

## **Preface**

The present PhD thesis develops the Preference-Driven Lead User Method for new product development based on previous theoretical findings and practical experience. It was written during my academic time with Prof. Dr. Daniel Baier at the Brandenburg University of Technology Cottbus-Senftenberg and the University of Bayreuth. In detail, this thesis describes the challenging environment of new product development and highlights particular circumstances in Small- and Medium-sized Enterprises (SMEs). The new method is intended to solve selected challenges, e.g. idea evaluation and selection, by combining multiple activities within new product development to result in an integrated method.

The methodological development begins with a characterisation of the research environment and analyses the traditional lead user method and preference measurement of the new product development process. Particular challenges are discussed and aggregated based on examples from industrial practice. This thesis is intended to contribute to the findings by promoting the Preference-Driven Lead User Method with the background of the research question "Can the lead user method and preference measurement be combined to result in an integrated method for new product development?". The aggregation of idea generation, concept development, and concept evaluation is modelled within one comprehensive method against the actual sequential process.

Observations from the theoretical part point to multiple adjustments that can be made. The presented Preference-Driven Lead User Method makes use of the lead user method to stimulate ideation and links this to preference measurement while using a user-based recommendation algorithm to generate reliable acceptance data for every identified innovative contribution. This is developed as a combined approach and nested within the lead user method.

The new method is employed in the various application fields. The first example covers the field of mountain biking with 104 respondents and indicates heterogeneity in ratings of novelty and market potential. The second one covers industrial IT-security and aims to develop an intrusion prevention system for industrial networks with 246 respondents. The application showed promising results with an increased market potential and a decreased concept novelty. A further survey covered 311 respondents in the business fields of mechanical

engineering industry, the automotive industry, and the field of market intelligence. The addressed business fields are presented separately with their specific market characteristics. The empirical investigation covers strengths and weaknesses of the lead user method per business field and evaluates the practical applicability of the new method. The results show that the Preference-Driven Lead User Method provides a benefit for future innovation projects.

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Further, I wish all the best to the OUI Community and hope that this thesis will make a significant contribution and stimulates new research topics.

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