put in the future?

5. Global Paper Industry

The global paper and paper-board industry is dominated by North America, Europe and Asia. Global paper and paper-board production stood at around 380 million tons in 2008, the US leading with over 100 million tons and accounting for nearly a third of the world’s production. It is expected to increase to 392 million tonnes by 2010 and 490.0 million tonnes by 2020. With a large number of paper production capacities shutting down in North America and growing capacity creation in Asia (especially China), the latter accounts for over a third of global paper production, while Europe and North America account for about 30 per cent and 25 per cent respectively. Interestingly, even as per capita paper consumption in the US is 300 kg, it is 35 kg in Asia, implying excellent growth prospects. The global pulp and paper industry consists of about 5000 industrial pulp and paper mills, and an equal number of very small companies.

The global paper consumption in F.Y. 2000 was approximately 325 mn tonnes. Writing and Printing segment accounted for 32 per cent of the global paper consumption while Packaging, Tissue and Sanitary and Newsprint accounted for 50 per cent, 6 per cent and 12

per cent respectively. The US is the largest market for paper product and commands high per capita consumption. Asia's main markets are China, Japan, India, Malaysia, Singapore and Thailand. In 2005, Japan had the highest per capita consumption (247 kg),

followed by Singapore (228 kg), Malaysia (106 kg), Taiwan (51 kg) China (42 kg), Indonesia (22 kg) and Philippines (16 kg). India's per capita consumption is estimated to be as low as 7.0 kg in 2006.

Figure 1: Paper and Paperboard Production in Global Market



Source: www.google.com

Paper demand is unevenly distributed as 72 per cent of the world's paper is consumed by 22 per cent of the world's population in the US, Europe and Japan. The world demand for the material is expected to grow by around 3 per cent annually, reaching an estimated 490 million tons by 2020, with significant growth coming out of Asia and Eastern Europe. Asia dominates the demand for paper and paperboard; consumption increased at a CAGR of 7 per cent across 2003 - 08. China is now the world's second-largest household paper consuming nation. The global paper demand has turned very sluggish. The excess supplies globally are being dumped into various countries, including India. This dumping of paper is affecting the Indian paper sector, which is in the midst of massive capacity additions. The annual global paper and paperboard production was approximately 382.0 million tonnes in 2006. It is expected to increase to 392.0 million tonnes by 2010 and 490.0 million tonnes by 2020.

6. Indian Paper Industry

In India, first machine made paper was manufactured in 1812. During this time were 15 mills with a total production of lakh tones. In India the soft-wood is the principal raw material used for making paper especially news-print and high-class printing papers. With rise in population and broadening of education the demand for paper has been constantly escalated. Owing to very narrow forest resources wood pulp is in a shortage. As soft-woods grow in temperature climate India is in short supply of such woods. Thus, in such circumstances the Bamboo became the major raw materials for the manufacture of paper in the country as it grows very quickly even after cutting. Paper industry in India is mainly plantation based and is essential that more land must be brought under plantations of eucalyptus and other trees apposite for the making of papers. The paper industry also requires huge amount of soft water and

paper utilized for news-papers is called news-print. Its requirement is bound to grow noticeably. The Neapanagar news-print plant in Madhya Pradesh was set-up to meet these aforementioned demands. The capacity of Indian paper industry has been raised to 75,000 tonnes a year. West Bengal and Maharashtra are the leading states for the industry. The total news-print production has now reached well over 4,00,000 tonnes. A large number of expansion programmes and expansion of capacities with an outlay of Rs. 10,000 crores have been announced covering the various sectors like paper, paper-board, news-print etc... Indian paper industry is a vast industry comprising more than 157 paper producing divisions all over India. These 157 functional units manufacture hand-made paper worth around Rs. 21 cores and provide employment to approximately 10,000 people. Sanganeer village is the biggest centre in western India humming on the rhythm of the sound of paper making activities.

6.1 Brief Intro

Industries in the paper manufacturing sub-sector make pulp, paper, or converted paper products. The manufacturing of these products is grouped together because they constitute a series of vertically connected processes. More than one is often carried out in a single establishment. There are essentially three activities. The manufacturing of pulp involves separating the cellulose fibers from other impurities in wood or used paper. The manufacturing of paper involves matting these fibers into a sheet. Converted paper products are made from paper and other materials by various cutting and shaping techniques and include coating and laminating activities. The paper manufacturing sub-sector is sub-divided into two industry groups, the first for the manufacturing of pulp and paper and the second for the manufacturing of converted paper products. Paper making is treated as the core activity of the sub-sector. Therefore, any establishment that makes paper (including paper-board),

either alone or in combination with pulp manufacturing or paper converting, is classified as a paper or paper-board mill. Establishments that make pulp without making paper are classified as pulp mills. Pulp mills, paper mills and paper-board mills comprise the first industry group.

India is not just the second most populous market for paper in the world. It is also the most demanding. Indian paper industry not only serves a public utility but fulfils a critical national requirement. It possesses an annual production capacity of five million tones. It generates an annual turnover of approximately 120 billion. It directly and indirectly employs nearly 1.3 million people. The Indian paper industry has been historically divided on a three dimensional matrix identified by size, grades manufactured and raw material utilized. Generally, tariff rates have protected smaller units utilizing 'unconventional' raw material. Over the years, the growth of various segments, investments levels in specific segments, technological changes, industry fragmentation and intensity of competition have been significantly influenced by the Government tariff policy. The present Excise duty on Paper is 12 per cent. The Government of India from time to time has given some benefits to small industries in order to protect them i.e. the first 3500 tons produced by a mill is chargeable only @ 8 per cent and thereafter it is @ 12 per cent.

Indian paper industry has created sustainable livelihood in rural areas and has helped generating employment for the local population especially for women earn their livelihood. The Indian paper industry has emerged as a diversified and specialized industry that produces numerous types of papers that comes in various use as watermark, filter-paper, drawing-sheets etc... Other products including paper-bags, paper-diaries, paper photo-frames, greeting cards, hand-made paper boxes, paper-albums etc... are manufactured and exported

across the world. Today, the Indian exporters export nearly Rs. 400 crores worth of paper products per annum to the developed nations.

The Rs. 25,000 crore Indian paper industry accounts for about 1.6 per cent of the world's paper and paper-board production even though the country accounts for nearly 16 per cent of the global population. The Indian paper industry's market size has been estimated at Rs.321 billion, growing at a CAGR of 10.5 per cent from around Rs. 195 billion in 2003-04 to Rs. 321 billion in 2008-09. In 2009-10, the country produced 9.18 million tons of paper, growing at an average 6-7 per cent compared with 2 per cent growth in developed countries. The paper industry growth is forecast at 8.4 per cent annually, touching 11.5 million tons in 2011-12 and 15 million tons by 2015. In India, paperboard accounts for nearly 47.3 per cent of the total market size, followed by writing and printing paper (29.6 per cent), newsprint (19.5 per cent) and specialty paper (3.6 per cent) according to CRISIL Research.

Under the India ASEAN FTA, import duties on paper and paperboard have been progressively reduced, and from a base rate of 10%, the basic customs duty came down to nil rate with effect from 01.01.2014. As per the FTA entered into with South Korea, there is progressive reduction in basic customs duty and it will be 0% in the year 2017. The pulp and paper industry has made substantial investments in the last 5 years and it is becoming very difficult to meet its financial obligation in view of significant drop in margins. 2/3 paper mills have already been closed and if no urgent steps are taken, it is feared that some more mills may face closure, impacting the employment of many. As things stand today, there is a very serious threat of existing investments in capacities turning economically unviable. Given this state of affairs vis-à-vis existing investments, it is quite likely that industry will be discouraged from further investments in

capacities which are necessary to meet the expected growth in domestic demand for paper and paperboard. The inevitable consequence of a fall in investments will be a multiplier adverse impact on the Indian farmer community with whom the industry has strong linkages and a significant outflow of foreign exchange towards increased imports of paper and paperboard. This will be against the Hon'ble Prime Minister's initiative of 'Make in India'.

Domestic industry has invested huge amounts in the recent past to upgrade and implement clean technology, product quality, farm forestry, etc... and more investments are in the pipe line. Such large investments cannot and should not be jeopardized by allowing imports at concessional or nil rates. The Government should support the industry that has strong backward linkages with the farming community and significantly contributes to the national objective of bringing 33 per cent of land mass in India under tree cover, while also enhancing the revenue generation sources to the Government. In order to provide a level playing field to the domestic industry, paper and paper-board should be kept in the Negative List i.e., no preferential treatment while reviewing the existing FTAs and formulating new FTAs. There is no denying of fact that the Indian pulp and paper industry has the potential to play an important role in meeting the national objectives of the Government education, literacy, and employment generation that too in the rural areas. IPMA has, therefore, only highlighted a few critical issues below and trust that our submissions put forth for consideration in the Union Budget (2017-18) will merit serious consideration of the Government.

6.1.1 Market Capitalization

The Indian paper industry has the top 15 global players with an output of more than 6 million tonnes annually with an estimated turnover of Rs. 1,50,000 millions.

Indian paper industry is riding on a strong demand and on an expanding mood to meet the projected demand of 8 million tonnes by 2010 and 2013 million tonnes by 2020.

6.1.2 Size of the Industry

Indian paper industry accounts for about 1.6 per cent of the world's production of paper and paper-board. The estimated turnover of the industry is Rs. 25,000 core and its contribution to the exchequer is around Rs. 2918 core. The industry was delicensed effective from July, 1997 by the government of India and foreign participation is permissible. Most of the paper mills are in existence for a long time and bamboo fiber 30 per cent from agro waste and 30 per cent from recycled fiber. News-print and production paper consumption account for 2 million tonnes of which 1.2 million tonnes of news-print paper is manufactured in India and the remaining 0.8 million tonnes is imported.

6.1.3 Total contribution to the economy or sales

Demand of paper has been around 8 per cent and during the years 2002 to 2007 while news-print registered a growth of 13 per cent and writing & printing. Container-board, Carton-board and others registered growth of 5 per cent, 11 per cent, 9 per cent and 1 per cent respectively. So far, the growth in paper industry has mirrored the growth in GDP and has grown on an average 6 to 7 per cent over the last few years. India is the fastest growing market for paper globally and it presents an exciting scenario and paper consumption is poised for a big leap forwarded in sync with the economic growth and is estimated to touch 13.95 million tons by 2015-16. The futuristic view is that growth in paper consumption would be in multiples of GDP and hence an increase in consumption by 1 kg per capita would lead to an increase in demand of 1 million tons.

As per industry estimates, paper production is likely to grow at a CAGR of 8.4 per cent while paper consumption

will grow at a CAGR of 9 per cent till 2012-13. The import of pulp and paper products is likely to show a growing trend. During last few years, the Indian paper market witnessed a five-fold jump in the import of coated paper. The total import of this paper rose to 10,000 tonnes in 2008 from 2,000 tones.

6.1.4 Employment Opportunities

The industry provides employment to more than 0.12 million people directly and 0.34 million people indirectly. Some of the paper products are sheet paper, paper boxes, tissues, paper bags, stationery, envelopes and printed paper products likely books, periodicals and news-papers. Specialty papers like sand paper, blue-print paper, carbon paper are not a part of paper products industry. Stationery includes greeting cards, printing and writing papers, school and office papers etc... The toiletry products include paper towels, tissue paper and bath tissue.

6.1.5 Latest developments and growths

- Indian paper and news-print industry has a huge potentials and prospects in coming future. In our country, demand for paper and newspaper is rapidly increasing. There are vast demands in the area of tea bags, filter paper, tissue paper, medical-grade coated paper, lightweight online coated paper etc...
- Indian paper industry is one of the underestimated industries for quite some time because India's per capita consumption of paper is just about 5 kg. whereas, it is 337 kg in North America, 110 kg in Europe and 30 kg in China compared to this scenario India's per capita consumption is one of the lowest in the World.
- The Rs. 22,000 crore paper industry in India, rated 15th largest in world engages about 1.5 million people with the help of Rs. 2,500 crore

government subsidy. Government has given paper industry as one of the 35 high-priority lists.

- Indian hand-made paper industry is a vast industry comprising more than 157 hand-made paper producing divisions all over India. These 157 functional units together manufacture paper worth around Rs. 21 crores and provide employment to 10,000 people.
- Domestic consumption move up by 6.40 lakh tonnes to 9.70 lakh tonnes, a CAGR 14.9 per cent while import went up by 12.50 lakh tonnes to 16.75 lakh tonnes a CAGR of 10.30 per cent.

Paper mills in India have reduced debt over the past few quarters and reported good financials in the quarter ended September. Probably, (stock) traders have noticed now the overall improvement in top line and bottom line. Based on financial performance, overall sentiment in the paper sector is positive. Paper companies have reported growth in profitability over the past few years, with reduction in debt to equity ratio to 1:1 for financial year 2017, compared to 1:6 for financial year 2015. Similarly, their debt and EBITDA (operating earnings) ratio fell to 3 for FY - 17, from 5.6 in FY -15. This indicates their financials have improved over the past three years. The trend is likely to continue.

7. Growth Drivers

Growth drivers play an important role in the appraisal of any industry. Keeping in mind the significance of growth drivers, in the following pages, an attempt has been made to study the major growth drivers of paper industry.

Economic Growth: The Indian economy is expected to grow at 8.5 per cent in 2010-11 and 9 per cent in 2011-12. With the fundamental strengths and strong advances in private consumption and investment in next two years, the economy growth is projected at 10 per cent in 2011-

12. Moving forward, India's GDP is set to quadruple over the next ten years and the country is likely to be a USD 4 trillion economy by 2020. According to the Economist Intelligence Unit (EIU), the research arm of London-based Economist magazine, India is expected to overtake China to become the world's fastest growing economy by 2018.

Increasing Literacy and Government Thrust on Education:

The literacy rate in the country has increased from 18.33% in 1951 to 65.38 per cent in 2001. Thus, in five decades, the literacy percentage had grown by 47.05 per cent or by an average of 9.41 per cent per decade. The implementation of the Right of Children to Free and Compulsory Education Act, 2009, which assures free school facilities from Class I to VIII for children between 6 and 14, translates into a huge demand potential for the paper industry. The estimated numbers are bound to be huge as the law will bring on school rolls over one crore students who do not go to school now. Going by the thumb rule that each student uses about 10 kg of paper a year, enrolment of over one crore students will mean an additional demand for about one lakh tonnes of paper. The academic segment demand is growing by about 10 per cent annually as the student population and paper usage increase. The Government's existing 'Sarva Shiksha Abhiyan' programme for education for all seeking compulsory education would contribute significantly to increasing the per capita consumption of paper. The Government has increased the budget allocation for school education by 16 per cent from Rs. 26,800 crore in 2009-10 to Rs. 31,036 crore in 2010-11. Further, the additional fund allocation to states amounting to Rs.3,675 crore for elementary education under the Thirteenth Finance Commission grants for 2010-11 will provide more fillip to the demand of printing and writing paper.

Urbanization, Changing Demographics: Urbanization is an inevitable part of a country's economic evolution. Indian cities are home to an estimated 340 million

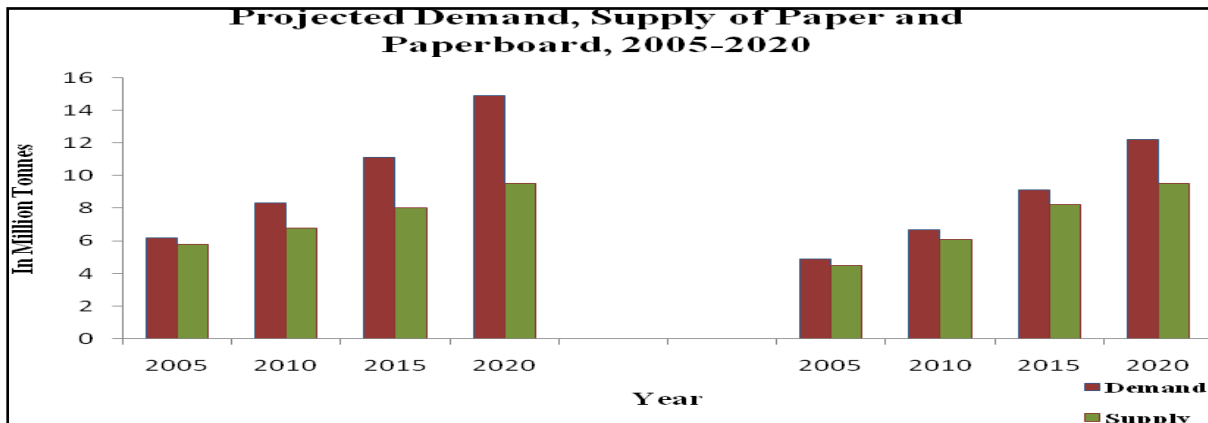
people, or 30 per cent of the population. It is estimated that India's population will reach 1.47 billion with around 40 per cent urbanization. That means close to 590 million will be living in cities which are nearly twice the population of the USA today. This will be the fastest addition to the urban population of any country in history outside China, according to a study by the McKinsey Global Institute (MGI). Unlike other countries grappling with aging population and rising dependency ratios, India has a young and rapidly growing population. It is estimated that nearly 180 million new job seekers will enter India's work force over the next two decades.

Increasing Consumerism: The MGI report estimates that India's middle class is expected to increase by more than ten times from its current size of 50 million to 583 million people by 2025. And over 23 million Indians (more than the present population of Australia today) are expected to be counted as billionaires. By 2025, it is forecasted that India will become the 5th largest consumer market, surpassing Germany. Higher urbanization and consumerism have been the key drivers for the structural changes in India. The increasing disposable incomes and lifestyle changes have changed the consumer outlook and preferences providing a growth thrust to the economy. Further, it is estimated that the gross domestic savings in India would grow by 3.8 times from Rs.19 trillion in 2009 to Rs.72 trillion by the end of the next decade. This increased savings could lead to a huge surge in domestic consumption expenditure which is set to triple from Rs. 30 trillion in 2009 to Rs.113 trillion in 2020. Thus, India's large and growing domestic market with increasing purchasing power and consumerism, are strong growth drivers for the paper industry.

Service Sector Thrust: As the economy develops on the back of growth in real sectors like manufacturing, industrial production, agriculture, etc., it is supported by ancillary services like banking and insurance from the financial services sector. Other critical services which are expected to grow along with the forward march of the economy are education, healthcare, recreation and IT services. The growth in the service sector propels demand for office supplies. To provide an illustration: It is estimated that for every candidate an IT company recruits, paper manufacturers sell over five reams, about 2,500 sheets, of copier paper directly related to the recruitment process in the form of letters, instructions and training manuals. Backed by demand from the service sectors, the copier paper market is expected to grow at 14 per cent over the next few years.

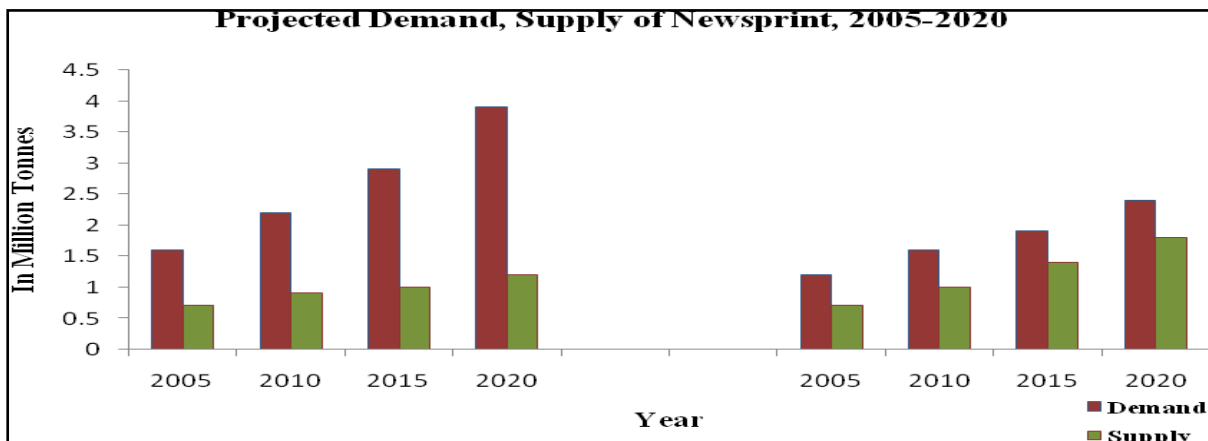
Printing Industry: The fast growing printing industry and increasing focus towards niche sector magazines are the other factors driving growth for paper industry. With a readership base of over 250 million readers, India is the second largest print market in the world. Long term prospects for growth remain favourable as there is a population of approximately 359 million who are literate but do not currently read any publication in India. Revenues from newspaper publishing are expected to grow at CAGR of 9.1 per cent over the next 5 years and are projected to reach Rs. 245.4 billion by 2013. The magazine publishing segment is expected to grow at a CAGR of 8.1 per cent over the next 5 years and is projected to reach Rs. 20.5 billion by 2013. The low cost base of Indian printing industry is attracting many outsourcing projects from the foreign publishers and hence it is expected to grow at a CAGR of 15 per cent over the next few years thereby fuelling further growth in the paper industry (Annual Report of WCPM: 2010).

Figure 2: Projected demand, supply of paper and paperboard, 2005 to 2020



Source: www.google.com

Figure 3: Projected demand, supply of news-print, 2005 to 2020



Source: www.google.com

8. Policy taken by Government

8.1 Customs Duty

- Retention of Peak Rate of Customs Duty on Paper and Paperboard
- Increase in Applicable Rate of Customs Duty on Newsprint
- Exemption of SAD on Import of Pulp and Other Inputs by the Paper Industry

8.2 Central Excise Duty

- Reduction in Applicable Rate of Excise Duty on Toilet or Tissue Paper and Paper and Paperboard, coated, impregnated or covered with plastics, excluding adhesives

- Make the Clean Energy Cess levied on Coal, if used for Power Generation, Cenvatable

8.3 Goods and Services Tax (GST)

- Concessional (Merit) Rate of GST on Paper & Paperboard Industry
- Local Body Tax, Entry Tax and Transit Fee should be subsumed under GST

8.4 Direct Taxes

- Surcharge @15 per cent is levied where the total income exceeds Rs. 1 crore. This needs to be revisited and abolished.
- Brought Forward Loss or Unabsorbed Depreciation - Section 115 JB: Clause (iii) of Explanation 1 of Section

115JB provides that brought forward losses or unabsorbed depreciation whichever is less as per books of accounts should be reduced from the net profit to arrive at the book profit. The clause needs to be revisited and total loss including depreciation should be allowed.

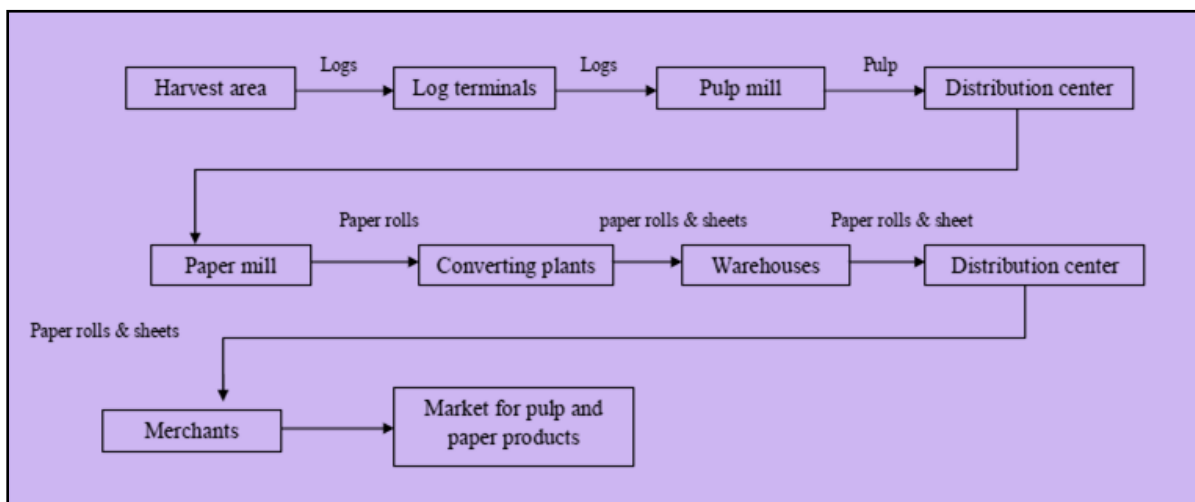
8.5 Service Tax

‘Swachh Bharat’ Cess and ‘Krishi Kalyan’ Cess being levied @0.50 per cent of the total value of the service, should be reviewed and withdrawn.

9. Supply Chain Management of Paper Manufacturing Industry

The pulp and paper industry depends on a long and integrated supply chain. It starts in forest harvest areas as trees and ends as multiple products used in all persons daily usage. The lead time from the first step to the last is long and it involves many steps operated many more several companies and organizations. The following diagram shows the supply chain management of the paper manufacturing industry.

Figure 4: Supply Chain of Paper Manufacturing Industry



Source: www.google.com

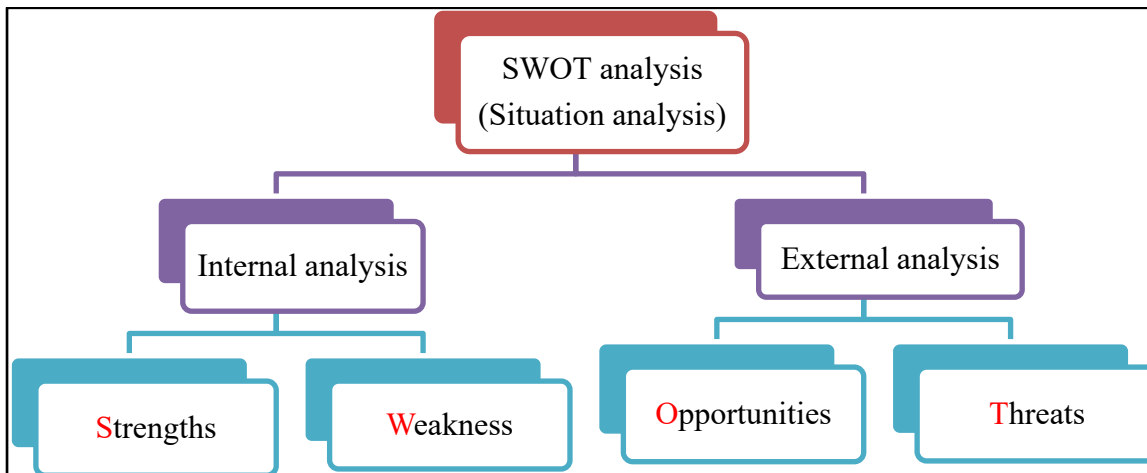
10. Methodology

The present study is secondary in nature. I do not attempt has been made to include any statistical data in this investigation. The data used for the study has been collected from Books, Magazines, Newspapers, Research Articles or Papers, Journals, E-Journals Reports, Books, and on-line data bases. For that, I have used different websites. On the basis of previous very few research documents on this kind of particular topic, the researcher makes here two types of analysis respectively SWOT analysis and PEST analysis.

8.1 SWOT analysis

SWOT analysis is a simple framework for generating strategic alternatives from a situation analysis. It is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities and Threats involved in a project or in a business venture. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieving that objective.

Figure 5: Snap-short of SWOT analysis



Source: Author

(a) Strengths of paper industry

- Large and growing domestic paper market
- Non wood pulping
- Well developed printing industry
- Increase in employment level
- Latest technology for high
- Local market knowledge
- WTO impact on paper manufacturing industry

(b) Weakness of paper industry

- Small and fragmented industry
- Low standard of converting industry
- Un-economic size and obsolete technology in many mills
- Low availability of forest raw materials and poor forest management
- Too many administrative hurdles, tedious bureaucratic methods
- Decolourisation and detoxification
- Poor infrastructure, transportation, productivity, instrumentation, recycling of waste paper
- High cost of fibrous raw materials, energy, labour, production, chemical and finance
- Recovery of chemicals from agro-based black liquor

➤ Obsolescence of technology

- Impact of high local taxes
- Air pollution problem
- High energy consumption

(c) Opportunities of paper industry

- Increase in demand and consumption
- Forest plantation potential
- Increase in various usage of paper
- Increase in consumption of premium quality copier due to growth in corporate sector and educational levels
- Export potential
- Low labor cost

(d) Threats of paper industry

- Internet threat
- Low per capital consumption
- Decline in capacity due to environmental pressures
- Fiber Deficit
- Lack of international perspective in project development and implementation
- Low Capacity Addition / Expansion

- Growth in Chinese paper and threats of cheap import
- Competition from existing players

After seeing the SWOT analysis we had come to know about the strength, weakness, opportunity and threat of the paper Industry. Now a day's paper industry is in high demand because paper is use in various purposes. Though there is increase in IT Company where all work are done in electronic form, but same time the use of paper in going on increasing day by day. Apart from this there are various competitors increasing but it has been seen that those company which has good quality paper has no problem in their sales company like JK Paper Company.

8.2 PEST analysis

A scan of the external macro-environment in which the firm operates can be expressed in terms of the following factors: PEST is shorthand for a list of macro-economic factors that are,

- ✓ Already; or
 - ✓ May, at some time in the future, affect your business
- 'macro-economic' is a fancy way of describing those external factors which will or may affect your business but over which your business as no control. Those factors are grouped under the following hidings;

- ✓ Political
- ✓ Economic
- ✓ Social
- ✓ Technological

The factors that you would include in your list will depend on the nature and size of your business.

(a) Political factors

- Government has completely de licensed the paper industry with effect from 17th July, 1997. The entrepreneurs are now required to file an Industrial Entrepreneur Memorandum with the Secretariat for Industrial Assistance for setting

up a new paper mill or substantial expansion of the existing mill in permissible locations.

- Accelerated depreciation to partially mitigate high capital intensity. Allow duty free imports of new & second hand machinery/equipment for Technology Up gradation.

(b) Economic factors

- Manufacturing of paper and thousands of other paper related commodities contributes immensely to the economic growth of India.
- One of the major impacts of Green rating projects has been the setting of AOX standard for the pulp and paper sector. Before GRP, this parameter was neither monitored nor regulated in India. The result was very high chlorine consumption and very high oreorgano chlorine emissions from the India paper industry. Today, pollution control authorities strictly regulate AOX emissions and paper companies now regularly monitor their AOX loads.

(c) Social factors

- Transparent extrapolation between our quality discipline and customer delight, so that each workman recognizes the inseparable role of quality in every batch of paper.
- A continued focus on enhancing manpower productivity to bring it at par with industry norms. A slew of initiatives and best practices are being implemented in this direction to meet upcoming global challenges in the post WTO era.
- Redefined the dynamics of the paper industry by moving the traditional transaction-based sales system to a relationship-based model.

(d) Technological factors

- Annual speed increase of fastest machines in the world is about 50 m/min. When the paper machine is designed for highest speed then the product quality and machine run ability are also excellent.
- All grades have today very high speeds. Upgraded second hand machines are not viable anymore, because they are always too slow compared to new machines.
- New machines should have as high speed as is possible to be built mainly in India. This has been made in China and the capacities of those machines are about half of the international maximum capacity.
- Estimated technology level of best Indian production lines is about 30 years behind the best lines in Europe. Best lines in China are only some years behind the international top level.
- There are only some twin wire machines in India. Best roll and blade gap formers improve paper quality and drainage, which are important for paper made of Indian raw materials.
- Efficient management of depleting resources with sustainable forest productivity through improved resource planning, better plantation technique, good harvest management.
- Conservation of natural resources.
- New drying concepts include web supported run with vacuum pick-up to dryer section and single-tier dryers. Hood is closed and there are efficient air and infrared dryers.
- Better environmental management for reducing or eliminating toxicity.
- Odorless mill.
- Improved cleaning efficiency, runnability, product appeal.

As per the above factors included in political, economical, sociological and technological, it can be said

that all the factors are having more impact on the paper manufacturing industry which increases the stress on the existing players, more control on the standards application for further growth as well as increasing the competition among the rivals at the domestic level.

11. Managing Risks at Papers Industries

Risks are integral to business. At papers industries, risk management encompasses an organized and coherent process of identifying, assessing and managing the existing and potential risks in a planned manner. The management strives hard to balance business risks and opportunities and analyze potentially negative or positive outcomes.

11.1 Business Environment Risks

Competition as well as supply-demand imbalances in the paper, packaging and wood product industries which are mature, capital-intensive and highly competitive impact profitability. Economic cycles and changes in consumer preferences may reduce product demand and affect profitability. The ability to respond to evolving customer tastes and develop new products on a competitive basis entails continuous market and end-use monitoring. Increased input costs comprising energy, fibre, other raw materials, transportation and labour might dent profits. Securing access to low-cost supplies and proactive management of costs and productivity are of fundamental importance.

11.2 Business Development Risks

Business development risks are mainly related to the Company's strategy and also include risks related to the supply and availability of natural resources, raw materials and energy.

11.3 Raw Material Risks

Non-availability of fibre may disrupt the supply chain, forcing the Company to pay higher prices or alter manufacturing operations. The primary raw materials consumed by the Companies are bagasse (a by-product of sugarcane), wheat straw and other long-fibres like softwood, old gunny and kraft carrier board etc.

11.4 Human Resource Risks

A talented and hardworking human pool is the key to the success at Papers industries. The Company evaluates the competence of its personnel through surveys and other assessments. Structured programmes are conducted to train employees and an annual succession planning Process hedges against attrition.

11.5 Climate change Risks

To mitigate the effects of climate change, Paper industries seeks opportunities to reduce its carbon footprint. The Company implements clean, affordable and safe energy practices required for the production, transportation and reduction of energy consumption. Additional measures include energy-efficiency initiatives, use of carbon-neutral biomass, utilization of combined heat and power and sequestration of carbon dioxide in forests and forest products.

11.6 Market Risks

Risks related to demand, price, competition, customers, suppliers and raw materials are regularly monitored and evaluated to get a perspective of the Company's profit-making potential. Cyclical product prices are affected by changes in capacity and production in the industry. Customer demand for products, which also determine prices, is influenced by economic conditions and inventory levels.

11.7 Financial Risks

Financial risk management insulates against fiscal volatility. The objectives and principles are defined in the Company's financial risk policy, which is regularly reviewed and approved by the Board of Directors. Besides, compliance is monitored by internal controls and audits.

11.8 Information Technology Risks

In a business environment information is necessary to support business processes the development of new IT infrastructure and monitor IT processes continually. These activities reduce risks related to internal control and financial reporting, besides promoting informed decision making.

12. Limitations

Due to time constraint this research review empirical study has been made on the basis of previous data i.e. secondary data. Those research gaps are huge and to be helped the future researcher when research on this topic. This study may be up-dated and redesigned by considering the latest available data. There is a lot of scope for further researches on this issue by considering other factors which I have not considered in my present empirical study, it would have been more. However, all possible effort has been made to make the study successful.

13. Epilogue

Pulp and paper industry constitutes one of the important segments of India's industrial economy. Since independence, Indian paper industry has been growing in terms of number of units, installed capacity and output. However, those developments have been at the cost of efficiency. That is to say, though the installed capacity and production have increased, the capacity utilization has shown a declining trend, particularly in the paper and

paper board sector. Thus, there has been a great deal of inefficiency in resource use in Indian paper industry.

[6] www.google.co.in

While we still have much to learn, and there is room for further progress, it is not only possible, but it is in the papermaker's own economic interests to produce permanent/durable paper. Such paper can reasonably be expected to last several hundred years instead of the twenty-five to fifty years for modern acidic book paper. There is thus no excuse for producing books and other publications of lasting importance on anything other than paper meeting existing standards for permanence and durability. There is reason to hope that this will finally happen. It is up to every librarian, publisher and paper consumer to insist that it does and to use whatever influence we have to speed this process.

Thus, after having discussed a detailed account of growth and development of Indian paper industry and the researcher also shows that, economical performance of our India under paper industry. The researcher moves on to the main task i.e., performance appraisal of paper mills in India. In the next research on this topic, our aim would be to make survey with primary research of top 10 selected sample paper mills.

14. Some Selected References & E-References

- [1] Arthur A. Thompson, A. J. Strickland, John E Gamble, Arun K. Jain (2009). *Crafting And Executing Strategy*. New Dehli Prentice – Tata McGraw-Hill Publishing Company Limited
- [2] West Coast Paper Mills Limited “Annual Report 2010”
Retrieved From: <http://www.westcoastpaper.com>
- [3] Paper Industry “*Introduction on Paper Outlook Industry*”
Retrieved From <http://www.economywatch.com>
- [4] Business Standards, IPPTA J, Vol. 22, No.3 July –Sep, 2010, p
- [5] Youngdahl, W. E. (2000). *Global Supply Chain Management*, 60–82. John Wiley & Sons, Inc., Toronto, Canada