

## Driving Behaviour Change Towards Full Ecodesign Integration: Nudging Experiment and Motivational Gatekeepers Empowerment

**Fabien Brones, Daniela Pigosso, Marly Monteiro de Carvalho, Tim McAlloone**

Natura Inovação e Tecnologia de Produtos Ltda, Brazil

Polytechnic School, University of São Paulo, Brazil

Engineering Design & Product Development, Technical University of Denmark, Denmark

### Introduction

Companies still face various challenges when dealing with the effective implementation of ecodesign into their product development and related processes, at the strategic, tactical and operational levels – from an organisational to a personal perspective. Despite the existence of relatively consolidated research on the technical and organisational aspects, the incorporation of ecodesign at the individual level is still in its early stages. The “soft side of ecodesign” is an emerging research stream dealing with the social and psychological aspects of organisations and employees being affected by the implementation of ecodesign into the product development and related processes, towards an increased environmental performance. Within this soft side stream, several organisational dimensions should be investigated in depth, as well as detailed individual aspects (e.g., expectations, intuition and judgment, individual decision-making processes, biases, power conflicts, trust and learning) that have not been fully analysed yet. In order to drive behaviour change towards full ecodesign integration at Natura, one of largest cosmetics manufacturer in Brazil, this paper details the research carried out to experiment new principles in order to foster ecodesign integration, within a “bottom-up approach” stimulating a voluntary adoption.

### Methodology

The methodological approach was developed within the Action-Research perspective. This paper explores research and results of the second cycle of an ecodesign program held by Natura in collaboration with University of São Paulo and the Technical University of Denmark. Social experiments were conducted to explore the potential drivers of behaviour changes, including two initiatives:

- a) exploratory workshops coupled with individual interviews within a specific design to test a combination of selected motivating factors with behavioural influences, measuring intentions to change on ecodesign adoption; and
- b) ecodesign gatekeepers training developed focusing motivational and behavioural consciousness to empower technical support to ecodesign practice within product development teams.

The data analysis comprehends qualitative and quantitative approaches.

### Results and discussion

The literature review investigating organisational change knowledge i.e. change management and “soft side” ecodesign implementation, in combination with individual behaviour change theories including Nudging: new type of incentive strategies capable to lead individuals to make choices in the collective interest, without being prescriptive or guilt-inducing at the behavioural level (Thaler et al., 2008; Selinger et al., 2010; Oullier et al., 2011). This review highlighted the opportunity for bridging theoretical concepts giving rise to a novel approach on ecodesign integration.

The nudging experiments provided rich qualitative learning but non-statistically significant quantitative data. Nevertheless, the first results brought a series of applicable insights and permitted the formulation of practical recommendations to reinforce ecodesign dissemination within product development and marketing teams at Natura.

It was also identified that the gatekeepers training and empowerment require not only collective motivation and initiations to ecodesign principles, but also a combination of practice and more continuous stimulation.

### **Learning, novelty and future research**

The original experiences highlighted new kinds of barriers for implementing ecodesign in a real life organisational context and the opportunities for bringing additional theoretical insight to the field.

This is the first reported experience of green nudging in professional company context to promote more sustainable innovation practices, as a promising change strategy. Nudge strategies are still under-documented and design and application guidelines lack for practitioners. Such research bringing advanced knowledge from social science considers the complexity of business and human organisations realities, and evolving management styles that nowadays give more space to individual and team autonomy versus directive processes. Nudges and associated strategies can be a response to modern society's shift towards a focus on individuals, who are no longer passive to authority.

Future research should further explore the possibilities of including behavioural aspects during an organisational change process considering the involvement of the individual and its complex and systemic interaction with the projects teams and higher level business organisations.