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Organizational performance evaluation in intangible criteria: a model based on knowledge management and innovation management

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Abstract

Today innovation and knowledge management are determining factors for success and continuity of organizations. However, because they are considered intangibles, their measurement becomes a challenge. Therefore, this study aimed to develop a model to measure organizational performance with a focus on knowledge management and innovation management. To be able to do that, we used a quantitative research study, characterized as a multi-case study applied to three companies in the metal-mechanic sector in southern Brazil. The methodology uses the assumptions of well-known methods such as the Key Performance Indicators, the Swing Weighting and Simple Attribute Rating Technique. With the results, it could be seen that the proposed model can be an effective tool for assessing organizational performance and that, in its application, the surveyed organizations could already identify their main weaknesses and use the results reported to improve its management.

Keywords: Knowledge management; Innovation; Competitive advantage; KPIs

Introduction

In a world of constant change and where organizations compete with literally everyone in the global network, there are many studies on how to differentiate amid increasingly constant innovations, increasingly improved techniques and knowledge ever wider. The need for the organizations to adapt grows, given the discontinuities created by the globalization level, high volatility, hyper-competition, demographic changes and explosion of knowledge (Porter, 2009). The media, continuously faster, changes the business climate and every day it becomes more evident that organizational learning and knowledge management, as well as innovation, are prerequisites to face this kind of global trend (Easterby-Smith, Burgoyne, & Araujo, 2001; Nonaka & Takeuchi, 2008).

It is precisely this context that this paper seeks to explore. The era of knowledge as an important transformation of organizations, society and professionals, the management of that volume of knowledge following the changes and the importance of innovation as competitive advantage.

This paper adopts a broader definition of innovation in line with studies of Schumpeter (1984), focused not only on the product, but the phenomenon that goes beyond the dimension of technology. Moreover, it is emphasized that this article is geared to the firm, i.e., an internal dimension and not the systemic capacity of an economy\society to innovate.

It is evident that the ability to innovate is considered one of the most important features of competitive organizations. Because of this, the systematic search for radical innovations, i.e. those able to create new markets and provide rapid economic growth and production expansion and for incremental innovation, identified as continuous improvement processes, to "do better what was already being done", is critical to the survival of businesses (Carnongia, Santos, Santos, & Zachiewicz, 2004; Machado, Carvalho, & Heinzmann, 2012).

However, how to evaluate whether an organization is or is not competitive and innovative? How to measure the results

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of the management of its knowledge? Innovation and knowledge management are now considered intangible assets and, therefore, their measurements become a big challenge for organizations. Thus, in view of the presented topic, the objective of this study was to develop a model to measure organizational performance with a focus on knowledge management and innovation management. Therefore, it was considered necessary to build a measurement tool; to apply the proposed tool to evaluate its effectiveness; to analyze the performance index obtained in the surveyed organizations; and to compare the results obtained from the companies surveyed to identify key areas for performance improvement.

This research is justified by the imminent growth on the issue of knowledge management and also the importance of the subject associated with innovation. In the same vein, with competition increasing and intensifying the race to get ahead, innovation becomes an important strategy for growth and even survival for organizations. This work is also justified by the contribution to the business world as it seeks to explain and solve, through the scientific method, phenomena that are part of the daily routine of companies. It is also important to mention the subjectivity involved in the constructor of innovation and knowledge management because they are intangible. In this line, it is a very big challenge to measure the performance of organizations in these respects. This study contributes to a tool that enables this measurement.

The work is divided into four sections besides this introduction. The second section offers a brief review of the literature on the concepts involving knowledge management and innovation management. In the third, there is a complete explanation of the methodology used for the study. In the fourth, the results achieved by applying the proposed method are reported. The fifth section seeks to make an overview of the work, ending it with the book references.

Systems for organizational performance measurement

The process of performance measurement is considered one of the key elements of strategic management, being able to identify the gap between the current situation of an organization and the level of excellence to be considered, by proposing goals that are aligned with strategic planning and the use of indicators (Hill & Jones, 2012; Kaplan & Norton, 2008). The proposal of using indicators is based on the fact that tangible and intangible factors, such as innovation, can always be measured, as long as they use well-defined metrics, routines that operationalize the data collection and standardized measurement scales, translating scattered data into useful information for managing production units (Hubbard, 2009; Olson & Slater, 2002).

Takashina and Flores (1996) say that the use of indicators plays essential role in planning and control activities, since they enable the establishment of quantifiable goals that help in anticipating future events and monitoring of current processes, assisting in decision-making and in the pursuit of operational excellence. Consequently, the provision of these tools contributes to both innovation and knowledge managements when promoting mechanisms that bring back robust information on their processes to the managers (Parmenter, 2012; Samsonowa, 2012).

Fernandes (2006) highlights an important topic about the performance evaluation, to clarify that the expected results may differ between the various stakeholders in the performance of an organization. Notably, the owners seek maximum return on investment (ROI), employees seek maximum payment and customers call for innovative high quality products at the lowest price, so the main goal is often a conflict between these groups. Thus, it is important to outline to whom the performance measurement system is destined and to which strategic vision it aligns.

Several models are available in the scientific literature related to performance measurement, each one with features that seek to track the rapidly changing global market. This concern was demonstrated by Neely (2002), which notes the growing expansion on researching this theme.

Amidst all these proposals, a compilation made by Neuenfeldt Júnior (2014) presents in a summary form some of the models considered most relevant to the performance measurement as well as their main features, as it can be seen in Table 1. Q5

This list of possibilities, however, should not be understood as isolated models but as flexible options able to adjust the best possible way to the reality intended to be modeled, leaving to the user of the tool the responsibility to be sensible enough to do that, since even the scientific literature does not present a consensus of which method is most appropriate.

Adding to this, publications that are intended to identify desirable attributes in performance measurement systems such as the study by Figueiredo, Macedo-Soares, Fuks, and Figueiredo (2005) stand out, which identified the following nine characteristics based on the analysis of different bibliographic sources: organizational learning; critical analysis; balancing; clarity; dynamism; integration; alignment; participation; and causal relationship. The author also lectures on each of these attributes, in an attempt to guide the reader in the choice of an evaluation model. Accordingly, Simons (2009) argues on four points of view that should support the construction of a performance measurement system:

(a) Its function should be to transmit basic information about the case either having economic focus or not;
(b) It must contain routines and standard procedures;
(c) It should promote cross-checks that allow the systemic view of the business, not the exact representation of processes' data.
(d) It should focus on improving the efficiency and effectiveness of processes, directed to the goals.

In light of the desirable characteristics for a performance measurement system, the *Key Performance Indicators* (KPIs) stand out. Parmenter (2012) states that there is a general misunderstanding about the tool because many organizations use measurements that, despite returning valuable information,

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