

Reducing Friction Associated with Commercial Use of Biomimetics While Increasing the Potential for Using Eco Materials and Design in Industry

Authors : John P. Ulhøi

Abstract : Firms are faced with pressure to stay innovative and entrepreneurial while at the same time leaving lighter ecological footprints. Traditionally inspiration for new product development (NPD) has come from the creative in-house staff and from the marketplace. Often NPD offered by this approach has proven to be (far from) optimal for its purpose or highly (resource and energy) efficient. More recently, a bio-inspired NPD approach has surfaced under the banner of biomimetics. Biomimetics refers to inspiration from and translations of designs, systems, processes, and or specific properties that exist in nature. The principles and structures working in nature have evolved over a long period of time enable them to be optimized for the purpose and resource and energy-efficient. These characteristics reflect the *raison d'être* behind the field of biomimetics. While biological expertise is required to understand and explain such natural and biological principles and structures, engineers are needed to translate biological design and processes into synthetic applications. It can, therefore, hardly be surprising, biomimetics long has gained a solid foothold in both biology and engineering. The commercial adoption of biomimetic applications in new production development (NDP) in industry, however, does not quite reflect a similar growth. Differently put, this situation suggests that something is missing in the biomimetic-NPD-equation, thus acting as a brake towards the wider commercial application of biomimetics and thus the use of eco-materials and design in the industry. This paper closes some of that gap. Before concluding, avenues for future research and implications for practice will be briefly sketched out.

Keywords : biomimetics, eco-materials, NPD, commercialization

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