

Accepted Manuscript

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PII: S0959-6526(16)30241-4

DOI: [10.1016/j.jclepro.2016.04.003](https://doi.org/10.1016/j.jclepro.2016.04.003)

Reference: JCLP 7005

To appear in: *Journal of Cleaner Production*

Received Date: 8 December 2015

Revised Date: 1 March 2016

Accepted Date: 5 April 2016

Please cite this article as: Brockhaus S, Petersen M, Kersten W, A crossroads for bioplastics: Exploring product developers' challenges to move beyond petroleum-based plastics, *Journal of Cleaner Production* (2016), doi: 10.1016/j.jclepro.2016.04.003.

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A CROSSROADS FOR BIOPLASTICS: EXPLORING PRODUCT DEVELOPERS' CHALLENGES TO MOVE BEYOND PETROLEUM-BASED PLASTICS

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Abstract

Bioplastics play an increasingly important role for consumer products. These new materials might increase product sustainability but they are currently confined to niche markets. While research has gained important insight into the technical challenges, few studies to date explore the behavioral aspects for product developers as they move to employ bioplastics in their development efforts. This manuscript reports the findings of a grounded inductive study based on interview data with 32 product developers in the consumer goods industry. The Theory of Planned Behavior is employed to guide the research and provide a theoretical background to derive implications. The study finds that behavioral challenges impede the increased use of bioplastics. Product developers experience a lack of perceived behavioral control and struggle with doubts about the environmental benefits and incurring trade-offs of bioplastics with respect to the Triple Bottom Line. While product developers are intrinsically motivated to make more use of bioplastics, they often refrain from bringing products to the mass market due to uncertainties of customer receptiveness and fears of greenwashing allegations. Implications for industry and research are detailed.

Keywords

Sustainability; bioplastics; theory of planned behavior; consumer goods; product development; behavioral research

1. INTRODUCTION

Are bio-based polymers (bioplastics) going to replace petroleum-based polymers in our everyday products – and would this be good news for the environment? Global production capacities for bioplastics are expected to increase by 300% until 2018 – then reaching 6.73 million tons (European Bioplastics, 2013). While this is still a minuscule amount compared to the global production of petroleum-based plastics (280 million tons), it does seem to represent a significant shift in focus for

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