Model of an efficient cooperative innovation process for small- and medium-sized enterprises (SME) and basic orientated research institutions (N. Dähne, K. Heisig, R. von der Weth)

Introduction:
In Germany, more than 99% of all firms are small and medium sized enterprises (SME) (ifm Bonn; 2015). Compared to large firms, SMEs have a more restricted access to production factors (labor, land, capital) for innovations (Welsh, White; 1981). Part of our current research project* is to show a successful way of sharing knowledge, research results and human resources between basic research institutions and SMEs. The objective of this work is to provide a functional basic model of an efficient cooperative innovation process. This model may help SMEs to understand what restraints innovation and shows useful steps for being successful in innovating and cooperating.

Methods:
First step: Literature review on the state of the art of innovation and cooperation. Second step: Analysis of best practice examples in literature and realization of interviews with 22 persons of SMEs, transfer institutions and research institutions in Dresden area (Saxony). Third step: Structured evaluation of results by analyzing barriers and factors of cooperative innovation by applying the MoP (Model of promotors - von der Weth, Dähne; 2017) and comparing best-practice examples with non-functional examples.

Result: Basic model incl. MoP - Model of promotors

**Innovation levels of maturity**

- **Level I** Beginner
- **Level II** Development stage
- **Level III** Coordinated innovation practice
- **Level IV** Innovation leadership
- **Level V** Innovative market leader

**Development path**

- SME
- Innovation barriers (internal)
- Innovation barriers (external)
- Cooperation barriers (external)
- Research institutions & universities
- Promotors

**Influenced by**

- Entrepreneurial innovation factors
- Regional innovation factors
- Cooperational factors

**Fundamental assumptions of MoP - Model of promotors**

Prerequisite for a successful cooperative innovation process is a functional structure of motives and incentives for all participants and providing a framework for well-functioning innovation.

Two cooperation partners often cannot provide all prerequisites for successfully innovating by themselves (Schumpeter; 1912), especially due to the lack of resources of SMEs. Therefore, additional project partners (promotors) for missing functions are included.

Conclusion:
The basic model gives SMEs an overview of different theories on successful innovation processes and highlights different barriers and influencing factors. To reduce innovation barriers the model shows a step-by-step process to reach the next level of innovation maturity and points out the need for functional completeness by including additional complementary partners.

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