Business Intelligence for Human Capital Management

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ABSTRACT

This article presents the results of an exploratory study of the use of business intelligence (BI) tools to help to make decisions about human resources management in Portuguese organizations. The purpose of this article is to analyze the effective use of BI tools in integrating reports, analytics, dashboards, and metrics, which impacts on the decision making the process of human resource managers. The methodology approach was quantitative based on the results of a survey to 43 human resource managers and technicians. The data analysis technique was correlation coefficient and regression analysis performed by IBM SPSS software. It was also applied qualitative analysis based on a focus group to identify the impacts of business intelligence on the human resources strategies of Portuguese companies. The findings of this study are that: business intelligence is positively associated with HRM decision-making, and business intelligence will significantly predict HRM decision making. The research also examines the process of the information gathered with BI tools from the human resources information system on the decisions of the human resources managers and that impacts the performance of the organizations. The study also gives indications about the practices and gaps, both in terms of human resources management and in processes related to business intelligence (BI) tools. It points out the different factors that must work together to facilitate effective decision-making. The article is structured as follows: a literature review concerning the use of the business intelligence concept and tools and the link between BI and human resources management, methodology, and the main findings and conclusions.

KEYWORDS

Business Intelligence, Decision making, Human Resources Management, Human Resources Metrics

1. INTRODUCTION

In the present context of increasing globalization, rapid technological advancement, and the move towards a knowledge-based economy, companies need to become technologically empowered to act in competitive environments.

This article presents the BI concept analysis applied to human resources management, identifying practices and dimensions that are crucial for the decision-making process of organizations. The main contribution of the research is the proposal of a model that applies the BI tools to the Human resources management effective decision-making process.

Business Intelligence helps organizations to use the information to gain a competitive advantage over competitors. It combines people skills, technologies, and business processes to make better strategic business decisions. The technologies and applications include data management methods for planning, collecting, storing, and structuring data into data warehouses and data marts as well as analytical tasks for querying, reporting, visualizing, generating online active reports, and running advanced analytical techniques for clustering, classification, segmentation, and prediction. A data warehouse focuses on enterprise-wide data, and data mart is restricted to a single process or a department, such as Human Resources (HR) department.

BI helps organizations to face growing difficulties in analyzing essential data to manage organizational changes. These changes have had a significant impact on the role of the human resources management (HRM), increasing strategic emphasis and aligned with business strategies (Mishra & Akman, 2010; Park et al., 2004). It is crucial to be able to meet the market needs with well-qualified employees (Hustad & Munkvold, 2005).

IT have allowed increased flexibility, speed, and quality of decision (Ball, 2001; Kashive, 2011; Mishra & Akman, 2010) in Human resources Management. Today, organizations wishing to compete in the knowledge-based economy can use IT as a powerful tool to strengthen their capacity and also management activities (Hempel, 2004; Snell et al., 2002; Tansley & Watson, 2000; Teo et al., 2007). Mishra and Akman (2010) note that organizations competitive advantage is seeking to implement targeted actions for the implementation of IT in the critical area of the HR function.

Organizations usually develop and implement information systems to address specific business needs like as to help decision-makers resolve complex problems, respond to crises, and seize opportunities needs (Martinsons & Chong, 1999). An important innovation within the HRM function is the use of IT, which has led to the development of computer-based human resources information systems (HRIS). Hendrickson (2003) observes that HRIS is the 'backbone' of contemporary HRM function.

HRIS is a concept which utilizes the development of IT for effective management of the HR functions (Hendrickson, 2003). This kind of system can acquire, store, manipulate, analyze, retrieve, and distribute information (Haines & Petit, 1997; Hendrickson, 2003; Kavanagh et al., 1990; Kashive, 2011; Tannenbaum, 1990). It combines two critical resources in a knowledge-based economy which can affect the overall performance of a business: people and information (Martinsons, 1994; O'Daniell, 1999).

2. BUSINESS INTELLIGENCE

2.1 Business Intelligence Concept

The concept Business Intelligence (BI) was reported by Hans Peter Luhn (1896-1964) to be defined as "the ability to grasp the relations of the facts presented to guide the action to the desired goal." Howard Dresner For (1989) considers the BI as an umbrella term to describe "concepts and methods to improve business decision-making supported on support systems. The idea includes the architecture, tools, databases, applications, and methodologies (Raisinghani, 2004). It 0llow interactive access to the data (sometimes in real-time) and provides to managers and analysts the ability to conduct a proper analysis (Turban et al., 2008). In general, the BI is the evolutionary process in which the data is subject to its transformation into information and then into knowledge. The data represent the raw material (OLTP), which after selection, processing and incorporation of summarization techniques (ETL) are stored in databases and tables themselves analysis system (Data Warehouse), giving the various stakeholders knowledge more extended data through the multiple analytical techniques system and visualization.

Today's highly competitive and rapidly changing business environment requires agility from organizations and high-quality decisions. With the right capabilities, BI plays an essential role to

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