

The importance of knowing what your customers know to drive ecologically and economically effective circular design in sports

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Circular Economy, as the counterargument to the 'make-take-dispose' linear model, is an approach that includes a variety of schools of thoughts looking at environmental, economic, and social sustainability¹. A case study conducted with the University of Bayreuth and the ISPO², revealed those attributes of the consumers' environmental awareness that directly translate into an increase of purchase power - primarily connected with individual preferences regarding the sport activity and technical knowledge. Based on this outcome, we constituted a product development approach that incorporates the consumers' and companies' individual preferences towards sustainable product features as well as their awareness about materials and technology.

Introduction and Objective

Circular Is The New Normal.

How do "green" consumers differentiate sustainability-related features in sporting goods is a question that not only brands have to ask when bringing new sustainable products to the market but also something that needs to be clarified at the early stages of product design.³

Thereby, the sports industry serves as a representative field of study because of environmentally conscious consumer groups, who are aware of the negative environmental impacts caused by materials and manufacturing of performance sporting goods. Assessing this awareness becomes therefore key for choosing those environmentally-friendly product concepts that resonate with the customers' education regarding material choices and drive their willingness to pay (WTP) for "greener" products.

By investigating customer education levels and performance preferences, the objective of our study was to determine how certain product attributes are perceived in different ways by various types of customers based on their subjective personal attitudes. The goal was to identify which circular product and material design strategies drive purchase power and to find a methodology for assessing the concrete monetary values of such sustainable product attributes.

Based on the outcomes, we developed an assessment tool that supports companies and brands in developing product development strategies that incorporate the consumers' individual preferences towards sustainable product features as well as their awareness about materials and technology.

Methods and Results

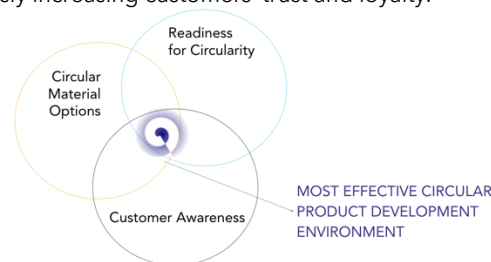
Measuring the customer value of sustainable product attributes.

To constitute a product development environment that accounts for consumers' preferences for sustainable product features based on their knowledge level about circularity, sustainable material choices and environmental attitudes, it was determined how consumers assign value to sustainable sports equipment. This was done by studying the WTP for sustainability attributes of sports equipment based on their environmental attitudes and activity preferences.



Next, we implemented the preference and education analysis into a circularity assessment tool that takes into account inherent company assets as well as subjective parameters like customer awareness. This approach reveals those attributes of the consumers' environmental awareness that directly translate into an increase of purchase power - primarily related to individual preferences regarding sports activity and technical knowledge.²

The outcome is a scoring system, which provides guidance for material and technology choices for circular product design, while considering business model and communication strategy to attentive customers. By including customer knowledge and complying with corresponding labels, companies are able to develop more effective circular design strategies, while simultaneously increasing customers' trust and loyalty.



The developed product development methodology also allows deploying targeted customer education campaigns to raise the WTP for sustainability.

Conclusions

Integrating sustainability, performance and financial viability.

Consumer involvement plays a major role in the circular economy (CE), which requires a new and a more active role of consumers. However, consumer awareness of and interest and involvement in CE is low.⁴ Therefore, a stronger tool to gain awareness and effectively implement circular requires proper consumer involvement.

With our assessment tool it is possible to categorize a set of attitudes connected to the overall sustainability awareness level on both the consumer and corporate levels. It also assesses how the consumers perceive the companies' actions, if any, towards more sustainability based on their subjective awareness.

Benefits for Circular Product Design: Our knowledge-based approach offers a method to systematically integrate *sustainability*, *performance* and *financial viability* into the circular product design process based on state-of-the-art materials technologies, customer communication and education as well as corporate knowledge building.⁵

SCORING SYSTEM	CATEGORIZE	KNOW-HOW
Understand level of awareness and knowledge on sustainability	The results are clustered into categories of sustainability attitudes	Use this know-how to provide guidance for material and technology choices

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