Intellectual Performance and Performance of Firms

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Abstract
The resource-based theory emphasizes the heterogeneity of firms' resources and the existence of capabilities. Nowadays, managing and upgrading knowledge resources determine the success of any organization. In the knowledge economy, intellectual capital as an intangible resource can help a firm to generate economic returns and build competitive advantage along with tangibles. The knowledge economy era is an era driven by innovation, mainly based on the input of intangible assets, which plays decisive roles in the long-term development of enterprises. The product value of enterprises is largely determined by their intellectual capital. Therefore, as pillars of emerging economy , enterprises must strengthen their investments in intellectual capital, and to achieve competitiveness in the market, enterprises must share knowledge with the other members of their networks.
The broad objective of this paper was to establish the moderating effect of intellectual capital and its relationship with Firm performance in general. The review of literature that is presented provided conceptual and empirical gap that foremost the basis of the conceptual hypothesis that intellectual capital influences corporate performance that is deduced from general objective of intellectual capital that has a significant influence on corporate performance.
Keywords: Globalization Competition, Intellectual capital, human capital, Social Capital, organizational capital, corporate performances, Firms,

1. Introduction:

In the face of intense globalization competition, there is a widespread recognition that intellectual capital is considered a critical force that drives economic growth (Huang & Liu, 2005). Research on Intellectual capital has given prominence to human resources as an invisible asset that creates value when embedded in operations system-in a manner that enhance firm's ability to deal with turbulent environment. Intellectual capital and its importance as a driven of performance have been recurring phase in Strategic and Human Resource Management (SHRM) and formed a main task of executive agenda driven by the fact that intellectual capital has frequently been identified as an intangible source of competitive advantage (Edvinsson & Malone, 1997).
Nevertheless, despite widespread belief held by academicians and practitioners that intellectual capital has a significant influence on corporate performance, empirical evidence from management research supporting the proposition has presented inconsistent findings. The inconsistent nature of results motivated some scholars to in-

vestigate other possible explanations for divergence in findings. There are various reasons that have been advanced including methodological flaws, confusion and inconsistencies in conceptualization of the concept of intellectual capital, use of units-dimensional nature of intellectual (Kariuki, 2014).

The majority of the existed studies that have investigated the existence of relationship between intellectual capital and performance have assumed the existence of a direct relationship. This approach reflects a significant assumption about how intellectual capital influences corporate performance and a general weakness in human resource management research. This implies that there is little a no fluctuation in level of influence of intellectual capital on corporate performance, and that the internal or external environment cannot amplify or reduce the influence of intellectual capital.

Becker and Gerhart (1996) in their review of human resources practices and organization performance concluded that "the mechanisms by which human resource decision creates and sustains value are complicated and not well understood". In this regard a realistic view has been proposed that the influence of intellectual capital on corporate performance differs as a result of inner environment, in the meantime, there could be other factors that affect the relationship, such as that corporate culture moderates the relationship between intellectual capital and corporate performance, i.e., the context in which companies operate differs in terms of culture, economic policies and government policies.

This work extends the earlier research concerning the relationship between intellectual capital and corporate performance. Given the intense globalization competition, there is a widespread recognition that intellectual capital is a driver of performance and has been a recurring phase in strategic and human resource management. However, despite the importance attributed to intellectual capital and performance, variability and inconsistencies.

2. Intellectual Capital (IC) Concepts:

The concept of intellectual capital has emerged in the early 1980s in response to the need for business practioners to understand the basis of organizational performance. Since then, the concept has mainly evolved into a popular academics approach that is widely adopted by academics in early 1990s (Dumay, 2014). Research on intellectual capital can be divided into four stages as follows:

1. The 1st stage (early 1980s to mid-1990s) has mainly focused on further understanding intellectual capital and its importance for organizations to gain and sustain their competitive advantage in the market.
2. The 2nd stage (late 1990s to early 2000s) has examined the value of intellectual capital in helping enterprises achieve a positive financial performance (Petty & Guthrie, 2000) focused on its measurement, management, and reporting and proposed different classification of such concept (Boedker, 2008).
3. 3rd Stage (mid 2000s to early 2010s) has examined how managers can use intellectual capital to manage and run their businesses (Dumay, J. et al, 2013) and strengthen their organizations.
4. The 4th stage (mid 2010s to present) complements the previous stages by focusing on building strong, social, economic and environmental ecosystems where organizations can improve in a healthy and vigorous way (Dumay, 2013).

There are several definitions of intellectual capital have been proposed in the literature. For instance:

- Nahapiet and Ghoshal (1998) defined intellectual capital as a type of knowledge and cognitive ability of social collective (e.g., intellectual communities and organizations) to gain a competive advantage.
- Youndt et al (2004) conceptualized intellectual capital as the sum of all knowledge that can be leveraged by organizations in their search for a competitive advantage.

- Many other researchers defined intellectual capital as a collection of intangible assets, including enterprise culture, innovation, human creativity, and knowledge (Johnson, 1999).

In sum, intellectual capital refers to valuable knowledge-related resources (e.g., knowledge, human creativity. Experience, organizational technology, customer relationships, and professional skills) that organizations possess and use to create value and achieve a competitive advantage.

3. Categorization of Intellectual Capital:

To help conceptualization that construct and make it easier to operationalize the research of both Edvinsson and Malone (1997) posit that intellectual capital comprise human capital and structural capital. Structural capital is subdivided int organization capital and custom capital. Stewart (1997) similarly categorizes intellectual capital as human capital and structural capital, but introduces as customer capital. Youndat et al (2004) and Wright, Dunford and Snell (2001) introduced social capital and organizational capital. Spite variety of conceptualization, there is a consensus that intellectual capital is a multi-dimensional concept, and drawing from the work of Wright, Dunford and Snell (2001) as well as Youndat et al (2004)., from which it is proposed the constructs of human capital, social capital and organizational capital. The choice of measures was based on the reliability and validity of scales used in different studies.

Therefore, previous studies have also proposed many frameworks to explore intellectual capital and to facilitate its operation at the enterprise level. Intellectual capital has various components with human capital structural capital, and relational capital being the most prominent components (Johnson, 1999) that have been widely examined in the literature (Reed et al, 2006)

3.1 Human Capital:

Human capital refers to the acquired skills, knowledge and abilities held by individuals and obtained through their education, training and experience are often cited as an intangible asset that deformities financial performance among companies (Hitt et al, 2001). Becker and Gerhart (1996) defined human capital as knowledge, skills, health, or values that unlike physical and financial capital cannot be separated from persons who own it.

OECD (1998) defined human capital as Knowledge, skills, competence and attributes embodied in individual that are relevant to economic activity. Hatch and Dyer (2004) suggests that human capital reflects knowledge and skills embodied in people.

3.2 Social Capital:

Social capital refers to members of an organization and their knowledge, skills, motivation, attitudes and education (Nahapiet & Ghoshal, 1998). It is defined by Nahapiet and Ghoshal (1998) as the sum of actual or potential resources embedded within and available through network of relationship posed or developed by individuals or social entities. This type of human capital is also regarded as the most significant component of intellectual capital given that enterprises cannot achieve any thing (including innovation) without human capital (Kianto & Baenz, 2009).

3.3 Structural Capital or Organizational Capital:

Structural capital encompasses "all non-human storehouse" of knowledge within organization (Bontis et al, 2000) that are accumulated and distributed through their structure, organizational culture, and information as well as management systems. That is the reason it is referred also as organizational capital that was proposed by Youndat et al (2004) as compared to structural capital is important in studying intellectual capital because it is capital that is owned by organization. Stewart (1997) defined organizational capital as an institutionalized knowledge and codified experience stored in organization memory devices, including operation process, internal organization structure, and administrative system.

The resources of this structural capital are always owned by an enterprise and cannot be taken away by its employees upon their departure. Therefore, this work follows conceptualization adopted by both Youndat et al (2004) and Wright et al (2001). It focuses on intellectual capital as a multi-dimension construct identified by three components (human, social and organizational capital).

3.4 Relational Capital:

Relational capital refers to the value of an organization's relationship with the other members of its business communities (Youndt & Snell, 2004) including the stakeholders of a project, cooperation partners, and customers (Marr & Roos, 2005).

Some researchers such as Edvinsson and Malone (1997) argue that these components of intellectual capital reciprocally circulate and influence one another. Meanwhile, Stewart and Ruckdesche (1998) add that these components are complementary and that intellectual capital is most effective when these components support one another.

Therefore, intellectual capital concept is widely regarded as the foundation of a country or region future rapid growth and wealth accumulation, and its components play crucial roles in achieving sustainable development. Highlighting the importance of intellectual capital not only enhance competitive advantage, but can also benefit sustainability and economic growth (Rogers, 1995). In globalization era, intellectual capital is increasingly improving the non-financial (Kline & Rosenberg, 2010), and innovative performance of enterprises (Agostini et al, 2017).

A through much research has been devoted to developed countries, emerging marks have drawn the attention of researchers in current intellectual capital research (Bhatia & Aggarwal, 2015). In addition, most studies use a three-dimensional framework to analyze intellectual capital performance based on the original VAIC model

The following figure illustrates the firm assets and intellectual capital classification

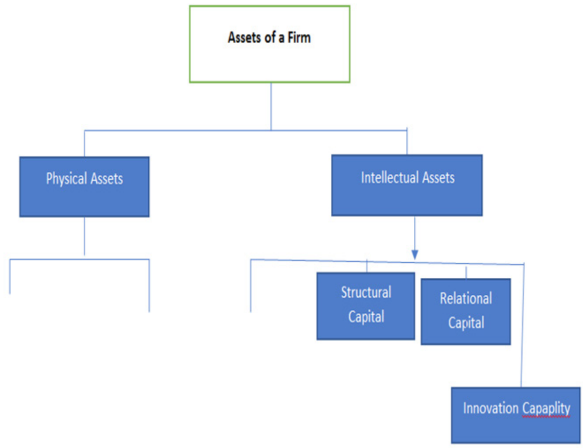

Figure (1) Firm assets and Intellectual Capital

4. Measuring Intellectual Capital Methods:

There are several methods that have been proposed to measure intellectual capital. Among them, the Value-Added Intellectual Coefficient (VAIC) model that explains the efficiency of value creation in any organization depending on capital employed efficiency (CEE) human capital efficiency and structured capital efficiency. Its simplicity and data availability lead to the wide use of this method in measuring intellectual capital

However, it also suffers from several weaknesses, such as the followings:

- 1st this model only measures past intellectual capital based on historical data from financial reports.
- 2nd, the synergy effects between different forms of tangible and intangible assets are not taken into account in this model (Chiu et al, 2011).
- 3rd, it neglects the existence of relational capital and the INC that is considered as the measures of efficiency of intellectual (Chen et al, 2005).

5. Firm Performance:

The debate on performance measures has been a domain of interest for academicians and practioners (Richard et al, 2009) that organization performance is the most widely used dependent variable in any area of management. Through it remains vague and loosely defined. In its simplest term, performance relates to how organization achieves its stated goals and objectives. Whereas many studies have focused on financial measures, which have been capitalized as lagging, backward looking, and short-term indicators considered in managing performance effectively. The growing importance of satisfying stakeholder's requirement has seen the development of the Balance Scorecard (BSC) which focuses on financial measure and non-financial measures (Kaplan & Norton, 1992), and focuses on satisfying different stakeholders. Therefore, this work draws up at the notion of BSC as an alternative to traditional financial measures. Furthermore, corporate performance is complex and multi-domanial and achievement of companies typically judged by multiple constituencies such as shareholders, investors, and general public. The different interest of the various groups influence performance, and require that managers review performance in several areas simultaneously (Kaplan & Norton, 1992).

6. Intellectual Capital and Firm Performance:

The concept of intellectual capital continues to interest academicians and practioners alike given the potential to affect competitive advantage and firm or corporate performance. The recognition has led to numerous researchers from different research settings. The linear relationship between intellectual capital and performance of multi-national organizations has been examined to reveal a positive and significant relationship. The use of trademark application as the only component of intellectual capital, contradicts the assertion of Marr, Schiuman and Neely (2004) that intellectual consists human capital, social capital and organizational capital (Kariuki et al, 2014). In addition, this work did not examine other factors that moderate or mediate the relationship. In the meantime, Youndt et al (2004) adopted a configuration approach to examine how human, social, and organizational capital impact on financial returns.

Also, Cabrita and Bontis (2008) examined interrelationship and interaction of intellectual capital components and corporate performance. Their study revealed a positive and significant relationship between intellectual capital and corporate performance. They recommended that future studies should incorporate corporate culture as moderating variable and take into account objective measures of performance. Despite a critical assessment of combined effect of the relationship between intellectual capital components and corporate performance, the study did not examine pther variable such as moderating and mediating variables.

Proceeding discussion reveals that previous studies have not addressed in which intellectual capital leads to performance. Becker and Gerhart (1996) in their review of human resources practices and organization performance concluded that "the mechanism by which human resource decision creates and sustains value are complicated and not well understood". This assertion agrees with Burdeau and Ramstad (1998) who lack knowledge that SHRM depicts the complex manner in which human resource management creates firm value through a series of and or linked constructs which most empirical studies have not tested. Drawing from the foregoing literature, this work proposes that intellectual capital influences corporate performance, i.e., intellectual capital has a significant influence on Firm innovation performance.

7. Conclusion:

Therefore, intellectual capital concept is widely regarded as the foundation of a country or region future rapid growth and wealth accumulation, and its components play crucial roles in achieving sustainable development. Highlighting the importance of intellectual capital not only enhance competitive advantage, but can also benefit sustainability and economic growth. In globalization era, intellectual capital is increasingly improving the non-financial, and innovative performance of enterprises.

Intellectual capital based on Knowledge-based view, knowledge is considered both as a resource and a capability. For a firm, effectively managing and maximizing its use of knowledge is being a critical to the achievement of firm advantage. To implement knowledge management in a firm, an intellectual capital portfolio must be cultivated to achieve a synergy of competent employees, knowledge-oriented culture, organizational infrastructure, and favorable relationship with stakeholders. Knowledge management also creates platforms and processes for creation, sharing, and utilization of tacit knowledge in organizations, thereby benefitting the innovation performance process.

As regards to innovation performance, that refers to the progress of discovering or creating new ideas. This concept cannot be defined from a single or simple dimensionality, but may be viewed as a novel product, in other contexts, it may refer t a new performance of a production process, the use of cheep materials to finish a project, without changing the nature of the product, or improvements in the tools or methods for achieving the innovation performance process.

Therefore, the success of a firm depends on its innovations performance processes and adoption of new technologies, which have critical influences on the dynamics of the environmental and competition of a firm in the globalization era of nowadays.

References:

1. Agostini, I. et al (2017). "Does Intellectual capital Allow Improving Innovation Performance? A Qualitative Analysis in the SME context," Journal of Intellectual Capital, Vol 18, pp. 400-418.

2. Becker, B. E. Gerhart, B. (1996). Human Resources and Organizational Performance: Progress and Prospects," Academy of Management Journal, Vol. 39, pp. 779-801.

3. Bhatia, A. & Aggarwal, K. (2015). "Intellectual Capital and Financial Performance of Indian Software Industry: A Panel Data Analysis," Pacific Business Review International, Vol. 7, No. 8, pp. 33-43.

4. Boedker, B. C. et al (2008). "Enhancing Business Reporting: International Trends and Possible Policy Directions," Journal of Human Resources, Vol., 12, pp.14-25.

5. Bontis, N. et al (2000). "Intellectual and Business Performance in Malaysian Industry," Journal of Intellectual Capital, Vol. 1, pp. 85-100.

6. Bourdreau, J. & Ramsted, P. (1998). Human Resource Metrics: Can Measures be Strategic? CAHRS Working Paper Series, No. 123.

7. Carbita, R. & Bontis, N. (2008)." Intellectual Capital and Business Performance in Portuguese Banking Industry." International Journal of Technology Management, Vol. 43, pp. 212-237.

8. Chen, M. C. et al (2005). "An Empirical Investigation of the Relationship Between Intellectual Capital and Firms' Market Value and Financial Performance," Journal of Intellectual Capital, Vol. 6, No. 2, pp. 159-176

9. Chiu, S. K. W. et al (2011). "Charting Intellectual Capital Performance of the Gateway of China," Journal of Intellectual Capital, Vol. 12, No. 2, pp. 249-276.

10. Dumay, J. (2014). "15 years of the Journal of Intellectual Capital Counting," Journal of Intellectual Capital, Vol. 15, pp. 2-37.

11. (2013). "The Third Stage of IC: Towards a New IC Future and Beyond," Journal of Intellectual Capital, Vol. 14, pp. 5-9.

12. Dumay, J. et al (2013). "Intellectual Capital Research: A Critical Examination of the Third stage," Journal of Intellectual Capital, Vol. 14, pp. 10-23.

13. Edvinsson, L & Malone, M. S. (1997). Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Roots. New York: Harper Business.

14. Hatch, W. N. & Dyer, H. J. (2004). Human and

Learning as a Source of Competitive Advantage." Strategic Management Journal, Vol. 25, pp. 1155-1178.
15. Hitt, M. A et al (2001). "Direct and Moderating Effects of Human Capital on Strategy and Performance in Professional Service Firms: A Resource-Based Perspective." Academy of Management Journal, Vol. 44, No. 1, pp. 3-28.
16. Huang, C. J & Liu, C. J. (2005). "Exploration for the Relationship Between Innovation IT and Development." Journal of Intellectual Capital, Vol. 6, No. 2, pp. 237-252.
17. Johnson, W. (1999). "Integrative Taxonomy of Intellectual capital: Measuring the Stock and Flow of Intellectual Capital Components in the Firm," International Journal of Technology Management, Vol. 18,
18. Kaplan, R. & Norton, D. (1992). "The Balance Scorecard. Measure that Drives Performance." Harvard Business Review, Vol. 70, pp.71-79.
19. Kariuki, A. C. (2014). Intellectual Capital, Corporate Reputation, Corporate Culture and Performance of Firms Listed on Nairobi Securities Exchange. Ph.D. Thesis. School of Business, University of Nairobi.
20. Kariuki, A. C. et al (2o14). Intellectual Capital and Organizational Performance of Firms Listed on Nairobi Securities Exchange. DBA Africa Management Review.
21. Kianto, A. & Baenz, J. (2009). "Knowledge-Based Human Resource Management Practices," Journal of Business Research, Vol. 81, pp. 11-20.
22. Kline, S. J. & Rosenberg, N. (2010). "An Overview of Innovation," Study of Scientific Innovation, pp. 173-203..
23. Marr, B. & Roos, S. (2005). "A Strategy Perspective in Intellectual Capital," Perspective Intellectual, pp. 28-52.
24. Marr, B., Sciuman, G. & Neerly, A. (2004). "The Dynamic of Value Creation: Mapping Your Intellectual Capital and Performance Drivers." Journal of Intellectual Capital, Vol. 5, No. 2, pp. 312-325.
25. OECD (1998). Human Capital Investment. An International Comparison. Paris: OECD.
26. Nahapiet, J. & Ghoshal, S. (1998). "Social Capital, Intellectual Capital and Organizational Advantage." Academy of Management Review, Vol.23, No. 2, pp. 242-265.
27. Petty, R. & Guthrie, J. (2000). 'Intellectual Capital Review: Measurement, Reporting and Management," Journal of Intellectual Capital, Vol. 1, pp. 155-176.
28. Reed, K. K. et al (2006). "proposing and Testing an Intellectual Capital-Based View of the Firm," Journal of Management Studies, Vol. 43, pp. 867-893.
29. Richard, P. J. et al (2009). "Measuring Organizational Performance: Social Behavior and Personality." An International Journal, Vol. 36, No. 6, pp827-840.
30. Rogers, E. M. (1995). Diffusion of Innovation. New York: The Free Press.
31. Stewart, T. A. (1997). Intellectual Capital: The New Wealth of Organization. New York: Dubleday.
32. Stewart, T. & Ruckdeschel, C. (1998). "Intellectual Capital: The New Wealth of Organization," Performance Improvement, Vol. 37, pp.56-59.
33. Wright, P. M., Dunford, B.B &Snell, S. (2001). "Human Resources and Resource-Based View of the Firm." Journal of Management, Vol. 27, No.6, pp 701-724.
34. Youndt, M. A & Snell, S. A. (2004). "Human Resource Configuration, Intellectual Capital, and Organizational Performance," Journal of Management, pp. 237-260.
35. Youndt, M. A. et al (2004). "Intellectual Profiles: An Examination of Investment and Returns." Journal of Management Studies, Vol. 4, No. 2, pp. 2322- 2381.