EXECUTIVE SUMMARY

Title

Innovation management for construction companies - development of an integrated management approach to strengthen innovation and competitiveness

Initial status

Construction companies tend to have a rather conservative and noninnovative image, even though technical and process-related innovations are often developed there. Mostly these innovations are not used strategically but rather arise and remain in the sphere of a construction project. Therefore an approach to strengthen innovation for construction companies has been developed in this research project.

Subject of the research project

Technical innovations like materials or construction methods are typical innovations in the construction industry. They are developed and brought to market by preceding industries, so that construction companies often describe themselves simply as the users of these innovations. Innovative behavior and innovations go beyond the technology, beyond the scope of the construction and are independent of external conditions. For this reason, this research project first examined the theoretical background of innovations and innovation management to illustrate the wide range of possible areas of innovation. One major finding of this examination showed that systematic developments of innovations as well as the affiliated concern with the image of the individual company are part of goal-oriented decision processes in the context of strategic management.

Strategically forced innovation that goes beyond technology (organizational, market- or business-related) can also lead to competitive advantages. Yet the framework conditions of the construction industry are often pointed out as a reason for the lack of innovation. Therefore the next step was to analyze the innovation environment to validate this claim and to derive from this the room for maneuver.

The innovation activity of successful SMEs was queried within the framework of a three-stage empirical research based on these investigations. First, in exploratory talks the theoretical knowledge was collated with the practical experience. During this step a first approach for a working model of the aspired management approach was also developed. In step 2 qualitative interviews were conducted with specific construction companies, public and private clients, as well as associations with the purpose of examining how innovations are understood and dealt with as well as identifying drivers and obstacles to innovative action in the construction industry. The findings of this study were then validated in a quantitative survey. As a result company clusters could be classified which differed in their innovative behavior and innovation deficits.

The next step of the research project comprised the analysis and mapping of tools and activities of innovative action for each of the identified fields of action. Thereby both best-practice models of other industries and tools from the construction industry for generating and implementing innovative ideas were described and assessed. Practical

examples of successful implementations within the construction industry, which fulfill the four categories and fields of action, serve as an indicator for applicability:

- **Communication** within the company and with market partners can be understood as the basis for innovative processes.
- **Cooperation** within the company and with market partners are based on communication and mutual trust.
- **Company internal**, human capital is considered of greatest innovation potential that can be positively influenced, e.g. by staff development and innovation departments, corporate culture, but also external training opportunities.
- **Corporate external** factors like research or innovative tendencies on behalf of market partners (suppliers, planners, subcontractors, etc.) have a rather technical nature (new building products and procedures).

The findings of the previous investigation steps were finally transferred into a guide for SMEs in the construction industry. To ensure an application of the described tools and measures, it was made certain that the content was in alignment with the target-group. The results of the research project are therefore divided in the detailed final report, as well as the application-oriented short form of the guide.

Conclusions

The research project showed the various possibilities of innovative action for construction companies. At the same time there is often a rather negative attitude towards innovation within the construction industry. That is why the application of the available methods is not as common place as it could be. The created guide provides suitable tools to facilitate the dealing with and the understanding of innovations. The basic message is that innovations begin "in the details", and that small steps often lead to more innovation without being automatically linked to great expenses.

Basic facts

Short title:	INNOMA
Researchers:	Prof. Dr.-Ing., Dipl. Wirtsch.-Ing Hans Wilhelm Alfen
	Prof. Dr. Jutta Emes
	Dipl. Wirtsch.-Ing. Stefan Menges (PL)
	Anika Müller M.A.
	Dipl.-Ing. Marten Oeser
Total costs:	€ 253,853.96
Share of federal grant:	€ 173,853.96 (68%)
Timeline:	1 June 2012 – 30 November 2014