

The project „Innovation in the Building Sector – from the Idea to the Market“

Starting point and target objective

The environment for innovations in the building sector is often less fertile than it could be. According to current studies, the room for improvement is most apparent in the organizational framework of the companies themselves, the lack of consequent development of innovative ideas and the ineffective exploitation of already existing solution approaches. In comparison to other branches, the building sector regularly lacks behind when it comes to establishing indicators for innovation as the number of patent applications or the budgets allocated for research and development.

This phenomenon can be partially explained by the special characteristics of the building sector itself: innovation here most often takes place incrementally and is consequently less visible. Additionally, the strongly diversified supply chain that often includes multiple craft sectors and building tasks that vary from project to project are also seen as inhibiting factors for the implementation of fundamental innovation.

A look at the future of the building sector and the changing legal requirements and customer demands reveals, however, how extensive the potential for innovation and novel design really is. The demands to protect the environment as well as the climate, combined with new forms of energetic building modernization and domestic engineering play a large role in this development and here the building sector is increasingly calling attention to itself as a competent counterpart for environmental management and climate protection. The frequent calls for intergenerational building and a correlated lifecycle extension of these structures due to flexible application forms can act as a further catalyst for innovations in this sector. And newly emerging business areas going hand in hand with the expansion into the fields of financing, development and operation increasingly create opportunities for the building branch to offer complementary products and services and evolve into system providers. However, besides the technical know-how, companies in the building sector will also have to be aware of optimizing their structures, innovation management processes and of creating organizational capabilities for innovation.

In cooperation with the project's partners, the central goal of "Innovation in the Building Sector – from the Idea to the Market" was to develop tailor-made concepts for the operational implementation of innovation management in the building sector. As part of the research initiative "ZukunftBau" (future building sector), the project was financed by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and guided by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) within the Federal Office for Building and Regional Planning (BBR). It had a duration of two years (01.03.2012 to 01.03.2014) and included a total of eight companies, which cover a large portion of the "building sector's value chain" with their chosen fields of activity. Since the economic preconditions and requirements placed on the innovation management vary according to the size of the company and the services it offers, the project could do justice to the strong heterogeneity within the building sector by including a wide spectrum of partners: from architect- and engineering bureaus to general contractors, representatives of the main construction trades and manufacturers of building components. The company sizes ranged from about 20 to several thousand employees. The

difference in size led to each one of them being shaped by different perspectives and requirements regarding the development of innovative ideas and many of the participating companies have already enlarged their product and services palette to cover the entire lifecycle of a building.

Approach

Collection of data within the partner companies

The cooperation with the partners consisted of individual workshops conducted within those companies and thereby facilitating the immediate observation of conditions on site. One of the goals of these workshops was to ascertain the current situation within the companies; to achieve that goal, interviews were conducted with various company representatives, who were each involved in the generating and implementation of innovation schemes to a differing degree.

In addition to these company-internal workshops, meetings including all of the project partners were conducted in so-called working groups. They afford the participating companies an opportunity for topical exchange and provided a platform for the scientific project partner to present the conceptual results and open them up for discussion.

The project meetings were also used to collect feedback from the corporate project partners and to gather their expert opinion regarding the internal and external conditions for innovation within the building sector. In addition to the combined effort with the corporate partners, the specific innovation conditions for the building sector were derived from the study of relevant literature and in cooperation with the Central Association of the German Construction Sector (ZDB) and its Rhineland-Palatinate subsection (Baugewerbeverband Rheinland-Pfalz e.V.).

In order to structure the approach concerning the data collection and evaluation and to analyze the results, several already existing concepts for holistic innovation management have been combined to develop a structure model.

Identification of operational development fields

During the evaluation of the data collected from the corporate project partners, a total of 20 operational fields of development have been deduced; they can be viewed as crucial for a successful operational innovation management for those companies. They were identified by comparing the collected data with the descriptions of successful innovation management taken from literature and by evaluating their respective status of implementation. This method showed that while in many companies certain fields of development showed positive examples, in others there still was significant room for improvement to be found.

By bundling the results from the data evaluation in the form of generally formulated fields of development, a broad spectrum of individual topics could be covered that turned out to be helpful for the intended holistic view regarding the management of innovation in the building sector “from the Idea to the Market”.

Practical knowledge modules

Following the evaluation of data and the identification of relevant operational fields of development, a project-based set of tools with the contentual emphasis on “Promoting Innovation Skills and Innovation Willingness in the Building Sector” and “Implementing Innovative Ideas Successfully “was compiled and during additional company-internal workshops and overall group meetings discussed.

For a total of 15 topics, concepts and instruments for a holistic innovation management in the building sector could be developed as a result of these processes. These topics were then prepared for the operational praxis in the form of two complementary brochures. The goal of these brochures is to support companies within the building sector all the way from the development to the marketing of innovative ideas by providing praxis-oriented concepts and methods. They can be down-loaded free of charge from the document server of the University of Kaiserslautern, KLUEDO (in German).

The following chart illustrates the 15 topics contained in the brochures and their contentual classification in the innovation process

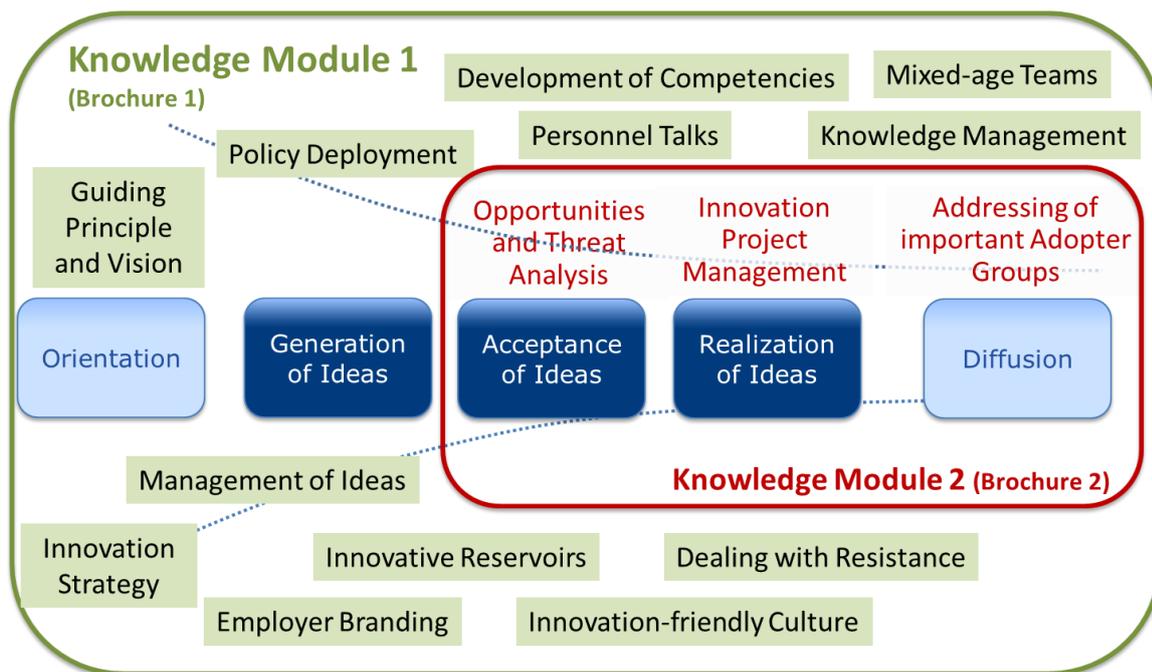


Figure: Integration of knowledge modules in the innovation process