Computers in Human Behavior 62 (2016) 168–175

Contents lists available at ScienceDirect

Computers in Human Behavior

journal homepage: www.elsevier.com/locate/comphumbeh

Full length article

The impact of intellectual capital on the competitive advantage: Applied study in Jordanian telecommunication companies

Saad G. Yaseen [a], Dima Dajani [b, *], Yasmeen Hasan [a]

[a] Al-Zaytoonah University of Jordan, Jordan
[b] Marketing Department, Al-Zaytoonah University of Jordan, Jordan

A R T I C L E I N F O

Article history:
Received 10 February 2016
Received in revised form
23 March 2016
Accepted 24 March 2016

Keywords:
Intellectual capital (IC)
Human capital (HC)
Relational capital (RC)
Structural capital (SC)
Competitive advantage (CA)

A B S T R A C T

This research investigates the impact of intellectual capital components on the competitive advantage in the Jordanian telecommunication companies. The empirical findings indicate that the relational capital and the structural capital have positive impact on competitive advantage. Both the relational capital and the structural capital account for 48.4% of the competitive advantage. It is unexpected to find that the human capital does not have a significant direct impact on competitive advantage. However, it is valid to state that the human capital indirectly and significantly influences competitive advantage as it is embedded in the relational capital. The effect of the relational capital on competitive advantage is moderated by gender and age. The effect is strongest among younger men. In the case of the structural capital its effect is moderated by gender only such that the effect is slightly stronger for females rather than males.

1. Introduction

Although there is a wide consensus that intellectual capital (IC) influences firm's competitive position in a variety of industries, some researchers argue that its effect may be industry specific (Edvinsson & Malone, 1997; Bontis, Keow, & Richardson, 2000; Jaradate, Al-Samralie, & Jadallah, 2012; Firer & Williams, 2003; PekChen, 2005). During the last decade, studies on intellectual capital have continued to grow using different methods of analyses in different contexts (Sharabati, Jawad, & Nick, 2010). Thus, plenty of convincing conceptions have been forwarded in support of the need to understand the role of the intellectual capital in the knowledge intensive industries and advanced technology (Petty & Guthrie, 2000; Fernandez, Diaz, Rodriguez, & Simonetti, 2015). In the last decade the emergency of the knowledge economy has been attributed to a widespread recognition of the IC as a determining factor that drives innovation and economic growth. Intellectual capital offers a potential source of sustainable competitive advantage (Hayton, 2005). Although it is difficult to accurately measure intellectual capital as an essential intangible resources, its added value remains undisputed. Further, most research on intellectual capital and its relationship with performance has been conducted in western business settings. Meanwhile, although a few researchers have participated in highlighting the impact of IC in such intensive knowledge industry as Telecommunications, their contributions in general on the IC literature are very limited (Bontis, 2004; Seleim, Ashour, & Nick, 2004; Al-Rousan & Al-Ajlouni, 2010; Sharabati et al., 2010; Zeglat & Zigan, 2014). Thus, the purpose of this research is to investigate the impact of intellectual capital on the competitive advantage in Jordanian Telecommunication companies. One of the main reasons to examine this industry in Jordan is that telecommunication is considered to be one of the most knowledge-based intensive industries (Bradely, 1997). It is believed to be highly innovative (Chen, Zhu, & Xie, 2004), and rapid growth sector (Hermans, 2004). The telecommunication sector has a significant contribution to the Jordanian economy, representing 14% of the Kingdom's GDP in 2014. This sector represents an opportunity for the Kingdom to increase its competitive advantage over its neighboring Arab countries in the Region. Jordan is considered to possess the vital elements for information technology hub in the region. The ICT exports reached USD 324 million in 2013 and 85% of these exports were targeted to Arab countries. Furthermore, the employment rate in this sector is continually increasing and the employment number increased to 18,000 in 2014 (Jordan Investment Commission, 2015). It is for this reason that this research focuses on the telecommunication sector in

* Corresponding author.
E-mail addresses: saad.yaseen@zuj.edu.jo (S.G. Yaseen), D.Aldajani@zuj.edu.jo (D. Dajani), nooralsaif2@gmail.com (Y. Hasan).

http://dx.doi.org/10.1016/j.chb.2016.03.075
0747-5632/

Jordan.

2. Literature review

2.1. Intellectual capital

Intellectual Capital has been considered as a crucial factor in business by many, and formally valued by practically no one (Bontis, 1998). The impetus for this state is a set of challenges of how tacit knowledge and collective intelligence embedded in human capital, and organizational processes (Nonaka & Takeuchi, 1995; Bontis, Dragonetti, Jacobsen, & Roos, 1999; Wang, Yen, & Liu Gloria, 2014).

That is, the intangibility nature of IC leads itself to difficulty for understanding and managing within the entire organization. Actually, most scholars and managers have only vague concepts about how to manage invisible resources based on nurturing and developing human capital, structural capital and relational capital. This elusive intangibility of IC involves more rigorous conceptualization of IC as a discipline both in theory and practice (Bontis, 1996; Bontis et al., 1999; Calabrese, Costa, & Menichini, 2013). Initially, the work of particular researchers, such as Brooking (1996), Edvinsson and Malone (1997), Bradely (1997), Stewart (1997), Sveiby (1997) and Bontis (1998) was a major contribution to bring the concept to the forefront. The conceptual term "intellectual capital" is frequently used in an all-encompassing fashion (Petty & Guthrie, 2000).

Edvinsson and Malone (1997) assert IC as the value of intangible assets or knowledge that can be the difference between the book value and the market value (Brooking, 1996; Sveiby, 1997; Pablos, 2003) or all nonmonetary and nonphysical resources. Stewart (1991) explained intellectual capital as the intellectual material of knowledge, information, intellectual property, experience that can be utilized to create wealth. Bontis (1998), Curado and Bontis (2007), Tovstiga (2009) defined IC as encompassing human capital, relational capital and structural capital. Further, researchers have been decomposing IC in order to simplify its measurement and evaluation. Edvinsson and Malone (1997) argued that IC is stemmed on just two bases, human capital and structural capital. Structural capital is further divided into organizational capital and customer capital. The organizational, capital consists of process and renewal capital. Sveiby (1997) addressed an ultimate model of intangible assets monitor composed of internal structure, external structure and core competences. More precisely, the premise of IC is that it manifests all forms of hidden value associated with a company's intangible assets. Thus, recent research describes IC as a set of relational (Customer-relation) capital, structural (internal) capital and human capital (Mehralian, Rasekh, Akhavan, & Ghatari, 2013; Wang et al., 2014; Seleim et al., 2004). Often the concept of intellectual capital refers to knowledge capital, knowledge assets or intangible resources even if there is an assets of intangible nature that do not logically subset of the entire intellectual capital and its major three categories (human, structural and relational) (Petty & Guthrie, 2000). This research follows the framework that views IC as a synergic integrated set of human capital, structural capital, and relational capital.

2.1.1. Human capital

Human capital comprises all business capabilities embedded in employees and not owned by the organization (Hsu & Fang, 2009). It is the individual knowledge stock of an organization as represented by its employees (Bontis, Crossan, & Hullan, 2002). Mehralian et al., (2013) described human capital as the key element of intellectual assets and one of the most important sources of firms' competitive advantage. In this context, human capital refers to the resources which include tacit knowledge, skills and experience of the employees (Kamukama, 2013), or an organization's members possess individual tacit knowledge (Bontis & Fitz-enz, 2002). The notion of the human capital (talent capital) associated with innate ability, intelligence, creation and talent brainpower (Butter, Valenzuela, & Quintana, 2015). It is the core component of intellectual capital and the main source of intellect, innovation, and invention (Seleim & Bontis, 2013).

2.1.2. Structural capital

Structural capital contains explicit knowledge or codified knowledge artifacts. It is embedded in systems, databases and programs (Edvinsson & Malone, 1997) unlike human capital, structural capital (SC) comprises mechanisms and structures of the organization that support employees' productivity or performance (Bontis, 1998; Mehralian et al., 2013). It is the pool of knowledge and supportive infrastructure for human capital and relational capital. Bontis (1998) highlighted that without structural capital, intellectual capital would just be human capital. Organizations with strong structural capital can find a better fit with its human capital to relational capital. The combination of these competencies is often referred to as intellectual capital (Herremans, Isaac Robet, Kline Theresa, & Nazari Jamal, 2010).

2.1.3. Relational capital

Relational capital represents embedded knowledge in customer preferences including suppliers and relationships with partners (Yitmen, 2014). At its core, RC is concerned with the mobilization of knowledge and relationship resources through social structure (Hsu & Wang, 2012). It is the broaden concept of customer capital (Bontis et al., 1999). The extant literature views relational capital as knowledge embedded in all relationships between an organization and its stakeholders. Thus, customer capital is considered by many as a subset of the relational capital (Hsu & Wang, 2012; Saxena, 2015). Further, RC is an intangible asset based on nurturing and developing high quality relationships with employees, customers, partners, suppliers, competitors, and other stakeholders that positively influenced performance and competitive advantage.

2.2. Intellectual capital and competitive advantage

Organizations possess various numbers of resources that affect their performance. These resources can be tangible or intangible assets that have a direct or indirect impact on their competitive advantage (Omerzel & Gulev, 2011). The Intellectual capital can be regarded as intangible assets or knowledge assets within organizations (Choong, 2008; Grimaldi, Cricelli, & Rogo, 2012). The knowledge asset is either static that means the available stocks (knowledge) within the organization (Sveiby, 1997) or dynamic (the flow) that is the result of knowledge progression in the stock communication (Ross et al., 2005). Furthermore, Nahapiet and Goshal (1998) have stated that the intellectual capital is created through the combination and exchange of intellectual resources that may be represented as explicit or tacit knowledge within organizations.

Knowledge is the most important resource in organizations and is considered to be a fundamental base in creating competitive strategies, national and global growth and profitability (Wong, 2005; Ruzzier, Antoncic, Hisrich, & Konecnik Ruzzier, 2007). In his research, Quinn (1992) has asserted the importance of knowledge stressing the fact that the intellectual resources and the service capabilities of the company are greater of importance than its tangible resources. Therefore, the intellectual capital represents a vital source of knowledge and knowing within organizations. The role of strategic management is not only to allocate the intellectual