

## Executive Summary

Innovations play a central role in today's economy and society. This manifests itself in record innovation expenditures of German companies. Thus, the key question is not one of whether companies innovate, but how they do it properly. Revolutionary changes in the environment of the companies such as the transition from a seller to a buyer's market, led to an increased pressure on the innovations to be successful and the previously practiced „strategy of hope“ has been increasingly replaced by a systematic measurement and management of innovation activities. Innovation performance measures play an important role in this context, but a comprehensive literature analysis revealed the small empirical state of research of this extensive and young research field. Against this background, the primary goal of the study was to gain in-depth empirical insights about the design, use and success impacts of innovation performance measures and the relationships amongst them to derive useful practical recommendations. For this purpose, a survey of large German companies with an industry affiliation of mechanical engineering, vehicle and electrical industry was conducted, that involved 190 innovation manager, especially Head of R&D. The collected data was analyzed using structural equation modeling, which delivered useful results.

The conducted descriptive analyzes and best practice analyzes provided first results about innovation management and especially about the current application level of innovation performance measures. Successful companies are characterized by a more intensive application of nearly all measures and categories of measures, which are based on the innovation balanced scorecard. The conducted covariance based analyzes showed the importance of the content-related design aspects balance and connection as well as the application-related design aspect timeliness of innovation performance measures for their quality. The other structural equation models which are based on the systems theory and the behavioral accounting approach showed the outstanding importance of the quality of innovation performance measures for their interactive and especially their diagnostic use as well as the resulting success impacts. With the help of qualitatively good innovation performance measures and their use in different ways, it is possible to explain and improve a great extent of the innovation success and in particular the efficiency and effectiveness of innovation activities as well as the financial success. Even the innovation capabilities that are central for the innovation activities are positively influenced by the use of innovation performance measures. The innovation manager as person in charge for the innovation activities as well as their measurement and management plays a central role within the whole innovation management process. That was the reason why in-depth analyzes concerning the influence of the use of innovation measures on his individual management performance were carried out. Qualitatively good innovation performance measures and their interactive and especially diagnostic use lead to huge individual performance improvements. Of the alternative analyzed types of use feedback and feedforward, the later has a dominant importance for the individual management performance. The conducted moderator analysis on the basis of the situational approach concerning the impact of contextual factors on the relationship between quality of innovation measures and their diagnostic as well as interactive use and the individual management performance revealed some interesting moderating effects of the external (competitive intensity and market uncertainty) and internal contextual factors (innovation culture and innovation strategy) as well as the personal contextual factor user know how about innovation performance measures. In addition, the author derived numerous valuable recommendations for the corporate practice from the large number of results and findings.