

# Ontological Model of Knowledge Management for Research and Innovation

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**Abstract.** Organizations should focus on effective knowledge management in order to improve their competitiveness in the current Knowledge Age. Given this need, ontologies have emerged as a new approach for the development and implementation of knowledge management systems. Ontologies allow applying modeling methods in order to design the structure of the organizational knowledge. In this work we present an ontology-based model for the knowledge management in research and innovation. The knowledge-based model proposed allows describing aspects such as the business model processes, the organizational intellectual capital, and the dynamic behavior of the processes of a research and innovation organization.

**Keywords:** Business model · Business process · Ontology · Knowledge management · Research and innovation

## 1 Introduction

Research and innovation are a mixture of different skills and activities. Throughout history, research and innovation as a way of knowledge generation have taken routes through which disciplinary knowledge has transited. These routes became less clear taking into account the current world, where the amount of information available in the Web and internal organizations have been steadily increased. Therefore, there is a need for new mechanisms that allow performing knowledge management activities in an efficient way. Knowledge management within university research institutions must be identified with the organizational culture, the dynamism of knowledge generation, and a multidisciplinary approach. This fact requires to consider the intellectual capital through its three areas, human capital, structural capital and relational capital, as well as the organizational learning. The present work is based on the business model processes and is focused on the research and innovation processes. Applying our approach to the aforementioned process will allow measuring and assessing the generation and dissemination of knowledge, as well as providing the users with this knowledge, avoiding withholding knowledge at the organization.