Use of roadmapping as a strategic planning tool in industrial and research organizations

June 30 2023

The Fraunhofer Group for Innovation Research, which includes Fraunhofer IAO among other Fraunhofer Institutes, has collaborated with the Institute for Manufacturing (IfM) Cambridge, the Massachusetts Institute of Technology (MIT) and TIM Consulting to publish a field study that discusses the status of the use of roadmapping as a strategic planning instrument in organizations.

A roadmap presents a connected network of paths which can be used to find and plan various routes to a destination or goal. A number of organizations make use of this method to carry out "roadmapping." Following the metaphor of a navigational [roadmap](link), management roadmaps chart structured time-based pathways to reach strategic goals, supporting integrated [strategic planning](link) and communication across organizational units.

The importance of integrated strategic planning increases in times of volatility. But how do organizations put roadmapping into practice? What methods and tools do they draw on and what can we learn from this?

Roadmapping: Untapped potential?

In their "Roadmapping Field Study Update 2023," the Fraunhofer Group for Innovation Research, which is made up of the Fraunhofer Institute for Industrial Engineering IAO, along with the Fraunhofer Institutes ISI, INT, IMW, IRB and IIS, as well as IfM Cambridge, MIT and TIM Consulting, examine the question of how roadmaps are actually used in practice. The study investigates the status in organizations in industrial and research sectors. In their work, the team of authors considers [current](link)

[trends](#) and further developments in roadmapping. At the same time, the structure and content of the study can be used to identify potential for improvement in one's own organization.

The 2023 publication builds on the "Practical study on roadmapping—Insights into practical application, future challenges and success factors of roadmaps in everyday business in Germany" which was conducted and published in 2015. The result at that time was that roadmaps were mainly being used over a five-year timeline and mostly for products, technologies and projects.

In addition, only one quarter of the organizations involved in the study applied roadmapping for production planning, and a large proportion did not use the dedicated Roadmapping Software solutions, preferring instead to create roadmaps based on standard office software. An overview of available roadmapping software solutions, for example, was published based on these results.

The update: New requirements but not everything has changed

Since 2015, the world has not exactly become less complex. And when it comes to the methodical development of roadmapping, there have been many changes too. Given this backdrop, the authors joined forces with international partners IfM Cambridge and MIT to incorporate globally relevant experts as well as to reach organizations outside German-speaking countries.

Based on the previous study, the authors defined four areas to form the structure: "application areas and content of roadmaps," "organizational integration," "[information sources](#), methods and tools" and "challenges and best practices." The most important developments include the

detailed consideration of the use of complementary methods and the additional category "information sources, methods and tools" which cover questions on the use of automated data analysis, machine learning and artificial intelligence.

According to the participants, particularly promising methods, structures and processes include the formation of cross-functional roadmapping teams across various planning levels, the close involvement of stakeholders and the regular review and development of the strategy. With respect to the content of roadmaps, it has been found that the importance of business model development has increased; however, production planning is still only rarely modeled in roadmaps.

The majority of the participants also continue to use office software as their roadmapping tool. At least one quarter of the organizations taking part already uses automated data analysis tools in the context of roadmaps. Having said this, the general level of knowledge regarding roadmapping has only changed slightly within the participating organizations since 2015—a large proportion of those surveyed stated that their level of knowledge was "low or medium."

Prof. Sven Schimpf, managing director of the Fraunhofer Group for Innovation Research and co-author of the study, states, "The study is not intended to represent a specific sector or group of organizations, but rather aims to shine a light on the current status in order to point out approaches for action and improvement regarding the application of roadmapping."

He also makes the following appeal: "Roadmapping is an interdisciplinary approach and can be used with a high degree of flexibility—its potential for organizations is therefore huge. However, a high level of commitment from all stakeholders involved is required for it to be applied successfully."

More information: [Roadmapping Field Study Update 2023](#)

Provided by Fraunhofer-Gesellschaft