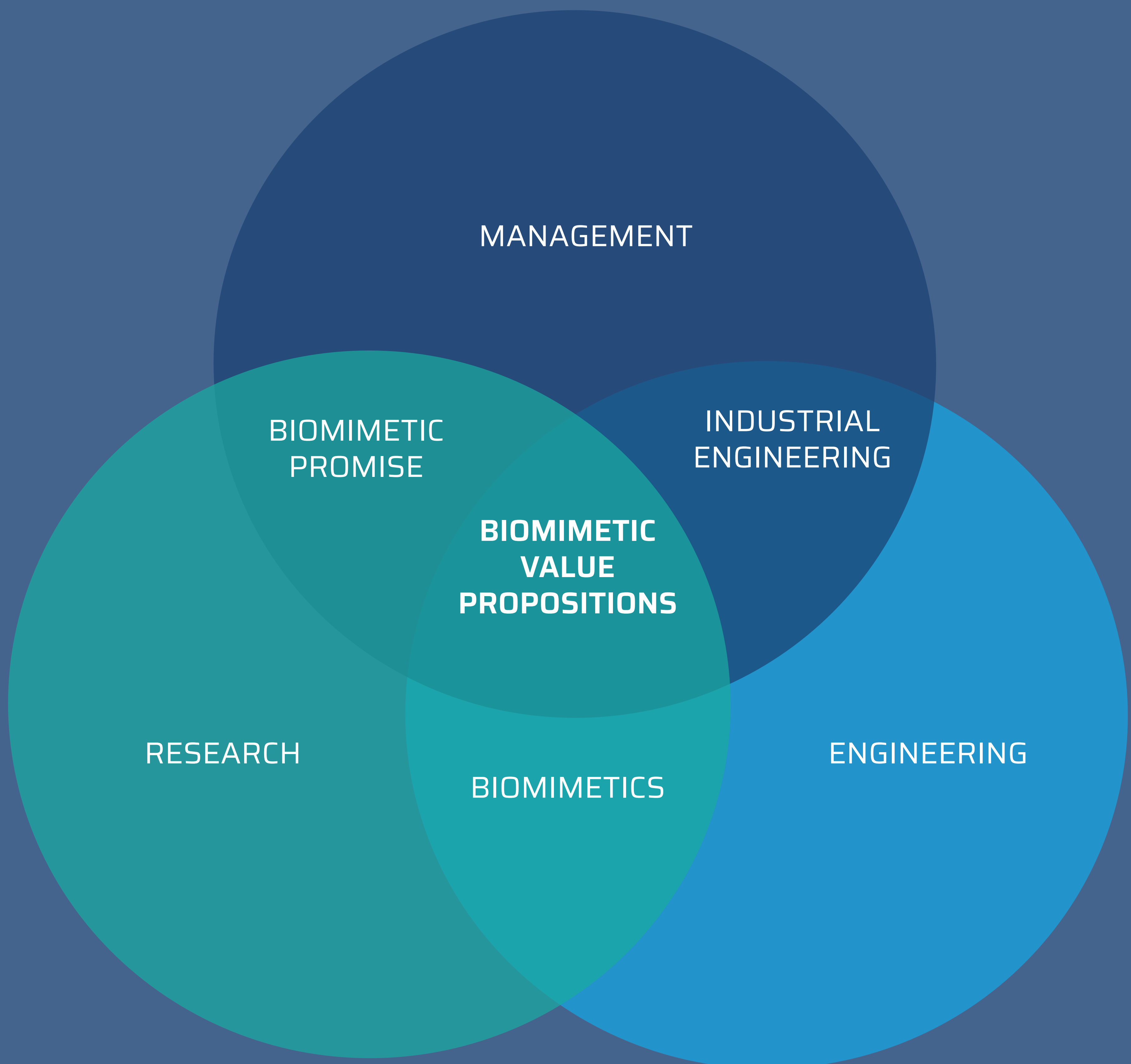


BIOMIMETIC VALUE PROPOSITION

DESIGNING A COMMUNICATION TOOL TO ENHANCE BIOLOGICALLY
INSPIRED INNOVATION



Projekttitle

Biomimetic Value Proposition - Designing a communication tool to enhance biologically inspired innovation

Kurztitel

Biomimetic Value Proposition – Capturing the value of biologically inspired innovation

Einleitung

Biomimetics offers novel perspectives and significant innovation potential for companies' product development processes. It has been established as an academic discipline and research methodology for a long time, however, the process values it creates for the involved interdisciplinary teams remain under-evaluated and insufficiently documented. The integration into managerial concepts lacks appropriate tools for effective multidisciplinary communication and informed decision-making.

Ziel

Addressing this gap, this work proposes the differentiation of product and process-related values and identifies unique process values in biologically inspired design processes. Moreover, a novel tool is designed and presented aiming to provide a foundation for communication about values provided by biologically inspired design (BID) processes.

Methode(n)

This work uses a multi-method approach combining a literature review and an empirical investigation to explore how biologically inspired designs are valued and communicated. A literature review was conducted to identify existing characterisations of value in BID processes. The selected papers approach BID valuation from different angles, integrating a broad range of insights that highlight the added value of BID to product development. To gain practical insights into how BID is valued in the industry, a series of interviews is conducted with nine professionals representing various areas. Each participant represents a different industrial sector within Germany and describes diverse team compositions. This diversity allowed to gain a holistic view of how BID is integrated within organizations, particularly concerning the alignment of BID processes with internal workflows, decision-making structures, and documentation standards.

Ergebnisse

A novel tool, the Biologically Inspired Design Value Canvas (BID Value Canvas) is introduced to capture, document and communicate the value generated throughout the

biomimetic development process, supporting informed decision-making and interdisciplinary collaboration.

The BID Value Canvas is developed to provide a practical tool for communicating the value of BID within interdisciplinary teams. Designed as a single-page, user-friendly format, the BID Value Canvas includes designated spaces for each identified value, organized by category. The canvas is divided into three main sections: economic values on the right, social values on the left, and BID-Fit as a central element. Each space includes guiding questions, headings, and symbols to assist users in reflecting on and documenting the value generated throughout the BID process. Intended to be flexible, it may be applied at various stages of the BID development process, serving as a tool for documentation, project review, and interdisciplinary communication.

This work illustrates the need for structured approaches to value communication in BID projects. The BID Value Canvas represents an initial step towards creating a common language for BID value, supporting the collaboration between engineering, management, and research teams.

Projektbeteiligte

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Gefördert durch

Logos

