

# SUSTAINABLE PACKAGING INNOVATIONS FOR COSMETIC PRODUCTS



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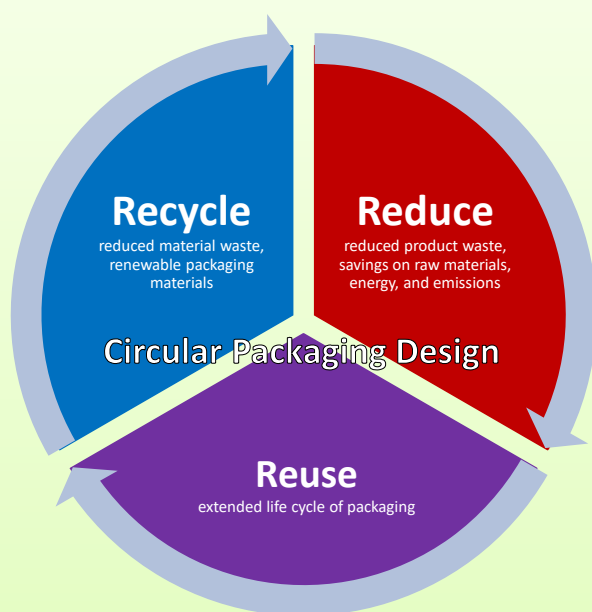
## Paper's Aim

- The packaging in linear flows is made from raw materials for single use and ends up in a landfill or incinerator at the end of its life cycle, which has significant impacts on the environment, society and the economy.
- In order to increase the sustainability of packaging, researchers are currently focusing on the concept of circular economics, in which material flows are closed into functional and endless cycles.
- The aim of the paper is to identify sustainable packaging innovations for cosmetic products that are based on the principles of circular economy.

## Research Methods

- The qualitative research was carried out at two Czech manufacturers of cosmetic products using the method of semi-structured interviews.
- The content analysis of interviews from both companies and their subsequent synthesis identified opportunities for sustainable innovations of primary packaging and their barriers.

## Research Results



Recycle Innovation	Barriers
Introduction of biodegradable packaging materials	<ul style="list-style-type: none"> <li>Higher price of biodegradable materials</li> <li>Problems with packaging (when filling packages)</li> <li>Sorting-related problems (easy interchangeability with other types of materials)</li> <li>Doubts about environmental benefits (waste degradability)</li> <li>Production of biodegradable packaging from agricultural crops</li> <li>Negative perception of product quality by consumers</li> </ul>
Introduction of plastic packaging with a high percentage of recycled material (rPET)	<ul style="list-style-type: none"> <li>Higher price of packaging material</li> <li>Lack of quality recycled material on the market</li> <li>Aesthetic aspect of the packaging (in the case of white bottles)</li> </ul>
Replacement of laminate tubes with multilayer tubes with a layer of paper or PE tubes	<ul style="list-style-type: none"> <li>Lower product protection (in both cases)</li> <li>Smaller amount of product in the packaging (in the case of PE tubes)</li> </ul>
Replacement of aluminium packaging with glass or plastic packaging	<ul style="list-style-type: none"> <li>Fragmentation and heavier weight of the packaging (in the case of glass)</li> <li>Aesthetic aspect of the packaging (in the case of plastic)</li> </ul>
Introduction of engraving instead of labelling	<ul style="list-style-type: none"> <li>Higher costs</li> <li>Significant change in packaging technology</li> </ul>

Reduce Innovation	Barriers
Change of the size and type of packaging	<ul style="list-style-type: none"> <li>Requirements of customers and consumers</li> </ul>
Reduction of product viscosity	<ul style="list-style-type: none"> <li>Psychological barrier in consumers</li> </ul>
Introduction of concentrated products	<ul style="list-style-type: none"> <li>Optimal dosing by the consumer</li> <li>Significant change in the nature of the product (in the case of creams)</li> </ul>
Introduction of anhydrous (water-free) products	<ul style="list-style-type: none"> <li>Significant change in production technology</li> <li>Consumer behaviour</li> </ul>
Reduced of the number of levels of consumer packaging	<ul style="list-style-type: none"> <li>Preservation of brand tradition</li> <li>Protection of the primary packaging and product from damage</li> <li>Lack of space on the primary packaging for all information</li> <li>Keeping the package leaflet included in the package</li> </ul>
Maximised amount of the product in the packaging	<ul style="list-style-type: none"> <li>Packaging technology (welded packaging in the case of tubes)</li> </ul>

Reuse Innovation	Barriers
Introduction of refillable packaging	<ul style="list-style-type: none"> <li>Significant change in packaging technology</li> <li>Available packaging materials are not recyclable</li> </ul>
Introduction of zero waste (package free) sales	<ul style="list-style-type: none"> <li>Possibility of cross-contamination at the consumer</li> <li>Meeting high hygiene requirements</li> <li>Significant change in the method of distribution and sales</li> <li>Handling packaging for zero waste (package free) sales is not reusable and recyclable</li> <li>Consumer behaviour</li> </ul>
Introduction of returnable packaging	<ul style="list-style-type: none"> <li>Legislation (introduction of waste management in stores)</li> <li>Demanding logistics of returnable packaging</li> <li>Low return rate of packaging</li> <li>Disruption of the waste sorting system in consumers' households</li> <li>Consumer shopping behaviour</li> </ul>

## Conclusion

- From an environmental point of view, the current packaging design in the surveyed companies is of high quality.
- Packaging redesign is associated with significant technological and customer barriers and would not significantly reduce environmental impacts.
- The reuse of packaging is associated with a number of problems in logistics and sales, but also encounters consumer reluctance to change their shopping behaviour.
- A suitable way to renewable materials is the introduction of plastic packaging with a high percentage of recycled material (rPET), greater expansion in practice is hindered by the unavailability of quality recycled material on the market and the related insufficient system of plastic waste sorting and recycling.