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Can the European printing paper industry be competitive in the future?

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Abstract: The European printing paper industry is facing several challenges. They are rather structural than operational by nature. Perhaps the largest challenges arise from consumers' future media behaviour and choices, ability to innovate beyond the traditional borders and with new partners, and from future energy efficiency and solutions but there are several others. Seven competitive solutions for the European printing paper industry are proposed: teaming up with customers and advertisers to innovate and develop new products; creating cross-scientific teams to develop new materials; starting to utilize sensory properties of paper to support branding; utilizing the full potential of nanotechnology, biotechnology and ICT to develop new products with additional functional properties; opening up to other industries to learn and exchange best practices; encouraging strategic innovations; and proactively communicating sustainability aspects to the general public.

1. Introduction

The paper industry, the European printing paper industry in particular, is facing several challenges. These range from a future consumer's media behaviour to easy availability and the reasonable price of key production inputs such as fibre, energy, human resources, and also the availability and especially the price of financial resources. The relatively high production costs compared to emerging markets, labour costs in particular, still existing overcapacity and consumers' changing media habits are probably the most significant challenges for the industry today. Environmental regulations will have a key role to play, too.

The industry can influence some of these factors - such as R&D investments - directly, but some of the factors are beyond the control of the industry. Legislation is an example of the latter case, which, as a matter of fact, defines the frame of operation. We need to proactively and closely work with those instances to ensure that the European paper industry maintains and even strengthens its competitive position.

Global production in the pulp and paper industry has been increasing, but at a lower rate compared with the most other industries. European pulp and paper industry has not gained much from globalisation in recent years. On the contrary, previous pulp and paper deficits in Asia, for example, have been transformed due to emerging countries' net exports despite high demand growth rates. The increasing demand has

enabled significant production increases. For example China's share of the world pulp and paper production doubled from 5 to 10% in the period of 2000 – 2006. The demand for paper and board is expected to almost double by 2020 from 73million tons in 2007. China is expected to be the second largest after India as regards the size of population in 2050 as Table 1 below shows. /1/

Table 1

12 Largest Countries Ranked by Population Size*

Ranking	1950	2005	2050
1	China	China	India
2	India	India	China
3	United States	United States	United States
4	Russian Federation	Indonesia	Indonesia
5	Japan	Brazil	Pakistan
6	Indonesia	Pakistan	Nigeria
7	Germany	Bangladesh	Bangladesh
8	Brazil	Russian Federation	Brazil
9	UK	Nigeria	Ethiopia
10	Italy	Japan	Dem. Rep. Congo
11	Bangladesh	Mexico	Philippines
12	France	Viet Nam	Mexico
		(14) Germany (20) France (21) UK (23) Italy	(18) Japan (26) Germany (27) France (32) UK (39) Italy

(*) Developed countries are in boldface; future rankings for developed countries projected to fall beneath 12th place are indicated in parentheses.
Source: World Population Prospects (UN, 2007).

China especially has benefited from very low wages – also relative unit labour costs are low - and from increased local consumption driven by increasing wealth, population growth, increased literacy and urbanization. According to the ETLA's recent study /2/, the Chinese level of the annual nominal labour compensation in euros was only about 3% of the corresponding Finnish compensation in 2006. Furthermore, relative labour costs are low; only 5% of the German costs in 2006. China is an interesting case – a competitor and a partner at the same time - and really worth following. It is a large, growing market and it will have an important role in world trade.

The present status of the industry: the very recent past and near future

Paper production in CEPI countries is expected to fall from 2007 to 2008 by between 4.5 to 5% according to preliminary information. /3/ The decrease of production by paper grade is calculated to be as follows: newsprint -2%; uncoated graphic grades between -5.5 and -6%; a fall of approximately -4% in uncoated mechanical grades; uncoated woodfree may have fallen by between -6.5 and -7%; coated mechanicals between -5.5 to -6%; coated woodfree in the region of -5%. For comparison, packaging grades have not witnessed such sharp drops despite decreasing basis weights and that the output in terms of hygienic paper manufacturers remains unchanged. Paper deliveries faced a sharp decrease in Q4/2008 despite the downtime taken by companies. Overall paper consumption is estimated to decrease by more than 2% in 2008.

This current year, 2009, does not look any better. For example RISI has already twice decreased its demand forecasts since November 2008. According to the latest forecast from February 2009 for Europe, newsprint demand is expected to decrease by 5.3%, SC magazine by close to 3%, coated magazine by close to 5%, coated fine even more, by 6%, and office paper by 4.7%. Price increases are, however, expected in the range of 6.5 to close to 9%. This figure varies according to paper grade. /4/ Net capacity changes, that is closures, will be significant between 2007 and 2009E: newsprint -6% (0.720million tons), OMU -20% (0.660million tons), SC -4% (0.190million tons), LWC -8% (0.825million tons), WFC -17% (1.775million tons) and WFU -8% (0.860million tons). /5/ Whether these closures will be enough to make the industry healthy, profitable and strong in the future remains to be seen.

When looking at the structure of the European printing paper industry there are basically two types of operators; large, publicly listed and globally acting corporations with still relatively large product portfolios, their own vast R&D resources and cost efficient operations where economies of scale of utilized. For example Stora Enso, UPM-Kymmene and Sappi represent such companies. Another group consists of smaller operators acting in a limited geographical area. These are often private enterprises, specialised in narrow product offerings with a basic organizational structure and a relatively agile operational mode. Examples from this latter group are Leipa and Perlen.

2. The competitiveness of the European printing paper industry

There are several competitiveness factors in the European printing paper industry. However, it is **cost competitiveness which matters the most in the short term**. The vast majority of the existing products are easily changeable commodities whose prices are transparent. Uniformity of quality is the key attribute in enabling trouble-free running of a paper web at a printing house. /6/ A producer can differentiate itself from the rest through combined product/service offerings adding value for a customer, a printer or a publisher. However, this requires the knowledge of how value is added in a customer process. /7/ Competitiveness factors for the European printing paper industry are listed in Table 2.

Competitiveness factors of the European printing paper industry

<p>AVAILABILITY, PRICE, EFFICIENCY</p> <p>Energy; availability and price</p> <p>Raw materials: Wood, RCP, minerals, chemicals</p> <p>Labour</p> <p>Transportation costs</p> <p>Capital</p>	<p>ATTRACTIVENESS OF print vs. electronic media</p> <p>ABILITY to innovate and commercialize the results</p> <p>LOBBYING SKILLS: Taxation and regulatory framework</p> <p>EXCHANGE RATES</p> <p>TRADE BARRIERS?</p>
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Source: CEPI, ProConsilium

When examining the table above we see that not so many issues are in the hands of the industry. Large investment costs (the price of a paper machine has almost doubled in past 10 years), a large size of a new production unit, increased risks of investments, long pay-back times from 15 to 30 years, the inflexible structure of the production line (originally planned to produce only one or a few products) and time-consuming product development with several laboratory, pilot-scale and full-scale trials form a fundamental increase in the size of the challenge to reshape the industry in order for it to become more competitive and profitable in the future. /8/

Two well-known American researchers, Charles Sabel and AnnaLee Saxenian wrote in their industry analysis late last year (2008) as follows:

”Probed by the determination to become a world leader in demanding products based on chemical manipulation of wood fibres – the coated papers used, for example, in mail order catalogues and glossy magazines – the Finnish industry also became, almost surely more by accident and inattention than by grand design, a volume producer serving a stagnating market with excess capacity in the EU and the USA” (p.28) /9/

How trapped are we in these self-created, inflexible structures? Can industry leaders lead the European printing paper industry to a new future? **We also need strategic innovations in the medium/long term.**

As regards the use of resources, energy efficiency has recently been emphasised. One of the most important questions presently is, how to reduce a specific energy consumption in mechanical pulping. There are in addition some uncertainties such as future tax treatment of the energy intensive industry, qualifying black liquor for subsidies as green energy and cost of CO2 certificates. There is also a debate - initiated by NGOs - on the transportation costs especially in cases where goods are exported to distant destinations. Transportation as such has been questioned as potentially the wrong use of scarce energy resources. For the European printing paper industry, it is important that there are sustainable, dependable and integrated transport systems which enable cost-efficient and timely deliveries of goods now, and in the future.

The ability to innovate, freedom to experiment and the ability to commercialize the results has also been a much debated issue recently in different forums in Finland. In a recent study of the preconditions and obstacles for open innovations in the Finnish Forest Cluster /10/, we found among other things that there exist

- Deep-rooted traditional operating and thinking models that prevent innovation. The same people have worked together for decades, new thinking and new blood has not been sufficiently injected into the system.
- A scaling problem; there is no sense to invest in small beginnings while it takes decades to develop noticeable business even to partly replace existing ones. Traditionally low risk taking supports this.
- Large resources: are they an obstacle for innovation rather than a motivating factor? /11/ It was stated in the interviews that it is not about a lack of money

but about the lack of ideas! /10/

3. The major challenges ahead

The main challenge arises from the demand side: how much paper will be needed in the home market, Europe, and which paper grades will be in demand? Can we develop printing papers with such functional properties – for example with the help of nano and biotechnology – for which the consumers are ready to pay extra, and can we do it so quickly that the valuable tie between a printed product and a consumer is not broken? /12/ To which channel will the advertising go to? What will be the best media to effectively reach a future consumer?

The largest, notable challenges for the European printing paper industry will apparently rise from consumers' future media behaviour and choices in general, the ability to innovate beyond the traditional borders and perhaps with new partners and future energy efficiency and solutions. Of course the industry faces multiple smaller challenges.

Focus on customers' future needs

The customer has become a king who sets the agenda, too. In recent years the global media industry has experienced dramatic changes, both in terms of user behaviour and revenue-making performance. Emerging channels, including the Internet, mobile and other interactive media, are outperforming their traditional counterparts in growth rates and seizing market share from them. /13/

Digital media is a double-edged sword especially for the newspaper industry. Many publishers around the world are experiencing a recession in print advertising and readership, but at the same time are seeing new opportunities opening up in emerging platforms, including online and mobile applications. The most important task for newspapers is to wisely navigate these new areas, developing a strong presence in online and mobile areas. /13, 14/

Global advertising grew steadily until late last year and is expected to reach USD500billion in 2010. Print media is losing its share as Figure 1 (below) shows, whereas the most growth is happening in Internet applications. For publishing companies, and for newspaper publishers especially, there is an option to first embrace digital formats and then marry print and digital.

Advertisers are following consumers to electronic media, although with some time lag. According to the BCG's study from 2007 /15/, in addition to newspaper inserts, direct mail will take the biggest hit along with directories which are expected to disappear by 2020. Today's printed products with a short life-span will disappear. Electronic media will supersede print in these areas.

Figure 1

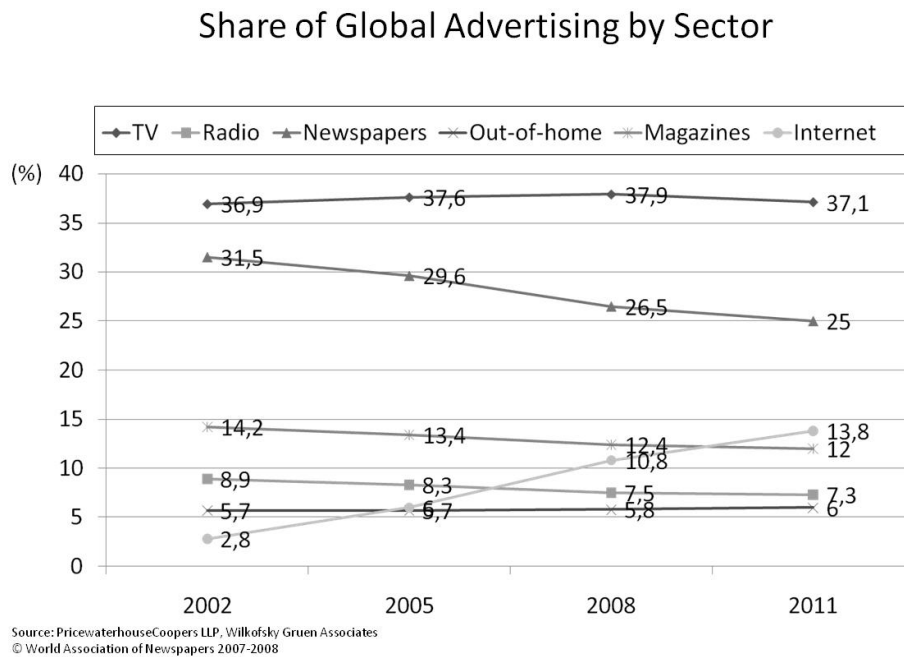
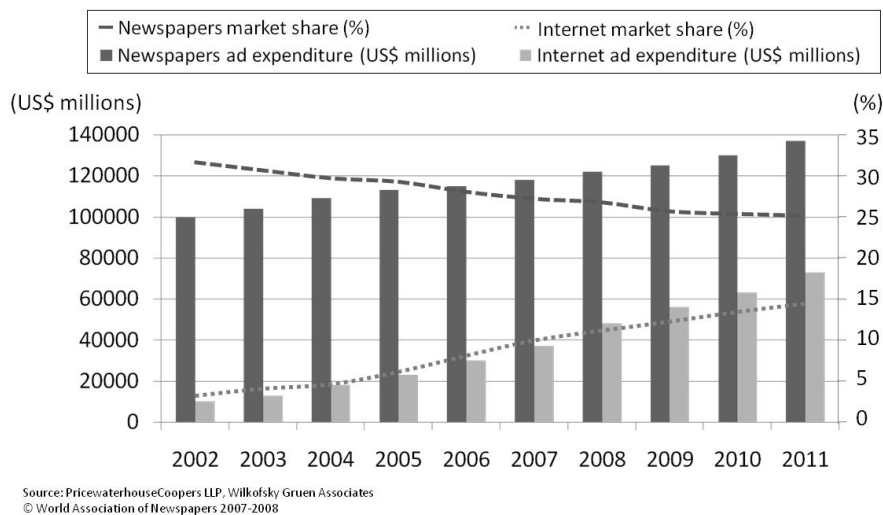


Figure 2 below compares global ad spending and market share of Internet and newspaper: trend is clear; newspapers lose, Internet wins.

Figure 2

**Global Advertising Spending and Market Share:
Internet and Newspapers**



Naturally technological development and the adoption of new technologies will impact on paper demand in the long term. Bandwidth and connectivity will be the key technological drivers for substitution. When an electronic paper will make its breakthrough remains to be seen. That is probably not so far in the future. Broadband as a reference achieved more than 50% penetration of the US market ten years after it was introduced.

4. Competitive solutions

To answer the question “*Can the European printing paper industry be competitive in the future?*” I believe it can, but it has to renew itself. Future competitiveness is created from several simultaneous elements in place. What makes it even more difficult is the fact that we have to tackle three different types of strategic challenges simultaneously in the printing paper companies: namely, to maintain/to improve the profitability of the existing production units; to manage/to participate in the structural change of the industry; to develop new businesses. The easiest and the quickest way to start is to tackle the issue through factors we can influence.

Below some concrete actions are proposed which the printing paper industry companies acting in Europe could take to enhance the competitive position:

1. Teaming up with customers - publishers in particular - to support and develop new printed products. Informing of the potential of various paper grades, simply to explain what paper can do in the hands of a skilful printer. This will explicitly reveal the value added.
2. Creating more cross-scientific teams working to develop new materials for particle product manufacturing such as that for the car industry in order to replace plastics with wood fibre-based materials. Also teaming up with surface chemistry experts from textile and detergent industries could broaden the knowledge base and in best cases lead to new applications and business.
3. Starting to utilize sensory properties of paper such as touch, feel, smell and sound. Paper has a personality which could strengthen a brand of a consumer product when properly used.

“Print will remain an integral part of the information society. I believe that only paper can keep up with the human brain’s ability to process large quantities of information. From the commercial perspective, the printed image and word have an unrivalled ability to convey a brand’s image and values.” Magnus Hall in VISION 2020 /16/

4. Utilizing the full potential of nanotechnology, biotechnology and also ICT to new paper applications with additional functional properties.
5. Transforming from volume to value: starts to adopt itself quickly to future requirements.
6. Opening up to other industries to learn and exchange best practices.
7. Proactively communicating the sustainability aspects of the industry to the general public. The pulp and paper industry has a unique opportunity to transform itself while providing solutions to climate change and energy crises simultaneously. It is a fact that the paper industry is Europe’s largest industrial user and producer of renewable energy. More than 50% of the pulp and paper

industry's primary energy comes from biomass. 50% of the paper industry's fibres come from recovered paper.

In addition, there is still the potential to improve with traditional paper manufacturing technology towards lower capital expenditure solutions as well as towards lower operational costs. Maximal utilization of fibre at the same mill in main processes as well as in by-processes and side-processes will be of the future. Functional properties will be integrated with paper through a cross-scientific approach. The European paper industry as a whole is uniquely positioned to add energy, biofuels and chemicals to its existing product stream, creating new value from the same existing forest resources.

5. Concluding statement

European economies are in deep recession. But it is a fact that every downturn opens up rare opportunities to outmanoeuvre rivals. Inaction is the riskiest response to the uncertainties of an economic crisis. After you have first put your own house in order - that is, checked financial fundamentals, removed surplus capacity, reduced costs and increased efficiency - then you can start to evaluate future sources of competitive advantage. You can start to rethink your product mix and pricing strategies, for example test value added pricing instead of traditional cost-based pricing and also start to invest in the future through future consumer need-based product development.
/17/

Encourage strategic innovations. They are needed!

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