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Challenges faced by Pakistani pharmaceutical industry: An intellectual capital perspective

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Abstract

Intellectual capital is recognized as one of the most critical factors for the success of organizations in a knowledge-based economy. In a knowledge-based economy high tech organizations are facing tremendous challenges to gain competitive advantage. The main objective of this study is to introduce the concept and applications of intellectual capital in Pakistani pharmaceutical industry. Pakistani pharmaceutical industry is one of the major industries and it has 70% of share to fulfill the demand of finished pharmaceutical products. This industry also contributes in economic growth and development. This study is a preliminary in nature and it will also be a milestone for future research on this topic.

Keywords: Knowledge-based economy; intellectual capital; challenges; pharmaceutical industry; competitiveness

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1. Introduction

The concept and applications of intellectual capital has attained significant attention among researchers, academicians and practitioners. In the beginning of the twenty first century intellectual capital appeared as a major source of competitiveness for organizations. In the present era, most of the organizations, particularly high tech and knowledge intensive are based on intellectual capital. According to Khalique, Shaari, Isa, and Ageel (2011c) intellectual capital is a critical source for organizations to gain competitive advantage in a knowledge-based economy. However, Sharabati, Jawad, and Bontis (2011) and Collis (1996) stipulated that despite the importance of intellectual capital generally most of the organizations don't know the role and applications of intellectual capital in their organizations. In a knowledge-based economy organizations are facing intense globalized competition for their survival; there is a widespread recognition that intellectual capital is a critical force that drives economic growth (Huang & Liu, 2005).

Knowledge is a critical element that change the competition model of business from time to time, and it has been recognized as one of the most important success factors to a organization in many key aspects, such as innovation, quality and so on (Gholipour, Jandaghi, & Hosseinzadeh, 2010; Ooi, 2009; Wang, Chang, Huang, & Wang 2011). Intellectual capital constituted the intangible assets of organization. Today, the intangible assets of organizations are considered more influential than the tangible assets and these are also referred as the intellectual capital of organizations. The paradigm of business shifts from an asset centric environment to a knowledge-based environment. Therefore, the recognition and application of intellectual capital is prerequisite for the success of organizations in competitive environment (Wang et al., 2011; Khalique, Shaari, Isa, & Ageel, 2011d). Wu, Chang, and Chen (2008) identified that the intellectual capital has significant positive impact on innovation and ultimately innovation management would subsequently improve the performance. Undoubtedly intellectual capital mainly prompt organization performance and certainly it is the most important subject for technology and knowledge driven industries (Wang et al., 2011).

Daum (2005) also pointed out that the pharmaceutical industry is a knowledge-intensive and a source of great intellectual capital. In the same way, Wang et al. (2011) argued that pharmaceutical industry is making more investment consistently in order to acquire and protect their intellectual property rights. Pharmaceutical industry also makes investment in research and development (R&D) sector to take competitive advantages over rivals. This industry is considered as high research-intensive, high innovative, well balanced in respect of human intervention and technology, and most importantly it based on intellectual capital for a source of renewal and business performance (DeVol, Wong, Bedroussian, Wallace, Ki, Murphy, & Koepp, 2004; Chen, 2004; Hermans, 2004; Zucker, Darby, & Brewer, 1994; Isaac, Herremans, & Kline, 2010, Khalique, Isa, & Shaari, 2011a).

Sharabati et al. (2011) argued that a large amount of the existing research on intellectual capital has focused on the developed world particularly within Anglophonic and Scandinavian nations. The researchers from the developing countries also have conducting their research to indentify the role of intellectual capital toward the innovation and the performance of organizations; for example, Mexico (Trevinyo-Rodriguez & Bontis, 2007), Malaysia (Bontis, Keow, & Richardson, 2000), Egypt (Seleim, Ashour, & Bontis, 2004), Pakistan (Shaari, Khalique, & Isa, 2011; Khalique et al., 2011d) and Iran (Mahmoodsalehi & Jahanyan, 2009).

The scope of this study is a unique in nature because the concept of intellectual is not well known to most managers in the pharmaceutical industry in Pakistan. In Pakistan there are few studies on the role of intellectual capital toward the organizations performance. Khalique et al. (2011d) introduce the concept and indentify the role of intellectual capital in high tech small and medium enterprise in Pakistan.

2. Literature review

At the beginning of twenty first century many academicians, researchers and practitioners are attempting to explore the concept and applications of intellectual capital in depth. The term *intellectual capital* was first introduced by Jon Kenneth Galbraith in 1969 (Chang & Hsieh, 2011; Khalique, Shaari, & Isa, 2011b). Kozak (2011) argued that the concept of intellectual capital is still underdeveloped, and there is no uniform definition accepted for identifying its subcomponents. Despite the importance of intellectual capital, there is no uniform definition of intellectual capital. However, many researchers have presented views that give it a general concept. Stewart (1997, p.67) stated that intellectual capital can be defined as "*packaged useful knowledge*".

Furthermore, Stewart (1997) also explained that intellectual capital includes an organization's processes, technologies, patents, knowledge, employees' skills, and information about customers, stakeholders and suppliers. Stewart (1997) argued that intellectual capital is based on human capital, customer capital and structural capital. Bontis (1998) and Bontis et al. (2000) pointed out that intellectual capital is a set of intangible asset that drives the organizational performance and value creation. They also argued that intellectual capital is based on various intangible resources, such as employees' competence, knowledge, education, skill, intellectual agility, brand name, customers relationship and organization structure.

Sveiby (1997), Brooking (1996), Edvinsson and Malone (1997), Roos, Roos, Dragonetti, and Edvinsson (1997), and Bontis (1998) stipulated that intellectual capital consist of human capital, customer capital and structural capital. Kujansivu (2009), Bontis et al. (2000), Bueno, Salmador, and Rodri (2004), Wu and Tsai (2005), and Ismail (2005) widen the concept of intellectual capital and introduced three more components of intellectual capital, namely social capital, technological capital and spiritual capital. They applied these components of intellectual capital separately in their research. However, Khalique et al., (2011b) argued that intellectual capital is incorporating six major components of intellectual capital. These six components of intellectual capital jointly can define the concept of intellectual capital in more details. Therefore, they argued that intellectual capital mainly encapsulated six major components namely human capital, customer capital, structural capital, social capital, technological capital and spiritual capital.

3. Role of pharmaceutical industry in Pakistan

The Islamic Republic of Pakistan has an estimated population of 158 million and with a population growth rate of 2% per year (Pakistan Factsheet, 2007). Population has multicultural and multiethnic flavor and clearly showing an uneven in distribution. Pakistan has four provinces namely *Punjab*, *Sind*, *Khyber Pakhtunkhwa*, and *Baluchistan*. In three eastern provinces there is an estimated population of 78.6%, while Baluchistan, though occupying 44% of the total land area of the country has only 5% of its population (Pakistan Demographic Survey, 2003). Pakistan is one of the most populous countries in the world.

In Pakistan, pharmaceutical industry is one of the most important industries that are contributing in production of drugs and medicines for the treatment of human being. Therefore, there is need to explore the role of the pharmaceutical industry in Pakistan. Pharmaceutical market in Pakistan is estimated to be US $1.25 billion (Budget, 2004/05). The growth of pharmaceutical industry is indicating 9.4% per year and approximately 400 registered pharmaceutical companies are functioning in Pakistan. There are 30 multinational business units enjoying over 53.3 % of market share, while the rest (46.7%) is in the hands of national pharmaceutical units (IMS health, 2007; Drug Control Organization, 2007, Jamshed, Babar, Ibrahim, & Hassali, 2009).

Pharmaceutical industry is considered as one of the most important and major manufacturing industries in Pakistan. Pharmaceutical industry is a high tech knowledge-based industry, and it has significant contribution in economic growth and development. The role of this industry in providing employment is also significant. This industry is playing critical role in the manufacturing of health caring products and medicines. Pakistan pharmaceutical industry is providing high quality and essential products at affordable prices to millions of

Pakistani people. This industry is playing key role in promoting and sustaining development in the critical filed of medicine within the country but it also contributing in the international markets (PPMA, 2011).

4. Opportunities and challenges for Pakistani Pharmaceutical Industry

Pakistan has a very vibrant and conducive environment for pharmaceutical industry (PPMA, 2011). Pakistan pharmaceutical industry is a successful and high tech knowledge-based industry. Pharmaceutical industry has great potential in Pakistani market. This industry is growing consistently from the last six decades. However, in Pakistan there is still a lot of potential for pharmaceutical industry to establish new manufacturing unit to fill the gap of demand and supply in Pakistani market. In Pakistan pharmaceutical industry also has challenges for their growth and development. This industry is a complex and knowledge intensive, therefore it face multifarious challenges.

Rana, Salaria, Herani, and Gureshi (2009) pointed out that the in pharmaceutical industry in Pakistan is facing challenges such as increased buyer-cost sensitivity, global competition and technological advancement. There is no doubt that in a knowledge-based economy, intellectual capital of industry has secured significant attention. In a knowledge-based economy global business environment is mainly dominated by knowledge and innovation. In other words knowledge and innovation are the main pillars of success for the high-tech organizations. The increasing trend towards knowledge- based economy and interdependent world economy pushing nations and policy makers to a complex and competitive environment. It is indispensable for nations and organizations to have a profound understating based on intellectual capital and scientific analysis.

5. Conclusion and future research

From the last three decade the term intellectual capital has attained significant attention. Intellectual capital had played critical role to shift the production-based economy into a knowledge-based economy. Intellectual capital is a critical ingredient for high tech industry for their survival and growth in a competitive environment. Therefore, it is indispensable for particularly high tech industry to explore and apply their intellectual capital to achieve their organizational performance. In twenty first century, organizations cannot survive without recognizing the importance of their intellectual capital. In developed world the concept and application of intellectual capital is going to be matured.

In United State of America more than 60% of workers are considered as knowledge workers and knowledge workers are defined as "*Symbolic analysts*" Vargas–Hernandez and Noruzi (2010), and Ernst and Young (2006). In addition they argued that knowledge workers are those who manipulate symbols rather than machines. However, the recognition of intellectual capital in developing countries is still at initial stage. In Pakistan, there are few studies on intellectual capital. Khalique et al. (2001d) has conducted their empirical study on intellectual capital in SMEs in high tech industry. This was first study of intellectual capital that focused on Pakistani SMEs. During study they found that the components of intellectual capital have positive relationship with organizational performance of high-tech SMEs in Pakistan.

According to Cabrita (2009) by examining and utilizing each components of intellectual capital organizations can enhance their productivity and performance. Vargas–Hernandez and Noruzi (2010) pointed out that that in all entire the world all countries attempt to develop all their workers and staff capabilities in order to enhance the competitiveness of organizations. Many researchers agreed that intellectual capital is a backbone of knowledge-based economy. Therefore, only those organizations will stay alive in competitive environment those have knowledge workers and have the abilities to explore and utilize their intellectual capital effectively and efficiently.

It concludes that in future there will be big challenges for organizations to find out the knowledge workers from the market. It is critical for policy making agencies to formulate effective strategies to fix the coming challenges. In future, the researchers need to do empirical research in this area to indentify the role of intellectual

capital with organizational performance of Pakistani pharmaceutical industry. This study will be a milestone for others to emphasize in this area. In addition, the researchers also like to suggest the future contributors to apply the concept of intellectual capital along with all its major components empirically with full spirit.

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