

PTS Coating Symposium 2017

The Role of Industry 4.0 in the Market Context of Coated Paper and Board

By Alexander Wirth, Senior Manager – StepChange Consulting, Vienna/Austria

Changes and trends in Coated Paper and Board

Over the last years the demand for coated printing paper has continuously decreased, especially for publishing grades. This has been mainly driven by digitization reducing the demand for printed publications/magazines, which lead to cut-throat competition through price wars, and substitution of coated mechanical grades with SC and UMI due to cost pressure for printed publications.

At the same time, coated boxboard demand has consistently grown globally, and prices have remained almost stable. The main drivers for boxboard demand growth are an increasing concern for sustainable packaging, the need for better printability / image quality for fast moving products at point of sales, durable demand for food service board and liquid packaging, as well as increasing requirements for barriers (i.e. related to food safety). Mineral oil parts continue to be a concern.

The major market drivers impacting the coating industry today are regulations, the need for increased sustainability, changing food consumption habits, and changes in customer experience expectations (Figure 1).

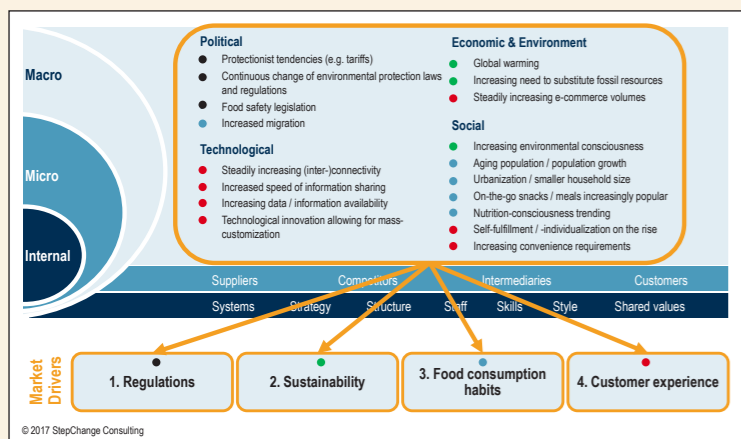


Fig. 1: Market drivers, derived from macro factors, affecting the requirements for the coated industry

Regulations can cause abrupt changes in demand, increasing the uncertainty about future demand-patterns. While they can be challenging, they might also be beneficial for the industry as they can significantly impact competitiveness. As an example, the ban of certain materials can be considered an opportunity to capture additional market (~100 bn. plastic bags/year

in Europe). On the other hand, companies need to be prepared and watch out for sudden changes as regulations can change on short notice. Changes in regulations can have a drastic impact and they are often difficult to predict (Figure 2).

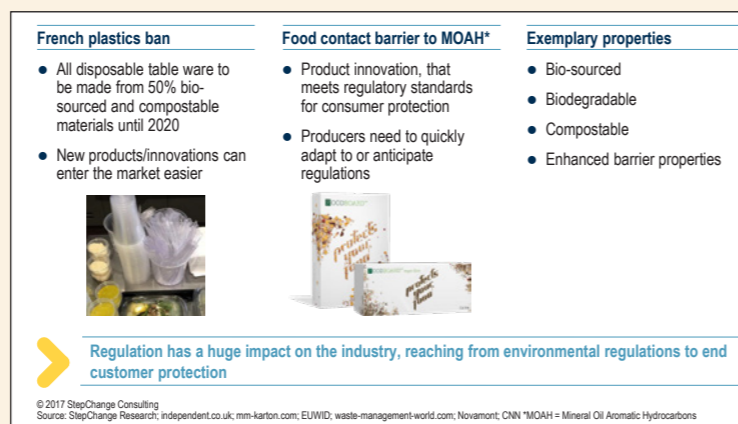


Fig. 2: Examples of regulation-driven changes affecting the coated industry

Sustainability is of growing importance to consumers, as they increasingly expect environmental friendly packaging. Functionality per se is considered to be a basic prerequisite. Sustainability is increasingly gaining relevance, especially among individuals from the Millennial generation, who would, to a large majority, be willing to pay higher prices for sustainable and fair products (Figure 3). Packaging plays an increasingly important role in how the contents/products are perceived. This demand for sustainable packaging solutions has therefore led to a variety of new products that (partially) replace fossil fuel based packaging.

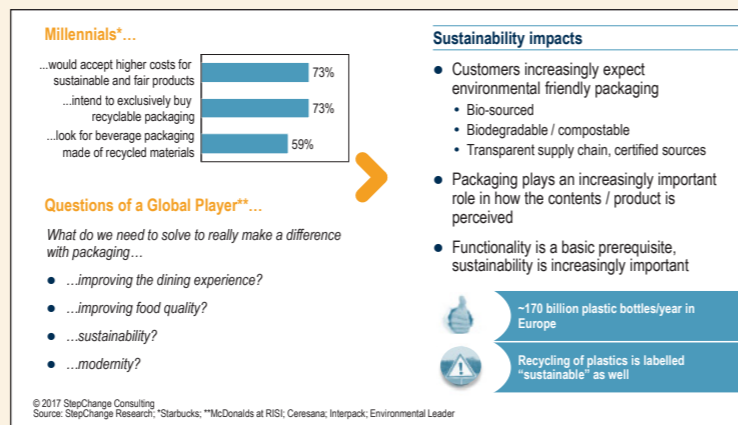


Fig. 3: Overview of sustainability as a market driver

Food consumption habits have been changing for the last years. This change drives the demand for special packaging applications. For example, “on-the-go” food packaging requires specific functionalities serving the consumer’s consumption needs. An increase of processed food consumption requires foldable, compressible packaging, often special properties are needed to avoid spoilage by e.g. keeping oxygen outside the container. Additionally, changes in demographics led to a higher demand for smaller, single households’ portions (Figure 4).

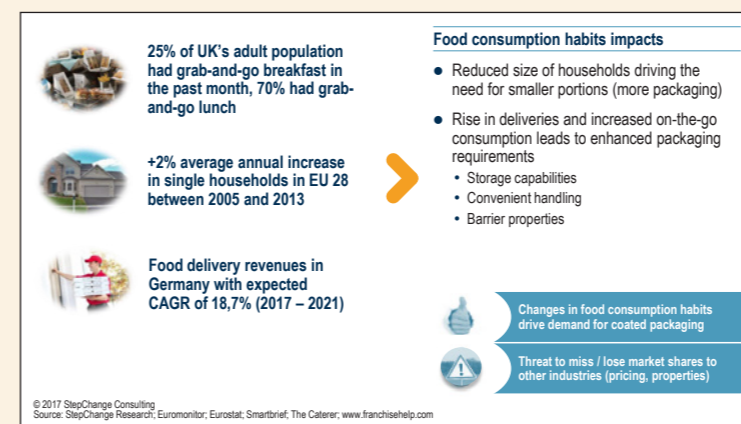


Fig. 4: Overview of changing food consumption habits as a market driver

Customer experience needs to be carefully considered when developing packaging to include the wishes of end-users. Effective, target-oriented sales approaches require individual paper based solutions that address the customers’ needs and experience. The increased importance of customer experience provides room for differentiation, which requires innovation in the fields of coated paper and packaging. Some of the properties required include customizable product marketing and packaging, possibilities for Flexibilization/Print-on-Demand/Web-to-Print, detailed product information (nutrition labels, instructions, ...) as well as tamper-evident packaging (Figure 5). What can be observed is a fusion of the print and packaging markets. Packaging machine producers are increasingly focusing on developing their printing capabilities and traditional printing equipment manufacturers are expanding into packaging.



Fig. 5: Overview of customer experience as a market driver

The importance of Industry 4.0

Industry 4.0, Big Data, Smart Manufacturing, Internet of Things, are all referring to the same phenomenon in the industry: connectivity, system integration and big data analytics within the world of computerized manufacturing. Industry 4.0 can support producers in meeting future customer and supply chain requirements (Figure 6).

StepChange Consulting conducted a global Industry 4.0 study amongst industry professionals within and outside the Pulp, Paper and Packaging industry. The results from the 2015 study are currently being compared to the findings from 2017 and will be published soon.

Back in 2015, only 46 % of the pulp, paper and packaging participants expected Industry 4.0 to become a “game changer” for their industry. At the same time 72 % of the participants expected cost reduction as a major benefit from Industry 4.0.

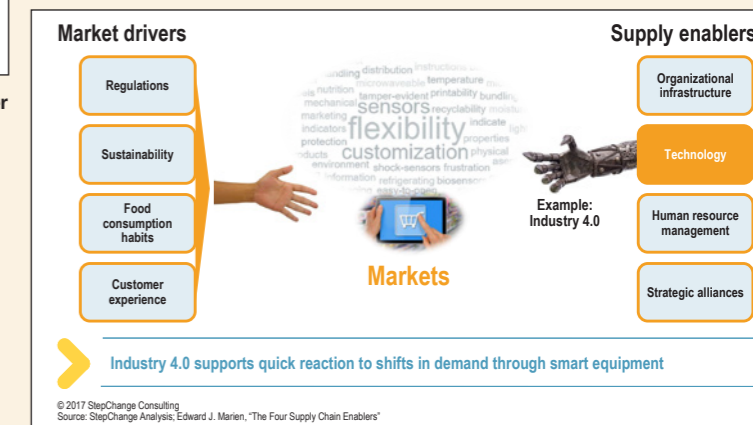


Fig. 6: How Industry 4.0 can support producers in meeting future requirements

The pulp, paper and packaging industry widely expects benefits deriving from Industry 4.0, with some players already in the early stages of implementation, however, at overall low priority back in 2015.

Overall, there is significant opportunity for producers of coated paper and boxboard to drive innovation by reacting to demand trends, but also anticipate needs to create demand for new and innovative products. “Obstacles don’t block the path, they are the path” (and they drive change and unveil opportunities).

About StepChange Consulting

StepChange is an independent management consultancy specialized on pulp, paper and packaging with a proven track record in supporting clients to achieve sustainable value. StepChange provides support to top tier organizations in the industry from strategy development to implementation of operational improvements.