

Circularity in the printing industry – far dream or near future?

1. How do you see print products (graphics and packaging) in the circular economy?

Circular economy principles in any industry are aimed to reach two ultimate goal – to eliminate waste, and to maximize the continual use of resources. The rule of sustainability and circularity is now more important than ever before. It is a prior topic of businesses in key industries as printing industry which is directly connected to packaging industry, one of the greatest contributors to global pollution.

In order to place print products in this ecosystem, we have to translate the general ‘Circular Economy’ rules to the packaging and printing industry. Some of these rules are easier to apply - recycle, minimize waste; some are more sophisticated and abstract: pollute less, share, remanufacture, reuse. In general, what the industry can do is to make the manufacturing process greener and more sustainable in terms of ink usage, material consumption, production efficiency, waste and recycling.

According to my understanding, in terms of waste elimination, the industry is on the right path. Generally, businesses have sustainability goals, measurable KPI-s for sustainability performance, regulatory obligations and technological advancements as well. In 2022 businesses are strongly supported in waste elimination with tools, practices and innovative technology. Also, the customer expectations towards businesses to quickly adapt transparent and green manufacturing processes and create less environmentally burdening products are strong push factors for change.

The other pillar of circularity, the continual use of resources is an extensive topic. With current practices we cannot comply with this principle. In order to continuously use a certain print product or package, we must assume that it does not depreciate throughout time. Currently this is not the case, and apart from special circumstances, we only use packages once. This is a complex set of problems which can only be solved with the cooperation of many fields of sciences. In terms of materials, technological innovations are required in the area of bioengineering and chemical companies – to develop safe but equally functioning packaging materials, inks, solvents etc. Also, product design engineers can also contribute to help with innovative, nature-based or biomimicry-type ideas to help move forward in continual use.

In my opinion, the two pillars of circular economy must be incorporated at the *design phase* of the graphics or packaging, which requires a paradigm shift in the industry. Furthermore, the twofold challenge in the future is to change consumer behaviour with awareness raising about how harmful to purchase more and cheaper, also make businesses understand and create a financially desirable construct for selling less but value-added product and not be afraid of more expensive manufacturing processes.

Nowadays there are excellent software solutions, technological, intelligent innovative tools, to design and model products, eliminate the sample making, eliminate mistakes, optimize the sizes, experiment with different materials or thicknesses, and revolutionary bioengineering solutions to substitute traditional packaging. Some of my favourite examples are the below:

- Glass is an undeservedly neglected solution to sustainable packaging (it can be recycled and reused)
- Bioplastics made from sugarcane, starch or cellulose (biodegradable and compostable)

The above-mentioned examples prove that sometimes consumers only have to change the mindset to move a step forward circularity.

In the future I hope to see print products which are *designed to be repurposed*. This might be the way for the graphics and packaging industry to comply with the principles of circular economy. Also, to initiate and urge change, we, the professionals of the industry should create a clear and concise action plan on how to adjust our current practices. The goal is to define the process and only manufacture print products which are *designed to be repurposed* the soonest.

2. What is your vision for print for a sustainable future?

To describe my vision first I should write about the current situation with some throwback. According to the Esko's survey to packaging professionals (2021 November), nowadays the consumer attitude has changed to a more sustainable direction. Consumers are increasingly concerned about sustainability, eco-friendly business practices and 54% of them look at packaging as a waste. But that's not all, according to Global News Wire's survey 70% of global consumers take sustainability into account when making a purchase, and 47% are willing to pay higher prices for more sustainable products.

According to new consumer behaviors we should establish why the packaging is necessary and why would it stay with us forever. I collected 7 significant functions in the below list according to the 2014 study by Behzad Mohebbi:

1. Marketing: Packaging is supporting marketing communications by boosting sales with clever, attention-grabbing, and creative solutions on the package itself and it also has a role in positioning.
2. Identification: As packaging is the main platform for brands and the very first touchpoint between the customer and the product, the packaging itself is for product identification, with labelling it contains information of the content, usability etc.
3. Protection: Packaging has a role in logistics and transportation, it guarantees product safety.
4. Containment: Packaging is responsible for protection of the product from various kinds of hazards like mechanical, chemical, environmental, climatic, and bacteriological.
5. Innovation: Sustainability related innovation and technology is and will be the focus of the coming decades regarding the packaged products.
6. Convenience in distribution: Easy handling, stacking, opening, closing for manufacturers and customers throughout the life of the package.
7. Cost: Well-designed packages are optimizing the transport and storage costs, and the cheaper solutions makes the product more available to customers.

Recently an extremely big problem was that a lot of companies who were promoting themselves by telling how sustainable they are, there wasn't really a system to measure it, and they could and did have lie about it. Nowadays some regulations begin to form under the flag of ESG (environmental, social and governance factors). Consumers want to see evidence of how a company is reducing its carbon footprint, and that is why ESG is measurable, specific, and data driven.

But how could a company meet the consumer expectations? I collected several options for being more sustainable listed below:

- Use the latest technologies: Technology is not only able to boost your production and the quality of your product, but with technological innovations a company can also reduce for example the reprints, wastes etc., which not only saves costs but reduces the carbon footprint.
- Use different materials: Owing to technological innovations we are able to process different kind of materials than before, like recycled, plant-based, compostable, and biodegradable, which makes the whole industry more sustainable.
- Automatization: automating workflows can be very beneficial by not only release useful time and reduce costs but also by cutting out human errors therefore producing only usable products and not waste.

To sum it up the prospects are prosperous, because the companies have the possibility to reduce carbon footprint and increase sustainability regarding the production and they are pressured to be appropriate by ESG criteria.

Also, we can see a new trend regarding the circular economy which is the increasing corporation between different industries. And the fact that the waste collecting is getting better and better means that the recycling works better, and companies have the possibility to use different materials for producing their products.

References

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