

INTI INTERNATIONAL UNIVERSITY

MASTER OF BUSINESS ADMINISTRATION

INTELLECTUAL CAPITAL MANAGEMENT AND RESEARCH INITIATIVES IN MALAYSIAN UNIVERSITIES

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Abstract

It is evident from the literature that the importance of intellectual capital (IC) has heightened. IC has become an important strategic driver of innovation. Universities being the builders of innovation, it is crucial to emphasize on IC in improving research initiatives (RI).

Consequently, the purpose of this study is to explore the structural relationships among IC elements and RI in Malaysian Universities. This study classifies IC into three elements: human capital (HC), structural capital (SC), and relational capital (RC). The significance of IC in the education industry has been identified in the literatures. However, this has not been fully investigated in the context of Malaysian Universities.

Therefore, the overarching objective of the study will be to examine the impact of IC and its elements on RI in Malaysian Universities. To achieve this objective, quantitative approach will be used with questionnaire as a tool. SPSS software was used for descriptive analysis and PLS estimation software was used to test the relationship among constructs.

The result of the research indicates that HC and SC have a positive effect on RI, SC has a direct effect on HC, and HC and RC have an indirect effect on RI. It contributes to existing literature by giving new insights into the IC of universities and its relationship with RI.

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Obinna Chikwe

27th March 2012

Declaration by candidate

I hereby declare that this research project is of my own effort except for the information that has been used from various authors that have been cited accordingly and ethically.

27th March 2013

Obinna Chikwe

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CHAPTER 1: INTRODUCTION

1.1 Introduction

This opening chapter presents an overview of the entire study. It begins by offering the background of the research and the problem definition by highlighting the main issues of importance leading to the research gaps. It further outlines the research objectives that encapsulates the entire research direction and provides a clearer scope, limitations, and operation definitions of the research before making claims of any prospective contribution.

1.2 Background

The global economy has shown embryonic changes and this has resulted in an alteration from the traditional forms of tangible economic drivers such as equipment, real estate and plant to an economy that is fostered by the utilization of intangibles such as knowledge (e.g., Sharabati, Jawad and Bontis, 2010; Henry, 2013; Demartini and Paoloni, 2013). The last two decades has seen a rise in the popularity of Intellectual Capital (IC) as its importance is emphasized in the era of knowledge-based economies. Such an inclination poses great pressure on universities for two core reasons. First, IC has been shown as a strategic driver of innovation (Bontis, 1998; Rudez and Mihalic, 2007). Second, the Universities assume the irreplaceable role of fostering innovation through research initiatives (RI) (Chen and Chen, 2011; Wu and Chen, 2012).

Given the role universities play such as raising innovative assets, Research and Development (R&D), hi-tech professionals and interdisciplinary talent, it has become a vital factor in creating a sustainable competitive edge globally (Chen and Chen, 2011). Although Universities create strategic effort to achieve their goals, these strategies may fail if the right resources are not available. Jones, Meadow and Sicilia (2009) argued that IC is the most valuable resource for a university. Hence, the ability of universities to effectively manage its IC can craft and deploy strategies to achieve its research initiatives. This role that universities play is particularly indispensable in the case of Malaysia.

IC management is important in Malaysian universities because it will aid in developing talents that will ensure sustainable excellent development in the future (Ritchie, 2001). Many studies have shown that IC improves a firm's performance (e.g., Sharabati, Jawad, and Bontis, 2010; Demartini, and Paoloni, 2011; Kim, Yoo, and Lee, 2011; Guo, Shiah-Hou, and Chien, 2012; Kim, et al., 2012) and that IC may have a substantial impact on educational organizations (Martinez-Torres, M.R., 2006; Jones, Meadow and Sicilia, 2009). Furthermore, recent studies have accepted that University Technology Transfer Offices (UTTO) can add success to Technology Transfer performance (TTP) of Universities (e.g., Carlsson, and Fridh, 2002; Graff, Heiman, and Zilberman, 2002; Friedman, and Silberman, 2003; O'Shea, Allen, Chevalier, and Roche., 2005; Macho-Stadler, Perez-Castrillo, and Veugelers, 2007) but fails to fully expound how Universities can improve their research initiatives through IC. This forms the platform for the research problem.

1.3 Problem Statement

The importance of intellectual capital (IC) to the knowledge base economy has become a global phenomenon leading to the acceptance of IC as the critical success factor for most organizations to achieve a competitive advantage and enhance their core values, mainly to knowledge base organizations such as universities (Sonnier, Carson and Carson, 2007; Tan, Plowman and Hancock, 2007). Hence, it can be postulated that IC management is vital to escalate the competitiveness of universities globally.

In a similar context, literatures have shown that universities act as a national tool for building innovative assets in both academia and industry which enables nations to deliver excellence and superiority to the world (e.g., Caddy, 2000; Sánchez and Elena, 2006; Chen and Chen, 2013). Therefore, it is evident that the research on IC of universities forms a crucial backbone of a nation's competitiveness. It is also agreed within the management literatures that understanding a nation provides strategic input on the way forward (e.g., Grant, 1991; Ng, 2012). A similar understanding is important for universities as knowing the position and how the capabilities of the employees in terms of how its human capital (HC) presents competitive edge (Demartini and Paoloni, 2013).

The chief assets of universities are not the capital equipment but the shared knowledge, creativity, experience and fervour of its staff (Walker, 2012; Feng, Chen, Wang and Chiang, 2012). In a dynamic socio-economic platform having the right HC and its effective management enables a dynamic competitive stance (e.g., Prahalad, 1983; Pfeffer, 1994; Wright, McMahan, and McWilliams, 1994; Hitt, Bierman, Shimizu and Kochhar, 2001). Highly capable lecturers for instance are quite dynamic and mobile. They are like nomads – i.e. ever moving across boundaries and geographic space. Literatures show that organizations compete for both product and the labor markets (e.g., Windolf, 1986; Winter-Ember and Zweimuller, 1995; Coff, 1997; Kye, 2008). An employee can be drawn to another university or even to another country if lured to better employment opportunities; hence, the onus of universities is not only to effectively manage the employees but also to retain their employees to achieve the competitive stance.

Bontis (1998) suggested that effective management of IC ensures success of an institution. In this direction, proper management of HC, customer loyalty, and organizational responsiveness will lead to an increase in competitive stance. Encouraging the HC to boost means investing in the skill set of the workforce at all levels of the university as well as empowering them with the information and resources required to make decisions on the organization's behalf and to engage in result-oriented research. As a result, making decisions and involving in academic research where intellectual capability exists will result in smarter decisions, increased research outcomes, superior technology transfers and a more actively engaged workforce. Engaged workforce, in turn, are possibly more effective, more satisfied, and are more likely to stay with the university to give better contribution to the students, industry partners and the nation. Subsequently, universities are posed with the challenge of identifying different ways to better value this rare intangible asset.

While a comprehension on this issue is important for universities, insightful research pertaining to IC in universities, especially for a developing nation like Malaysia, remains scarce. The existing studies for Malaysia indicate the significance of IC to enhance business performance in industries (e.g., Bontis, Keow and Richardson, 2000). Such importance has not been fully explored in the context of universities

existing in Malaysia as there are few publications available on this subject. However, the few researches conducted on this subject suggests that IC is important regardless of industry type and is crucial to augment business performance as well as for the development of Malaysia (e.g., Bontis, Keow and Richardson, 2000).

To achieve Malaysia's vision of 2020 in becoming a developed nation and to cope with competitiveness arising from globalization, the government has recently launched the Economic Transformation Program (ETP) in which education is among the nine National Key Economic Areas (NKEAs) (Government of Malaysia, 2010; Xavier and Ahmad, 2012; Permandu, 2012). Xavier and Ahmed (2012) stated that given the academic qualification, 80 per cent of the Malaysian workforce is not in the position to drive the economy upwards and talent was found to be scarce across the country. Further, from 2000 to 2008, skilled expatriates in Malaysia dropped by 9 per cent which is 97,700 expatriates in 2001 to 32,100 expatriates in 2009. Without necessary talent, Malaysia will not be able to operate in high-end technologies and penetrate into high value-added markets. This is because it requires the Malaysian economy to climb the income ladder and offer high earned jobs (Julian and Zafar, 2009; NEAC, 2010). Moreover, statistics of 1996 indicates that Malaysia has the lowest number of researchers and publications (Julian and Zafar, 2009). Although the country has increased its expenditure on Research and Development (R&D) which is one per cent of its Gross Domestic Product (GDP), it still is lower compared to that of developed nations such as United Kingdom (UK) and United States (US) that devote 4 per cent of their GDP on R&D (Julian and Zafar, 2009). This implies that Malaysia is lagging behind its competitors in R&D and needs to initiate policies that will encourage the managing of IC to spur research and enhance innovation in universities and research institutions to achieve its vision 2020.

The Malaysian government's aspiration of making Malaysia a regional hub for education in Asia also sums up pressure on universities within the country to improve its standards and quality of education offered (PERMANDU, 2012). To achieve this, it is necessary to identify and manage IC to boost the ratings of Malaysian universities through its research initiatives.

This research will examine the relationships among IC elements and Research Initiatives (RI) in Malaysian Universities. IC dimensions include Human Capital (HC),

Relational Capital (RC), and Structural Capital (SC) and this will be examined in the context of Malaysian universities.

Undertaking this research is absolutely important because of the phenomenal changes taking place in the Malaysian Education system. The changes will require proper harnessing of intangible assets which will translate into research initiatives. In addition, addressing this research will support government strategic implementation of its educational blueprint and universities on the ideas on managing its resources to their competitive advantage (e.g., Feng, Chen, Wang, and Chiang, 2012; Lu, 2012).

The findings from this study can act as a guide in educational research; since academics have originally been interested in how intangible assets reflect in performance this will reveal to them the impact of intangible assets on university research outcomes and aid in coping with issues related to measuring research initiatives (Bontis, Keow, Richardson, 2003; Kim, et al., 2012). This research focuses on Malaysian Universities. Future research should focus on the role of industrial collaboration and UTTO on research initiatives in Malaysia.

1.4 Objectives

The Overarching objective of this research is as follows:

To study on the impact of intellectual capital and research initiatives in Malaysian universities. Intellectual capital is conceptualized with three elements: HC, SC and RC (Bontis, 1998).

The sub-objectives include the following:

- (A.) To examine the effect of human capital on structural capital, relational capital and research initiatives in Malaysian universities.
- (B.) To investigate the impact of structural capital on human capital, relational capital and research initiatives in Malaysian universities.
- (C.) To determine the effect of relational capital on research initiative in Malaysian universities.

1.5 Scope of study

This study will be conducted mainly in west Malaysia. The focus of the study will be mainly lecturers of universities in Malaysia. This target focus was chosen because they are knowledgeable in this area and possess necessary information required to measure the intellectual capital in Malaysian universities. 45 public and private universities will be selected randomly from a published list of universities in Malaysia because the sample is suggested to provide a more reliable source for data collection (Saunders, Lewis and Thornhill, 2007).

Quantitative research approach will be used for this study. The approach will consist mainly of a survey questionnaire that will be used to measure intellectual capital elements. SPSS software will be used to analyze the profile of the respondent with precise focus on descriptive analysis. Structural Equation Model (SEM) will be applied through Partial Least Square (PLS) to perform outer and inner model estimation of the structural model.

On a general note the research will focus on investigating the viewpoint of academic staff on the impact of IC and its elements on RI.

1.6 Operational definitions

Operational definitions look at the definitions of:

Acronyms: IC (Intellectual Capital), RI (Research Initiatives), HC (Human Capital), SC (Structural Capital), RC (Relational Capital), UTTO (University Technology Transfer Offices), (TTP) Technology Transfer Performance.

Scientific terms: (Pedagogy – Teaching Style, Taxonomy - Classification)

Key terms: (Intellectual Capital; Research Initiatives; Knowledge Based-Economy; University, Malaysia)

Explanation of certain events/phenomenon: (University Holiday – Refers to days not in session)

Any other related terms/concepts: (PLS – Partial Least Square, SEM – Structural Equation Modelling)

1.7 Limitations

This section reviews some possible constraints on the proposed research and put forward possible paths for future work. One possible constraint is sample size limitation. It is suggested that since the sample is limited to academic staff of public and private universities it may impact the size of the sample collected and this could produce false results or overestimate the measures of association (Hacksaw, 2008). Obtaining a wider respondent could be helpful. The resource will be focused on peninsula Malaysia due to time and resource constraints, east Malaysia can be considered for future studies.

Furthermore, due to time and resource constraints this research adopted a cross-sectional survey research design and examined universities at a single point in time. Longitudinal study can be applied to future studies. PLS also has higher risk of overlooking real correlations and sensitivity to the relative scaling of the descriptor variables. Finally, the unit of analysis is limited to academic staff of 45 universities in Malaysia. Obtaining more data from other employees and universities would have been useful in the study. Another limitation of the unit of analysis suggests that although data will be collected at individual level, it is not reported at that level but on a compound representation of the collection the individuals epitomize.

1.8 Significance of the Research

The research should be of significance to academia, government and the industry. Academics have originally been interested in knowing how non-monetary assets reflect in performance; this will reveal the influence of non-monetary assets on research initiatives and aid in coping with issues related to measuring research initiatives. In addition, current literatures have focused on the influence of human capital on structural capital. This research will intend to also contribute to academia on the influence of structural capital on human capital.

Furthermore, the findings will support government strategic implementation of its education blueprint in Malaysia which aims at transforming the educational sector into a world class institution that will propel the nation into a developed country. The rating of number of researchers and publications in Malaysia compared to other developed nations has been significantly low. This research finding intends to