

Chapter 27

Challenges of the Implementation of Research, Development, and Innovation Standards: A Case Study From a Glass Bottle Manufacturer

António Carrizo Moreira
University of Aveiro, Portugal

Alexandra Goreti Figueira Evangelista
DEGEIT, Portugal

ABSTRACT

This chapter analyzes the challenges faced by a glass bottle manufacturer when incorporating the research, development, and innovation (RDI) standards into the firm's integrated management systems. Based on a case study, this chapter explores how the firm managed to incorporate the new standards into the already set of integrated management system based on the ISO 9001, ISO 14001, and OHSAS 18001 standards that the firm has managed to internalize in its continuous improvement process. In order to incorporate this new RDI management system, the firm developed a set of three procedures that involve an ideas management and opportunity evaluation procedure, a production knowledge interface management procedure, and an RDI project management system. These three procedures are now internalized as part of the integrated management system.

INTRODUCTION

International competitiveness has forced many businesses to develop their intrinsic potential investing in the continuous improvement of their products and processes, in order to face the relentless challenges of a global changing context (Ribau, Moreira, & Raposo, 2017).

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Challenges of the Implementation of Research, Development, and Innovation Standards

Innovation is a key differentiation factor companies employ to improve their products/services and/or to increase their operational efficiency, so that they strengthen their competitiveness and increase customer satisfaction (Moreira, & Karachun, 2014).

Integrated management systems have normally been used for businesses to augment their competitive advantage. This integrated management systems have been incorporating quality (ISO 9001), environmental (ISO 14001) and safety standards (OHSAS 18001), sharing principles and management techniques. All of them have one target in common: continuous improvement (Zeng, Xie, Tam, & Shen, 2011; Sampaio, Saraiva, & Domingues, 2012).

The process of integrating new standards in the management systems has been troublesome for some companies as some tasks and challenges are brand new and some other are overlapping (Karapetrovič & Jonker, 2003). The incorporation of research, development and innovation (RDI) standards (NP 4457) into the integrated management systems has not been either an easy task. As such, this chapter addresses the study and elaboration of the procedures involved in the implementation of the standard NP 4457, in the integrated management system (IMS) of a glass bottle producing company.

In this work, the ISO 9001, ISO 14001 and OHSAS 18001 standards are addressed as part of the company's IMS. As they share common management principles and techniques, the incorporation of the new RDI standards (NP 4457:2007) is going to be analyzed.

Based on the company's IMS, the incorporation of the new RDI management system is analyzed and three new procedures created explaining: new ideas management and opportunity assessment; interface and production knowledge management; and RDI project management.

This work is organized in six sections. After the introduction, which involves the first section, the second section is presented addressing the literature review both on innovation and Integrated Management Systems. It encompasses RDI activities and the importance of the incorporation of a RDI management system. The third section addresses quality (ISO 9001), environmental (ISO 14001) and safety standards (OHSAS 18001) and the incorporation of the RDI management system (NP 4457:2007) as part of an IMS, as well as all related concepts, strategies, methodologies and motivations behind integrated management systems.

The fourth section deals with the presentation of the case study, involving the integration of the different management systems, and section five addresses the description of the new procedures, actions and contributions of the integration of the NP 4457. The chapter finishes with the conclusion in section six.

INNOVATION

Innovation and quality are receiving more importance as competitive and differentiation factors among competitors are becoming an important part of many management processes. In the recent context of globalization, businesses must have the capacity to innovate in order to maintain their competitiveness. On the other hand, quality management systems have an important administrative role in today's businesses, as an organizational change vehicle (Zeng et al., 2011).

As Moreira (2011) refers, innovation is a key factor to improve the competitiveness of the institutions. However, the concept of innovation has been analyzed abusively to talk about products, services, processes and values (Dantas & Moreira, 2011) without taking into consideration the multidisciplinary and systemic perspective that have characterized a more embracing usefulness of innovation (Volberda, Van Den Bosch, & Heij, 2013).

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