

Intellectual Capital in Knowledge Management Organizations

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This paper templet is copyright by Global Conference on Business and Social Science organized by Global Academy of Training & Research (GATR) Enterprise. Intellectual capital and knowledge are the most important assets of most organizations to ensure that determined or intended strategies can be implemented. The resource-based view of the firm considers the firm as a bundle of tangible resources, intangible resources, and organisational capabilities. An effective IC refers to the critical issues of organisational adaptation, survival and competence in the face of discontinuous environmental change. KM is essential for retaining employees' knowledge within a firm by using appropriate technology and tools to capture and store the knowledge residing in the minds of its employees, so it can be easily shared and reused. There is a growing realisation of the importance of the development and understanding of theory for both Intellectual Capital and Knowledge Management in relation to guide the successful development of Knowledge Management Organisations. This study is fundamental because it will provide the whole picture about the different levels of knowledge; individual, group and organizational, which express internal knowledge (formal and informal knowledge) and external knowledge such as customers and suppliers. The aim of this study is addressed some of the gaps in Intellectual Capital literature. It is necessary to investigate the interactions between IC components in Knowledge management organizations, which include human capital (HC), Organizational capital (OC), and Relational capital (RC). This is important in order to discover the extent to which these factors work together to achieve a network's knowledge management in organization.

Keywords: knowledge management, intellectual capital, human capital, organization capital, relational capital

Introduction

The growth of knowledge-intensive organizations has demonstrated that economic success relies more on knowledge and its valuable applications than on tangible resources. In this knowledge economy, organizations should understand the intangible assets that lead to competitive advantage and how these assets can be deployed to compete and face the challenges. For instance, according to Riggins (2019), there are 10 reasons for corporate collapse, namely ineffective board, poor communication, complexity, risk blindness, unhealthy company culture, technological disruption, not enough working capital, and an information glass ceiling. The Intellectual capital (IC) has become an important factor of competitive advantage and overcoming an environment of uncertainty (Berraies, 2019).

Previous studies have tested the relationships between knowledge management and IC. The IC three dimensions are HC, OC, and RC. To collect knowledge about employees' skills, education, and training (HC),

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knowledge related to organizational (OC) Capital that provides infrastructure support to increase employee knowledge and performance, and Relational Capital (RC) embedded in internal relationships known as social capital, and external relationships such as those between a firm and its customers. Dimensions of IC is considered as a key ingredient for exploratory and exploitative innovation activities (Duodu, & Rowlinson, 2016; Pedraza, & Velasquez, 2022). Researchers found that intellectual capital and the interaction among (IC) dimensions have influenced incrementally and radically productivity and performance capability (Smriti, & Das, 2018; Yan, & Guan, 2018).

The Relation Between Knowledge Management and Intellectual Capital

This research examined the relationship between KM and IC, there is still little understanding of how organizations actually create and accumulate their IC by dynamically managing their knowledge (Nonaka et al., 2000). There have been relatively few discussions on the relationship between KM processes and IC dimensions (Waseem, & Loo, 2018). In addition, the relevant empirical research has yet to produce satisfactory evidences on the nature of the relationship between the two constructs. Therefore, the exploration of the nature of the KM-IC relationship continues to be an important issue that deserves further research attention (Pedraza, & Velasquez, 2022). The relationships between KM and IC to be analyzed are represented in the framework in Figure 1.

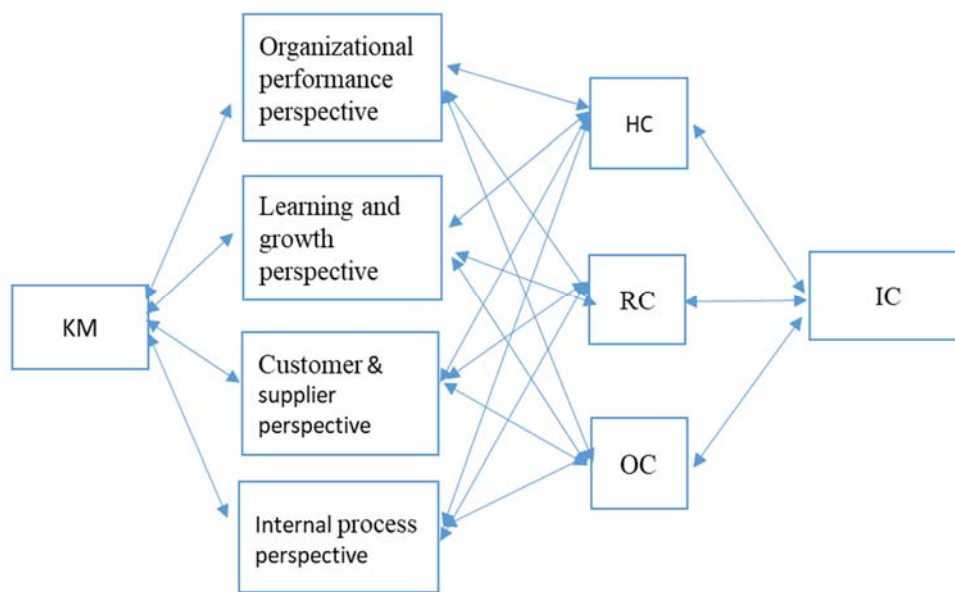


Figure 1. Framework of the relationships between KM and IC.

Nowadays organizations tend to be knowledge repositories by harmonizing knowledge assets and knowledge resources to survive and keep pace with a new market requirement. Therefore, intellectual capital represents the critical factor to increase the firm's ability to improve its performance and create a new competitive advantage (unique or sustainable) (Pedraza, & Velasquez, 2022). Bhatt (2001) defined KM as the processes and procedures that govern the creation, dissemination and utilisation of knowledge by merging organisational structures and people with technology in order to better leverage resources within an organisation. Davenport et al. (1998) have argued that knowledge management is concerned with the exploitation and development of the

knowledge assets of an organisation with a view to furthering the organisation's objectives. The knowledge to be managed includes both explicit, documented knowledge, and tacit, subjective knowledge. They also suggest that management entails all of those processes associated with the identification, sharing and creation of knowledge. As argued by Kong and Thomson (2009), the IC concept presents knowledge to three primary interrelated indicators of IC, these are namely human capital, structural capital and relational capital.

KM and IC are vital sources of competitive advantage and organizational performance (Chowdhury et al., 2019). It is imperative for organizations to use KM to accumulate IC in order to cope with their increasingly challenging environments (Pedraza, & Velasques, 2022). Conceptually, KM and IC are related, as they include the whole range of intellectual activities from knowledge creation to knowledge leverage (Bontis et al., 2018).

Knowledge management include organizational capacities, employees' competencies, know-how, the systems and processes that underlie an organization's operations and the management of relationships with stakeholders. These intangible assets have traditionally been divided across three dimensions: human, structural and relational capital (Bontis et al., 2018; Chowdhury et al., 2019; Jardon, & Martinez-Cobas, 2021; Karamuddin, & Abeysekera, 2021).

Knowledge management is intended to help organisations create, share, and use knowledge effectively (Davenport et al., 1998). Scholars and practitioners from various disciplines agree that a transformation in how organisations capture knowledge is a key to preserving an organisation's Intellectual Assets and turning the assets into capital (Bontis et al., 2018). Organisational knowledge for the entire enterprise must include the use of Intellectual Capital (IC). Identification of the different types of knowledge available to an organisation is the first step towards understanding how to manage them. Intellectual capital has been recognized as an important intangible asset that contributes and enhances a firm's success rate and generates the firm's value, acknowledging the significance of intellectual capital (IC) in the firm's strategic profitability and performance (Hsu, & Wang, 2012; De Castro et al., 2019; Pedraza, & Velasquez, 2022). It is a knowledge-based view of the company where knowledge is the prime source of competitive power (De Castro et al., 2019). In this perception, knowledge is the company's key resource in its business strategy and it is used to produce the company's products and services.

According to the resource-based view (RBV) (Hsu, & Wang, 2012; De Castro et al., 2019) a firm's intangible resources are more likely to contribute to firm performance. RBV suggests that a firm should focus on its resource base first in performing actions, comprise of both tangible and intangible resources, rather than the external environment (Tawaha et al., 2020). Researchers found that intellectual capital and the interaction among (IC) dimensions have influenced incrementally and radically productivity and innovative capability (Tawaha et al., 2020).

IC consists of human capital, structural capital and relational capital. Human capital refers to the quality of human knowledge that must react to market needs (Gogan et al., 2016). Structural capital refers to the organizational infrastructure to produce outputs (Gogan et al., 2016). Relational capital refers to the ability of an organization to establish sustainable relationships with stakeholders (Tjahjadi et al., 2019). Therefore, design and nature of KM must be innovative to increase the contribution of these intangible resources (Pedraza, & Velasquez, 2022).

Similarly, KM has been defined in terms of human, management, or cultural dimensions (Davenport, & Prusak, 2000). Some researchers explored KM within the individual perspective and argued that the transfer of knowledge should be accomplished through innovative approaches, such as interactivity, rather than by relying on information alone to efficiently transfer knowledge (Waseem, & Loo, 2018; Nonaka et al., 2000; Gogan et al.,

2016).

Many researchers have focused on IC management. They explain the role of intangible resources and capabilities in creating a competitive advantage and a better performance (e.g. Stewart, 1997; Bontis, 1998; Davenport, & Prusak, 2000; Pedraza, & Velasquez, 2022). Therefore, they investigate the role of IC in supporting firm's outputs. Others have tried to investigate how firms built IC through the use of variables such as organizational culture (De Castro et al., 2019), ICT (Mohamed, & Mohamed, 2010), knowledge management and corporate responsibility (Riggins, 2019).

Perhaps Roos (2017) explanation more adequately encompasses the complete deep perspective of KM by defining KM as a reciprocal process that creates and shares knowledge across an organisation. In this view, KM focuses on the growth and continual change and creation of knowledge within an environment. The authors offer their definition based on organisational inputs, processes, behaviours, and perceptions. On the other hand, Intellectual capital of an organisation is defined as all non-monetary and non-physical resources that are fully or partly controlled by the organisation and that contribute to the value creation of the organisation (Roos, 2017). Three domains of intellectual capital can be distinguished. External structure is a family of intangible relationships with customers and suppliers, which may be partially converted into legal properties such as trademarks and brand names. The internal structure includes patents, concepts, models, IT systems and processes that are created by employees and owned by the company. The third domain is the individual competence of the employees (Ammann, 2010; De Castro, 2019). However, the term Organisational capital (networks, culture and systems) describes the internal structure of an organisation, for examples its strategies, core competencies and culture, which is always context-specific. Capital that provides infrastructure support to increase employee performance can be referred to as structural capital (Chowdhury et al., 2019; Ahmed et al., 2019). Customer capital and relationships with stakeholders make up the external intangible assets of an organisation (Ahmed et al., 2019). External forces play a part in determining the market position and strength of an organisation.

Knowledge Management and Intellectual Capital and Human Capital

Different works have coincided in defining human capital as the collective capacity of an organization to develop the best solutions based on the combination of knowledge, capabilities and competencies of the individuals that compose an organization, as well as the way in which they are managed and used (Bontis, 1998). In resource-based literature, **Human Capital** (HC) is a firm's primary strategic asset. The Resource-based view (RBV) confirms that HC is a key resource in supporting competitive advantage, innovation and a firm's performance. Most of the models proposed during the development of human capital theory draw on the premise that the training, skills, capacities and creativity of the individuals that make up an organization are among the rare, valuable, inimitable and non-replaceable intangible resources that allow the organization to increase its value (Wang et al., 2014; Hsu, & Wang, 2012). For the majority of authors, this sub dimension is at the heart of IC and integrates the most valuable resources for the knowledge in the organization (Berraies, 2019).

The human capital, in a very general sense, includes explicit and more importantly, tacit knowledge embodied in employees, as well as their ability to generate it, which is useful for company's purposes, including aptitudes, know-how, and attitudes (Martín-de Castro et al., 2019). The human capital (know-how, skills and capabilities) in an organisation is the most important intangible asset, especially in terms of innovation (Waseem, & Loo, 2018). The unique tacit knowledge of individuals is of immense value to the organisation as a whole. Le and Chen (2023) stated Human capital is directly associated with the level of education, knowledge, and the

abilities of an individual, which facilitate a flexibility in order to adjust to rapid changing situations related to economic growth and business development.

HC embraces employees' competencies including knowledge, skills, talents, experiences, qualifications and education (Edvinsson, & Malone, 1997; Roos, 2017; Hsu, & Wang, 2012). HC is embedded in the employees' minds. Martín-De Castro et al. (2019) emphasizes that HC relates to the tacit and explicit knowledge possessed by employees. Firms can obtain this knowledge through renting or borrowing. HC is formed from genetic inheritance and learning factors (e.g. Bontis, 1998). Consequently, the key challenge is how a firm obtains HC to maximize its goals in uncertain environments. HC is a key driver in creating value for a firm and in achieving effective performance and competitive advantage (Pedraza, & Velasquez, 2022). Riggins (2019) states that an organization with unskilled employees was at the mercy of competitive forces in a turbulent environment and this might lead to failure. A firm must invest in HC to improve its knowledge and skills; these will reflect on the performance of both the firm and its employees (Riggins, 2019). Since HC is a valuable factor for performance considerations, Firms should deal with employees as an asset rather than as a cost. In the service economies, HC's importance and efficiency is considered to be one of the cornerstones of a successful organization. Chowdhury et al. (2019) mention that, for both firms and employees, investment in HC could produce significant outputs performance.

Knowledge Management and Intellectual Capital and Organizational Capital

Organizational Capital (OC) includes databases, software systems, organizational charts, corporate culture, procedures manuals, strategies, policies and organizational routines (Cohen, & Kaimenakis, 2007). It integrates explicit knowledge stored in databases, manuals and organizational tacit knowledge such as the rules and procedures that allow the organization to function in a coordinated way (Bontis, 2002). Thus, this type of capital that is considered by some authors as the organizational memory of the company is both fueled by the employees' knowledge and also serves to learn new things from them (Cohen, & Kaimenakis, 2007). The existence of a database used by employees where problems and solutions within the company are identified is likely to help them not to repeat errors and not to waste their time resolving problems that have already been solved (Martín-de Castro et al., 2019; Berraies, 2019).

Knowledge sharing in OC is an essential tool, which motivates employees to exchange mutually formal and informal knowledge. It contributes to the application of knowledge and supports innovation and competitive advantage (Wang, & Wang, 2012). It transfers knowledge from one context to into another which needs it. Knowledge sharing happens between different levels. For example, it moves between employees or from individuals to a group or organization (Chowdhury et al., 2019). This means that, through sending and receiving, knowledge sharing includes often mutual exchanges of knowledge amongst organizations, groups and individuals (Bontis et al., 2018). On the other hand, knowledge application is an important factor in successful new processes, services and products. Therefore, firms should continuously create, distribute and apply new knowledge to reinforce innovation and sustainable competitive advantage (Bontis et al., 2018). In firms, it involves organizational and individual users of knowledge (Berraies, et al., 2019). Knowledge application relates to exploitation and transformation of new or developed knowledge into effective processes or commercial products (Chowdhury et al., 2019).

OC consists of various structural elements, which are embedded in an organization and support employees in doing their work to create wealth (Chowdhury et al., 2019; Pedraza, & Vleasques, 2022). OC is "everything

that supports employees' productivity" (Edvinsson, & Malone, 1997). OC relates to an organization's knowledge and codified experience; these are part of its organizational culture, its knowledge management system, efficient processes and top management support. Process effectiveness includes the internal procedures which allow the integration of knowledge which creates wealth for firms. Consequently, it represents non-human assets or the organizational infrastructure through which HC can create added value (Bontis, 2002). If an organization has a poor OC, IC does not accomplish its aims. In other words, OC is a critical component in leveraging IC and it may encourage employees to perform their work better (Bontis, 1998). OC improves the employees' knowledge which turns into the organization's knowledge (Stewart, 1997).

Organizational structure is defined as how authorities and work roles are distributed in order to organize and control decision-making activities (Chowdhury et al., 2019). The two major aspects of organizational structure which include centralization and formalization (Riggins, 2019). In the other words, it relates to the amount of employee participation in decision-making. Most previous studies have suggested that a decentralized organizational structure can support organizational effectiveness whilst only some consider that high centralization may have a positive effect on organizational effectiveness (Jardon, & Martinez, 2021). It is a technique which guides and forms the employees' behavior. Consequently, different employees perform similar job activities. Therefore, high levels of centralization and formalization produce uniformity of behavior, action and policing (Pedraza, & Velasquez, 2022).

Di Vaio et al. (2023) argued that organizations should focus on more advanced digital platforms and engage in an advanced holistic approach that fosters the organizational structure by increasing the reach, precision, and speed of digital platforms and information processing systems. Presti et al. (2023) stated the shift from traditional manufacturing to the concept of smart factory mainly derives from the huge amounts of data made available by the digital transformation of the world

Knowledge Management and Intellectual Capital and Relational Capital

Relational Capital has become a core research area in IC studies and business marketing. It is a key factor in supporting the knowledge management in organization for competitive advantage (Martín-de Castro et al., 2019). Firms, which build good relationships with partners, focus effectively on the main activities of service and product quality. Social capital is a significant internal social attribute, which impacts on individual, group and organizational behavior (Nuryaman, 2015).

Relational Capital is the third and last part of intellectual capital; it is also referred to as relational or capital employed (Nuryaman, 2015). Capital employed helps firms maintain a good relationship with their external as well as their internal stakeholders, which include but are not limited to customers, consumers, government, employees, creditors and suppliers. Relational capital encompasses two types of IC assets: internal social capital, based on internal relationships among organizational members (Gogan et al., 2016), and external social capital, based on inter-organizational relationships between the company and its stakeholders, which is labeled by some IC authors as "social capital" (Martín-de Castro et al., 2019; Nuryaman, 2015). The SC materializes all the resources resulting from the formal and informal social interactions of the individuals within the company (Berraies, 2019), Social capital represents a valuable asset derived from the access to the resources that other members of the team possess, through network or relationship structures (Kwon, & Adler, 2014). Bontis et al. (2018) defined SC as knowledge, which is integrated into an organization and used in the context of interactions between individuals and their relational networks. Berraies and Ben Rejeb (2019) argued that the social network

of members of boards of directors with customers, suppliers and other partners is likely to permit them to have fresh knowledge, which, in turn, leads to exploratory innovation.

In terms of customer capital, researchers have investigated relational capital in various ways, such as customer capital, which represents firm's individual relationships with customers; while others investigated forward and backward relationships with customers and suppliers, and other researchers, who highlighted the whole concept through investigating relational capital as relationships with customers, suppliers, and the interactions between firm employees (Nuryaman, 2015; Pedraza, & Velasquez, 2022; Trivedi, & Srivastava, 2023). Customer Capital includes the connections that people outside the organization have with it, their loyalty, the market share, the level of back orders, and similar issues. External relationships relate to the connection between the firm and its stakeholders such as shareholders, suppliers, customers, competitors and others. External relational capital is defined as the knowledge which is produced from these relationships. It has become another intangible asset for a firm (Le, & Chen, 2023).

In addition, Pedraza and Velasquez (2022) believe that for and IC success an open culture is significant in enhancing communication top-to-bottom, bottom-to-top, and across the departments, in which the information will be shared by all staff. The ability of the organisation to accept and encourage change is usually determined by the culture within which a workforce operates (Trivedi, & Srivastava, 2023). Le and Chen (2023) indicated the focus of social capital is the relationship networks as well as director ties that are used to benefit individuals or collectives. The ideal corporate culture for IC is one where people within an organisation constantly and continuously pursue sharing, learning and knowing, to enhance their job performance and improve their decision-making capacity (Le, & Chen, 2023). Then they propagate what they know throughout the organisation, and store it in the KM repository.

Employees should be willing and free to explore their knowledge, and creative activities encouraged by executives (Davenport et al., 1998). They should not fear that sharing or codifying knowledge will cost them their jobs, advantage or status. Individuals may feel that their knowledge is critical to maintaining their value as an employee, thus linking it directly to job security. Under these circumstances' employees will be reluctant to share their knowledge with others (Le, & Chen, 2023; Trivedi, & Srivastava, 2023).

Conclusion

The relationship between Knowledge Management (KM) and Intellectual Capital (IC) are believed to influence each other and vital sources of competitive advantage and organisation performance. KM and IC are related as they include the whole range of intellectual activities from knowledge creation to knowledge advantage (Smriti, & Das, 2018). Through collecting and analysing information, it would be possible for organisations to observe changes and learn from best practices of other organisations in order to improve existing processes and practices. Intellectual capital enables the knowledge creation activity to develop new capabilities, design new products and services, enhance existing offers, and improve organisational processes. Individuals should be encouraged to learn from participation in work groups with the staff working together to reflect on project progress and outcomes and what could have been improved, and then reporting back to the group. Furthermore, such integration focuses on both kinds of resources (internal and external) and on developing a link between the firm's sources of knowledge, and promote the absorption of strategic knowledge, particularly, the development of new information and communication technologies, new methods, new suppliers of raw materials and the response to the market or competitive needs.

References

- Ahmed, A., Khurshid, M. K., & Yousaf, M. U. (2019). Impact of intellectual capital on firm value: the moderating role of managerial ownership. Retrieved from <http://doi.10.20944/preprints201901.0318.v1>
- Ammann, E. (2010). Intellectual capital development by means of knowledge conversions. *Proceeding of the 2nd European Conference on Intellectual Capital, ECIC, Italy*.
- Waseem B., & Loo S. B. (2018). Influence of intellectual capital dimensions on knowledge process capability and organizational performance. *Asian Journal of Scientific Research*, 11, 308-318.
- Berraies, S., & Ben Rejeb, W. (2019). Boards of directors' roles and size: what effects on exploitative and exploratory innovations? *Case of listed Tunisian firms, International Journal of Entrepreneurship and Innovation Management*, 23(2), 161-179.
- Berraies, S. (2019). The effect of enterprise social networks use on exploitative and exploratory innovations: Mediating effect of sub-dimensions of intellectual capital. *Journal of Intellectual Capital*, 20(3), 426-452. Retrieved from <https://doi-org.sdl.idm.oclc.org/10.1108/JIC-02-2019-0030>
- Bhatt, G. (2001). Knowledge management in organisations: examining the interaction between technologies, techniques, and people. *Journal of Knowledge Management*, 5(1), 68-75.
- Bontis, N. (2002). *World Congress of Intellectual Capital Readings*. Elsevier Butterworth Heinemann KMCI Press, Boston, MA.
- Bontis, N., Ciambotti, M., Palazzi, F., & Sgro, F. (2018). Intellectual capital and financial performance in social cooperative enterprises. *Journal of Intellectual Capital*, 19(4), 712-731. Retrieved from <https://doi.org/10.1108/JIC-03-2017-0049>
- Bontis, N. (1998). Intellectual capital: An exploratory study that develops measures and models. *Management Decision*, 36, 63-76.
- Chowdhury, L. A. M., Rana, T., & Azim, M. I. (2019). Intellectual capital efficiency and organizational performance: In the context of the pharmaceutical industry in Bangladesh. *Journal of Intellectual Capital*, 20(6), 84-806. Retrieved from <https://doi-org.sdl.idm.oclc.org/10.1108/JIC-10-2018-0171>
- Cohen, S., & Kaimenakis, N. (2007). Intellectual capital and corporate performance in knowledge intensive SMEs. *The Learning Organisation*, 14(3), 241-262.
- Davenport, T., De Long, D., & Beers M. (1998). Successful Knowledge Management Projects. *Sloan Management Review*, 39(2), 43-57.
- Davenport, T. H., & Lawrence P. (2000). *Working Knowledge: How Organizations Manage What They Know*. Cambridge, MA: Harvard Business School Press.
- Duodu, B., & Rowlinson, S. (2016). Intellectual capital and innovation in construction organizations: a conceptual framework. *Engineering Project Organization Conference*, Cle Elum, Washington, June 28-30.
- Di Vaio, A., Latif, B., Gunarathne, N., Gupta, M., & D'Adamo, I. (2023). Digitalization and artificial knowledge for accountability in SCM: A systematic literature review. *Journal of Enterprise Information Management*, Vol. ahead-of-print No. ahead-of-print. Retrieved from <https://doi.org/10.1108/JEIM-08-2022-0275>
- Edvinsson, L., & Malone, M. (1997). *Intellectual Capital: The Proven Way to Establish Your Company's Real Value by Measuring its Hidden Values*. London, Judy Piatkus.
- Gogan, L., Artene, A., Sarca, I., & Draghici, A. (2016). The impact of intellectual capital on organizational performance. *Procedia -Social and Behavioral Sciences*, 221, 194-202.
- Trivedi, K., & Srivastava, K. B. L. (2023). The impact of intellectual capital-enhancing HR practices and culture on innovativeness—mediating role of knowledge management processes. *Journal of Organizational Effectiveness: People and Performance*, Vol. ahead-of-print No. ahead-of-print. Retrieved from <https://doi.org/10.1108/JOEPP-05-2023-0174>
- Hsu, L., & Wang, C. (2012). Clarifying the effect of intellectual capital on performance: The mediating role of dynamic capability. *British Journal of Management*, 23, 179-205.
- Jardon, C., & Martinez-Cobas, X. (2021). Measuring intellectual capital with financial data. *PloS one*, 16(5), e0249989. Retrieved from <https://doi.org/10.1371/journal.pone.0249989>
- Karamuddi, K., & Abeysekera, I. (2021). *Intellectual Capital and Sustainable Economic Performance in the Public Sector: The Context of the New Public Management in Malaysia*. *Sustainability*, 13, 7885. Retrieved from <https://doi.org/10.3390/su13147885>
- Kong, E., & Thomson, S. (2009). An intellectual capital perspective of human resource strategies and practices. *Knowl Manage Res Pract*, 7, 356–364. Retrieved from <https://doi.org/10.1057/kmrp.2009.27>
- Kwon, S. W., & Adler, P. S. (2014). Social capital: maturation of a field of research. *Academy of Management Review*, 39(4), 412-422.

- Le, A., & Chen, I. J. (2023). Board Capital and Corporate Innovation. *Advances in Pacific Basin Business, Economics and Finance (Advances in Pacific Basin Business, Economics and Finance, Vol. 11)*, Emerald Publishing Limited, Bingley, pp. 241-265. Retrieved from <https://doi.org/10.1108/S2514-465020230000011011>
- Martín-de Castro, G., Díez-Vial, I., & Delgado-Verde, M. (2019). Intellectual capital and the firm: evolution and research trends. *Journal of Intellectual Capital*, 20(4), 555-580. Retrieved from <https://doi-org.sdl.idm.oclc.org/10.1108/JIC-12-2018-0221>
- Mohamed, M., & Mohamed, M. (2010). The role of ICTs and the management of multinational intellectual capital. In: O'Sullivan, K. (ed.) *Strategic Intellectual Capital Management in Multinational Organizations: Sustainability and Successful Implications*, New York Business Science Reference.
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, Ba and leadership: A unified model of dynamic knowledge creation. *Long Range Planning*, 33, 5-34.
- Nuryaman. (2015). The influence of intellectual capital on the firm's value with the financial performance as an intervening variable. *Procedia-Social and Behavioral Sciences*, 2(211), 292-298.
- Pedraza Melo, N. A., & De la Gala Velásquez, B. (2022). The mediating role of structural capital in the relationship between human capital and performance in the public administrations of Mexico and Peru. *Estudios Gerenciales*, 38(164), 320-333. Retrieved from <https://doi.org/10.18046/j.estger.2022.164.5087>.
- Presti, C., De Santis, F., & Bernini, F. (2023). Value co-creation via machine learning from a configuration theory perspective. *European Journal of Innovation Management*, 26(7), 449-477. Retrieved from <https://doi.org/10.1108/EJIM-01-2023-0104>
- Riggins, N. (2019). 10 reasons for corporate failure, Risk & Economy. Retrieved from <https://www.financialdirector.co.uk/2019/03/29/10-reasons-for-corporate-failure/> Last accessed May 2021
- Roos, G. (2017). Knowledge management, intellectual capital, structural holes, economic complexity and national prosperity. *Journal of Intellectual Capital*, 18(4), 745-770.
- Smriti, N., & Das, N. (2018). The impact of intellectual capital on firm performance: A study of Indian firms listed in COSPI. *Journal of Intellectual Capital*, 19(5), 934-964.
- Stewart, T. (1997). *Intellectual Capital: The New Wealth of Organizations*. New York, Doubleday.
- Tjahjadi, B., Soewarno, N., Astri, E., & Hariyati, H. (2019). Does intellectual capital matter in performance management system-organizational performance relationship? Experience of higher education institutions in Indonesia. *Journal of Intellectual Capital*, 20(4), 533-554. Retrieved from <https://doi-org.sdl.idm.oclc.org/10.1108/JIC-12-2018-0209>
- Tawaha, K., Juma, B., Thomson, K., & Jennifer, N. (2020). Intellectual capital and performance of small and medium audit practices, the interactive effects of professionalism. *Journal of accounting in Emerging Economies*, 10(2), 165.
- Wang, Z. N., & Wang, N. X. (2012). Knowledge sharing innovation and firm performance. *Expert systems with Application*, 39(10), August 2012, 8899-8909.
- Wang, Z., Wang, N., & Liang, H. (2014). Knowledge sharing, intellectual capital and firm performance. *Management Decision*, 52(2), 230-258.
- Yan, Y., & Guan, J. (2018). How multiple networks help in creating knowledge: Evidence from alternative energy patents. *Scientometrics*, 115(1), 51-77.