

Chapter 10

Can Business Intelligence Enhance Organizational Performance Through Corporate Entrepreneurship?

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ABSTRACT

The dynamism of the knowledge society's technological complexity and the speed with which data are processed to obtain information relevant to the firm and to generate new knowledge are making it especially important to research big data and the application of artificial intelligence to business (business intelligence) through strategic interactive processes that enable exploration and analysis of structured information on areas of the firm. Then, the chapter will examine how strategic use of tools and strategic technological variables can help firms to improve the development of their entrepreneurial processes to promote the competitive advantage of businesses. The goals of this research are to strengthen and advance the literature on corporate entrepreneurship, technology management, and business intelligence; to theoretically promote the integration of firms into the digital environment; and to research the technological connections that enable exploitation of current knowledge and entrepreneurship in order to draw conclusions to improve organizational performance.

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INTRODUCTION

The dynamism and technological complexity of the knowledge society and the speed with which these data are processed to obtain information relevant to the firm and to generate new knowledge (Giménez et al., 2018; Xue, 2014) are making it especially important to research Big Data and the application of artificial intelligence to Business Intelligence (BI hereafter) through interactive processes that enable exploration and analysis of structured information on areas of the firm. Such analysis can reveal trends or patterns that enable the firm to promote ideas and draw conclusions to improve organizational performance.

This idea is supported by the consultancy IDC (International Data Corporation), which has affirmed that the data generated by firms will increase tenfold by 2020, from 4.4ZB to 44ZB in only 2 years (IDC, 2014). Thus, nearly 50% of existing information will be accessible virtually and can be monitored by firms. This trend in firms' use of social networks is not yet fully generalized, however. Only 49.6% of firms with Internet connection are using social media for business ends, with social networks as the most frequently used tools (INE, 2017).

Managers are aware, however, of the strategic opportunities that technological capabilities and social media provide, since 92% of the firms using these tools stated that the tools were of great utility for developing their business (improving company image, obtaining greater brand notoriety, promoting products or services). Then, technology management is becoming especially important for attempting to improve the firm's positioning in the market (Martín-Rojas et al., 2019). Along these lines, technology, characterized as a comprehensive driver of innovation, not only plays a key role in creating new products or processes but is strategic for the foundations of the technological industrial structure, due to its radical redefinition of the rules of business competition (Leblanc et al., 1997; Prajogo and Ahmed, 2006; Tushman and Anderson, 1986). Today, however, a great gap still divides research on technology such as Big Data and BI from the development of management research, especially in the field of corporate entrepreneurship (Giménez et al., 2018; Martín-Rojas et al., 2013).

If, in addition, we consider that one of the most important strategic management decisions in the current competitive environment is the development of technology and handling of the different *technological distinctive competences*, as well as the use of *technological social networks* or *social media and social networks* (Fernández et al., 2013; García et al., 2018; García-Sánchez et al., 2018; Garrido-Moreno et al., 2018; Martín-Rojas et al., 2011), it is clear that we should perform more in-depth research on *technological resources*, including Big Data. Such research will enable the firm to solve organizational problems more efficiently and promote objectives beyond the inherent goal of optimizing profits, thus helping firms to focus on the use of or search for new technologies (Bourgeois, 1981; Bradley et al., 2011). We should then research how these *technological capabilities or competences* promote the organization's experience or ability to mobilize technical and scholarly resources through a series of routines and procedures that enable development and design of new products and production processes (Real et al., 2006), and enhance the entrepreneurship throughout the organization.

Based on the foregoing, firms must promote development of their human resources technological capabilities through dynamic programs that enable them to stress the knowledge generated and develop Corporate Entrepreneurship (CE hereafter) (Leonard-Barton, 1987). This area encompasses not only new business creation, but also other related innovation activities, such as development of new products, services, technologies, administrative techniques, positions, and competitive strategies. Consequently, among the main strategic components of CE we stress *organizational innovativeness*, *capacity for new*

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