

Chapter 8

Innovation Management in Research and Development Projects: Key Performance Factors Oriented to Industrialization of Results and Market

Arturo Cordón-Pérez
University of Cantabria, Spain

Pedro Solana-González
University of Cantabria, Spain

Daniel Pérez-González
University of Cantabria, Spain

Sara Trigueros-Preciado
University of Cantabria, Spain

ABSTRACT

This chapter studies the challenge of the management of the R&D and innovation (hereafter R&D+i) projects considering an empirical focus through an in-depth analysis of R&D+i project sample developed for industrial companies. This work evidences that, in order to innovation projects would be a success, it is necessary to ensure the participation of all stakeholders, from the conceptual and design phase of the project to the industrial-production and market phases and it must be taken into account the processes of watching and competitive intelligence, the continuous assessment of the viability of the projects, the industrialization of the results, and the innovation through the operating plans focused towards the market. Accordingly, the chapter presents the key performance factors to take into account for the improvement of R&D+i projects management and results.

DOI: 10.4018/978-1-5225-3012-1.ch008

INTRODUCTION

Innovation is one of the key factors in the competitiveness of the companies and hence of their national economies. The globalization experienced in recent decades has created a new competition scenario of countries with low production costs and increasing quality that makes difficult to survive on the basis of traditional models, such as cost leadership and differentiation by quality. In this present scenario, it is essential to create a differential value based on innovation in products, services and, overall, in business processes which provide a sustainable competitive advantages.

In the case of Spain, during the last decade, there has been a considerable effort to foster innovation and achieve technological convergence with the more developed countries of the world, however the expected objectives have not been achieved, neither on the spending nor on the results' levels. Thus, in the year 2015, the Spanish spending on research and development (R&D), which represented 1.22% of Gross Domestic Product (GDP) (Eurostat, 2016), allowed to achieve a discreet 16th place in the request ranking of the Patent Cooperation Treaty (PCT) at a global level (OMPI, 2016), which is below the relative weight of the Spanish economy in the world.

The economic and social actors - public administrations, political organizations, trade union and business - agree to consider Innovation as one of the cornerstones of the competitiveness of the enterprises and they promulgate a strong investment commitment for that. Although it is relatively easy to talk about Innovation from a theoretical perspective, develop it successfully is difficult. Investing in research, development and innovation (R&D+i) does not necessarily imply generating innovations as traditionally was tended to consider. In this regard, one of the singular characteristics of the innovation processes is to require assuming significant risks and technical difficulties often, where the investment of significant resources is not a direct guarantee of profitable results.

Innovate is to produce novelties that are developed successfully on the market, is to create value and to generate a competitive advantage in line with the company strategy. The aim, therefore, should not be to reach a certain level of spending and/or to provide a certain level of public funding under preferential conditions, but to obtain profitability, for which it is necessary to develop successfully the innovation process, optimizing resources and minimizing risks.

The achievement of this goal requires, on the one hand, an important cultural change at all levels to allow a gradual overcoming of the multiple technical economic-financial and organizational barriers that hinder innovation; and, on the other hand, a global and integrated focus on project management, in which takes special relevance the achievement of the proposed business case, founded on the application of the knowledge generated in R&D+i projects based on the company strategy and the competitive intelligence.

Currently, there is a lack of know-how applied to the development of the innovative projects, a fact which is reinforced by the absence of specific methodologies that established in true knowledge and reference experiences in matter of R&D+i project management. For all those reasons, this work aims to contribute to overcome this weakness, identifying key performance factors and project management improvements that can serve as a complementary methodological support to generic project management standards, making possible to identify the critical differential aspects of R&D+i projects and to draw the appropriate roadmap towards its successful implantation on the market.

To achieve these objectives, the chapter is organized in the following sections: first, a review of the literature is made to analyze the methodological sources of project management and the specific standards of R&D+i matter; second, the methodological framework of the research is presented, which is formed, on the one hand, by the documentary research realized and, on the other hand, by the empirical

19 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/innovation-management-in-research-and-development-projects/204219

Related Content

Ensuring QoS Over Wireless Channels for E-Learning

Sparsh Mittal (2014). *Encyclopedia of Business Analytics and Optimization* (pp. 824-831).

www.irma-international.org/chapter/ensuring-qos-over-wireless-channels-for-e-learning/107285

RETRACTED: A Data Analytics Study for Adverse Reactions of Blood Donors by Age, Gender, and Donation Type

Muhammed Miahand Shah J. Miah (2021). *International Journal of Business Intelligence Research* (pp. 1-16).

www.irma-international.org/article/retracted-a-data-analytics-study-for-adverse-reactions-of-blood-donors-by-age-gender-and-donation-type/269447

The Development of Servitization Concept in the Era of Industry 4.0 Through SCM Perspective

Tunca Tabaklarand Cansu Yildirim (2020). *Handbook of Research on Strategic Fit and Design in Business Ecosystems* (pp. 593-615).

www.irma-international.org/chapter/the-development-of-servitization-concept-in-the-era-of-industry-40-through-scm-perspective/235594

Digitalization, Robotics, and Genomic Research in Livestock Development

Lozynska Inna, Svitlana Lukash, Maslak H. Nataliaand Brychko Alina (2021). *International Journal of Business Analytics* (pp. 38-45).

www.irma-international.org/article/digitalization-robotics-and-genomic-research-in-livestock-development/276445

Knowledge Sharing between Local Government and Rural Remote Communities in Tanzania: Technology Strategies and Cultural Practice Can Work Together

Chantal Philips, Wulystan P. Mtegaand Arja Vainio-Mattila (2016). *Business Intelligence: Concepts, Methodologies, Tools, and Applications* (pp. 1612-1631).

www.irma-international.org/chapter/knowledge-sharing-between-local-government-and-rural-remote-communities-in-tanzania/142693