European Journal of Business and Innovation Research

Vol.9, No.5, pp. 34-46, 2021

Print ISSN: 2053-4019(Print),

Online ISSN: 2053-4027(Online)

ENVIRONMENTAL INTELLIGENCE AND INNOVATION CAPABILITIES OF COMMUNICATION COMPANIES IN NIGERIA

Lawrence, Damiete Onyema
Department of Management, Faculty of Management Sciences, Rivers, State University, Nkpolu- Oroworukwo, PMB 5080, Port Harcourt, Nigeria

Poi, Godwin, PhD.
Senior Lecturer & Head, Department of Business Administration, Faculty of Social and Management Sciences, University of Africa, Toru-Orua, Bayelsa State, Nigeria

ABSTRACT: *This is an empirical investigation on the impact of environmental intelligence and innovation capabilities of communication companies in Nigeria. Data was generated from three communication companies in Nigeria. The study data were analyzes using descriptive statistics of frequencies, central tendencies, and measures of dispersion whereas the test of hypotheses was done using Spearman's Rank Order Correlation Co-efficient aided with Statistical Package for Social Science version 21.0. The test for hypotheses revealed that there is a significant relationship between environmental intelligence and innovation capabilities. So, therefore, communication companies that want to attain success and stay innovational for a long time must ensure that they pay attention to the functioning of environmental factors that could hinder the achievement of the goals of the organization in the long run.*

KEYWORDS: environmental intelligence, innovation capabilities, operational efficiency, employee competencies, managerial capabilities

INTRODUCTION

Over the last fifty years, the progression towards an environmental intelligence discipline has steadily gained momentum. This acceleration is due to the influence of computer processing power and the greater acceptance of ecological approaches to natural and human causes. These events have created devastating consequences for economies and businesses worldwide. Furthermore, the emerging environmental intelligence discipline embraces a systems view of the world by sharing a fundamental gestalt that emphasizes the interdependencies between and within natural and human activities. Environmental intelligence can be defined as the massive collection, accumulation, integration, analysis, dissemination and use of data, information, and the creation of knowledge associated with the natural and man-made environment (Marsh, & Stock, 2006).

Environmental intelligence is in a nascent or pre-paradigmatic stage. There is no current undergraduate major in environmental intelligence nor do universities and colleges offer a Masters or Ph.D. in this field. As such scholars are working tirelessly to come up with a

ULR: https://doi.org/10.37745/ejbir.2013

concrete need for why it should be treated as a unique field of its own. Environmental intelligence is an amorphous term, but generally, it is used to indicate five domains of data collection and analysis: Weather and climate, geological events land utilization, resources, environmental pollutants, communication, and environmental mitigation. This article will discuss environmental intelligence from physical intelligence and social intelligence.

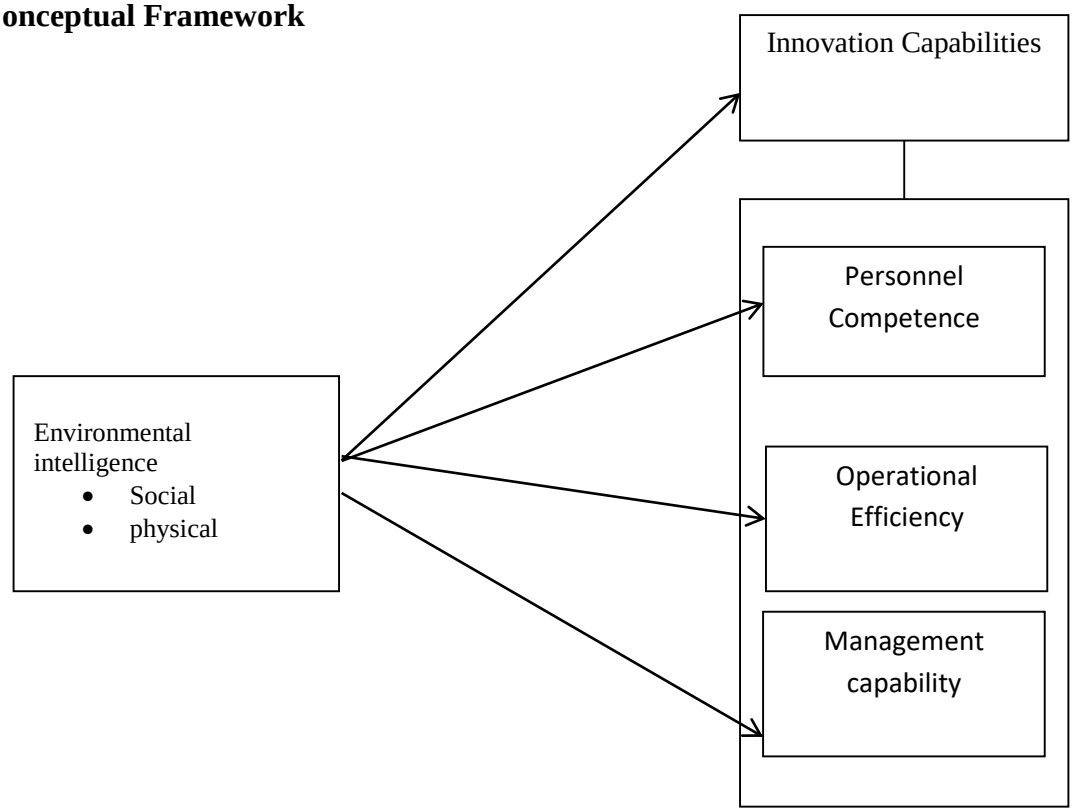
On the other hand, the concept of innovation is gaining ground daily and this plays a significant role in present-day business. As a result of such a situation, companies continue to operate in industries where customers' tastes, product-service technologies, and competitive weapons often change unpredictably. To be successful and to obtain stability in performance, companies (especially in Nigeria) should not only seek new opportunities but also be highly innovative (Tajeddini, Trueman & Larsen, 2006). This will not only ensure that these companies catch up with the trends happening in their industries but be able to survive the competition that comes with innovation.

Furthermore, Innovation is essential for achieving a competitive advantage in start-ups and established companies (Lichtenthaler, 2020**).** This is because innovation is considered a key driver for the long-term success of firms in today's competitive markets (Darroch & McNaugton, 2002). As a result, businesses with the capacity to innovate can respond to market challenges faster and better than non-innovative companies **(**Calvo-Porral, Medín, & Losada-Lopez, 2017). That is why the right kind of innovation and investments in new technologies and strategies would help companies not only in providing improvement in their productivity but also in their general performance and growth (Wolf, Beck & Pahlke, 2012; Stiglitz, 2010). Despite the debates on the issue of environmental intelligence and innovation capabilities, research on innovation has not been conducted paying attention to environmental intelligence, rather most of the studies that have been carried out are either in manufacturing, construction (Akman & Yilmaz, 2008), and in different countries across the world. As such the communication companies have not been studied. The purpose of this study is to determine how environmental intelligence impacts the innovation capabilities of communication companies in Nigeria. In carrying out the study, three research hypotheses were raised:

Ho1: There is no significant relationship between environment intelligence and personnel competence in communication companies in Nigeria.
Ho2: There is no significant relationship between environmental intelligence and operational efficiency in software development companies in Nigeria.
Ho3: There is no significant relationship between environmental intelligence and management capabilities in communication companies in Nigeria.

ULR: https://doi.org/10.37745/ejbir.2013

Conceptual Framework



Conceptual framework for Environmental Intelligence and Innovation Capabilities

This study is divided into four (4) sections: the introductory part, the literature review section, the methodology adopted for the study, finding of the study, conclusion, and recommendations of the study.

LITERATURE REVIEW

Theoretical Foundation

A theoretical foundation or framework is the lens from which all knowledge is constructed either metaphorically or literally for a research study. The organizational learning theory is adopted for this study because the organization is seen as human and it tends to adjust to the dynamic nature of the business environment if it must survive. To remain viable in an environment characterized by uncertainty and change, organizations and individuals alike depend upon an ability to learn (Stata, 1989).

Environmental Intelligence

According to Dalvand, Moshabaki & Karampour (2015), environmental intelligence is the power of calculation, analysis, and presupposition that can help people establish an organic and immediate relationship between their partial actions and the large and subtle environmental

ULR: https://doi.org/10.37745/ejbir.2013

effects that would immediately and undoubtedly influence the whole society and the entire environment. The generic process of collecting raw data, converting data into information, and then deriving knowledge from this information and interpreting it in the context of other information and leading to action is central to all aspects of knowledge, business, and many other fields of knowledge. Environmental intelligence encompasses physical and social intelligence.

Physical Intelligence enables us to approach our work environment more thoughtfully, ensuring that we're supporting our own and our team's performance by managing our physiology. Marsh, & Stock, (2006) organizations that have adopted Physical Intelligence have experienced a measurable impact on business outcomes, including double-digit revenue growth; a 12.5% increase in the commercial success of their deals; increased operating efficiency, customer satisfaction, and employee satisfaction scores; and enhanced innovation. Here are some Physical Intelligence tips for creating a work environment that will enhance performance.

The notion of emotional and social intelligence in management has been popularized by academia due to its positive impact on employee performance (Riggio & Reichard, 2008, Emmerling & Boyatzis, 2012). Social intelligence has a lot to do with emotional management, it is the ability to think, understand, manage and act appropriately in social human relationships. According to Goleman (2006), social intelligence is concerned with the best interests of others; hence it goes beyond sheer self-interest. Implying, an individual's or group's social intelligence is dependent on how they perceive their social sphere which has a lot to do with their minds, supported by Lawrence and Lawrence (2002), emphasizing that, the qualities of the mind individually and collectively contribute to determining our individual personality tendencies and relationships. Social intelligence is understanding and getting along with people, above and beyond the skills to interact and cooperate successfully with them (Albrecht, 2009).

Innovation Capabilities

Innovativeness is one of the fundamental instruments of growth strategies to enter new markets, increase the existing market share and provide the company with a competitive edge. Thus, innovations constitute an indispensable component of the corporate strategies for several reasons such as to apply more productive manufacturing processes, to perform better in the market, to seek a positive reputation in customers' perception, and as a result to gain sustainable competitive advantage.

Innovation capability is an essential prerequisite for efficient ideas management and innovation management, as well as, for the implementation of disruptive innovation. Innovation capability is defined as a firm's ability to identify new ideas and transform them into new/improved products, services, or processes that benefit the firm. Teece, Pisano, and Shuen (1997) defined innovation capabilities as the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. A firm's 'innovation

ULR: https://doi.org/10.37745/ejbir.2013

capability can be understood as the potential to innovate (Saunila & Ukko, 2012), or more specifically the "ability to continuously transform knowledge and ideas into new products, processes, and systems for the benefit of the firm and its stakeholders"

Innovation capability plays an important role in an organization as it underscores the accumulation of capabilities embedded in a firm and it is directly associated with its financial performance (Hsu & Wang, 2012). In terms of performance, firms in an innovation environment need to develop new products to secure their competitive advantages (Blonigen & Taylor, 2000). But exploiting these opportunities requires firms to be equipped with strong and patient innovation capabilities as well as continuous innovation. We look at innovation capabilities from operation efficiency, management capabilities, and personnel competencies.

Operations Efficiency

The need to develop and maintain a sustainable competitive advantage is at the foundation of operations strategy, which draws on several intertwined yet distinct elements, including organizational capabilities, practices, and resources. Operational abilities are the "secret ingredients" in explaining the development and maintenance of competitive advantage. However, they are often overlooked because they are tightly embedded in the organizational fabric of an operations system. Operational efficiency is a distinguished set of skills, processes, and routines for radically improving existing operations processes or creating and implementing new and unique operations processes. This is because operational improvement builds upon existing organizational abilities, it is unlikely to lead to innovations that significantly depart from existing technological or market competencies. However, operational innovation focuses on searching for variance and experimentation, to change technology trajectories and associated organizational competencies (Benner & Tushman, 2003). The focus of operational innovation is on large scale, radical process changes through new knowledge or departures from existing skills (Benner & Tushman, 2003), which requires very different processes and resource configurations than incremental changes to existing processes.

Management Capability

A managerial capability refers to the management capacities, expertise, and processes in the custody of firms that are drawn to execute programs and activities to achieve superior performance. In many cases, inter-organization management skills are also counted as management capability. An organization's management capabilities are crucial to achieving congruence among its competencies and the changing conditions of its environment (Kor &Mesko, 2013). These capabilities combine greater technical, human, and conceptual abilities to construct, integrate, and reconfigure the organization's resources and competencies (Adner & Helfat, 2003).

Personnel Competency

In highly dynamic environments, firms are struggling to maintain their competitive advantage due to its decreasing over time (Wiggins & Ruefli, 2005). Thus, in line with responding flexibly

ULR: https://doi.org/10.37745/ejbir.2013

and rapidly to the multiple market demands, staff have become one of the main crucial drivers in creating corporation competitiveness. Personnel capabilities encompass the traditional scope of professional development (skills-based training, knowledge-based education, and experience), but also incorporate other aspects including relationships, mandate, and direction, tools and work environment, time, motivation, and the previously acquired knowledge and skills the person brings to their role. In essence, capability development is a broad approach to growing and developing people to ensure they are effective in their roles.

Environmental Intelligence and Innovation Capabilities

McAdam and Keogh (2004) investigated the relationship between firms' performance and their familiarity with innovation and research. They found out that the firms' inclination to innovations was of vital importance in the competitive environments to obtain a higher competitive advantage. Geroski (2005) examined the effects of the major innovations and patents on various corporate performance measures such as accounting profitability, stock market rates of return, and corporate growth. The observed direct effects of innovations on firm performance are relatively small, and the benefits from innovations are more likely indirect. However, innovative firms seem to be less susceptible to cyclical sectoral and environmental pressures than non-innovative firms.

Li et al., (2007) study on Chinese firms showed us that process and product innovations were significantly correlated to each other. However, recent literature does not provide us with explicit empirical results for the direction of this relationship. Still, some indirectly related recent findings may exist. For instance, Oke's study on British firms (2007) revealed that developing formal implementation processes was necessary to pursue incremental product or service innovations, implying that the improvement of the processes is a driving force for the success of the output (product and/or service) innovations. Thus, innovative solutions providing the steps of the production processes with newly improved advantages - such as production quality, value, speed, and low cost- can increase the chance of the product's new components, ingredients, technical specifications, functionalities, etc. to meet the needs and desires of the customers better than before. Regarding marketing–product innovation relationship, we could not find a study explicitly investigating the marketing–product innovation interaction. There is indeed mutual support between these two types of innovations but it is more common than product innovations are shaped through changes in the markets and customer expectations. Customer-driven markets have assigned increased importance to the marketing function. Customer need is tried to be fulfilled through marketing activities and innovations, which create possibilities for further product innovations.

METHODS AND MATERIALS

The research design adopted in this study is the cross-sectional survey. The target population of this study was all three communication companies in Nigeria. The

ULR: https://doi.org/10.37745/ejbir.2013

information collected with the questionnaire were summarized in their groups and percentage were used to analyse the data, also the inferential statistical tool of spearman rank order colorations was applied in the study was used to test the level of significance among variables and finally, the analysis was aided with SPSS version 21.0.

FINDINGS

Result and Frequency Analysis

In this section, the output of the primary and secondary data is presented. Analysis was carried out on individual variables and measures. Mean scores and standard deviations are also illustrated. The presentation begins with the independent variable which is environmental intelligence. It then proceeds to the dependent variable- innovation capabilities, whose measures are operational efficiency, employee competency, and managerial capabilities.

The secondary data analysis was carried out using the Spearman rank-order correlation tool at a 95% confidence interval. Specifically, the tests cover hypotheses HO1 to HO3 which were bivariate and all stated in the null form. We have relied on the Spearman Rank (*rho)* statistic to undertake the analysis. The 0.05 significance level is adopted as a criterion for the probability of either accepting the null hypotheses at ($p>0.05$) or rejecting the null hypotheses at ($p<0.05$).

Table 1: Summary for dimensions of environmental intelligence

	N	**Mean**	**Std. Deviation**	**Skewness**		**Kurtosis**	
	Statistic	**Statistic**	**Statistic**	**Statistic**	**Std. Error**	**Statistic**	**Std. Error**
Environmental intelligence	67	3.2179	.76256	-1.183	.293	.804	.578
Valid N (listwise)	67						

Source: Research Data, 2021

The result for the summary distribution on the dimensions of environmental intelligence demonstrates their prevalence within the context of the communication companies in Nigeria. The evidence illustrates that these communication companies are actively engaged in practices that reflect the environmental intelligence (x = 3.2179).

ULR: https://doi.org/10.37745/ejbir.2013

Table 2.Summary for measures of Innovation Capabilities

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Personnel competence	67	3.2269	.81864	-1.152	.293	.339	.578
Operational efficiency	67	3.2567	.83325	-1.146	.293	.399	.578
Management capability	67	2.9612	.78566	-.806	.293	.464	.578
Valid N (listwise)	67						

Source: Research Data, 2021

The summary distribution for the measures of Innovation Capabilities as demonstrated in table 4.13 describes the variable as three measures of Innovation Capabilities as evident and as characterizing the behavior of the telecommunication companies in Nigeria Results from the analysis show, that the telecommunication companies adequately express features concerned with Personnel Competence (x = 3.2269) Operational Efficiency (x = 3.2567) and Management Capability (x = 2.9612). From the table, it is evident that these telecommunication companies appear to be stronger and more emphatic on the Operational Efficiency feature of their innovations.

Table 3: Environmental intelligence and Innovation Capabilities

			Environmental intelligence	Personnel competence	Operational efficiency	Management capability
Spearman's rho	Environmental intelligence	Correlation Coefficient	1.000	.833**	.595**	.553**
		Sig. (2-tailed)	.	.000	.000	.000
		N	67	67	67	67
	Personnel competence	Correlation Coefficient	.833**	1.000	.423**	.559**
		Sig. (2-tailed)	.000	.	.000	.000
		N	67	67	67	67
	Operational efficiency	Correlation Coefficient	.595**	.423**	1.000	.767**
		Sig. (2-tailed)	.000	.000	.	.000
		N	67	67	67	67
	Management capability	Correlation Coefficient	.553**	.559**	.767**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	67	67	67	67

Source: Research Data, 2021

ULR: https://doi.org/10.37745/ejbir.2013

The result on the test for the relationship between environmental intelligence and the measures of Innovation Capabilities as revealed in table 3 shows evidence that supports the significance of the correlation between environmental intelligence and all three measures (Personnel Competence, Operational Efficiency, and Management Capabilities).

Hypothesis 1: The result for the tests reveals environmental intelligence as significantly impacting on Personnel Competence (rho = 0.833 and P = 0.000) signifying that the relationship between environmental intelligence is very strong and positive. This also suggests that environmental intelligence has a very strong role to play in outcomes of Personnel Competence in communication companies in Nigeria. On the basis of $P < 0.05$ the null hypothesis is rejected.

Hypothesis 2: The relationship between environmental intelligence and Operational Efficiency (rho = 0.595 and P = 0.000) is noted to be moderate but also positive. The result shows a moderate impact of environmental intelligence on the outcome of Operational Efficiency suggesting that environmental intelligence also plays a relative role in how well the organization advances its Operational Efficiency within communication companies in Nigeria. On the basis of $P < 0.05$ the null hypothesis is rejected. On the basis of $P < 0.05$ the null hypothesis is rejected.

Hypothesis 3: The relationship between environmental intelligence and Management Capabilities (rho = 0.553 and P = 0.000) is observed to be moderate. The outcome of the analysis demonstrates both variables as having a moderate level of interaction implying that environmental intelligence contributes but at a relatively moderate extent to the improved levels of Management Capability of communication companies in Nigeria. On the basis of $P < 0.05$ the null hypothesis is rejected.

DISCUSSION OF FINDINGS

The result of the analysis in this study shows that:

1. There is a significant relationship between environment intelligence and personnel competence in communication companies in Nigeria.
2. There is a significant relationship between environment intelligence and operational efficiency in communication companies in Nigeria.
3. There is a significant relationship between environment intelligence and management capabilities in communication companies in Nigeria.

Therefore, this result is consistent with the assertion of Helfat & Winter, (2011) that tends to look at managerial capabilities as being germane, because—per definition—they can be dynamic, hierarchical, and reside in (or emanate from) individuals. First, whereas some capabilities are functional, such as engineering or marketing know-how, others are dynamic: They promote economically important change, especially the modification of lower-level,

ULR: https://doi.org/10.37745/ejbir.2013

functional routines and capabilities (Winter, 2003). Discussing dynamic managerial capabilities, Adner and Helfat (2003) postulated three core underpinnings: cognition, human capital, and social capital. The result of analysis also resonates with Campbell, Coff, & Kryscynski (2012), claiming that, having the right people in the right environment will bring competitive advantage and innovation abilities. Supported by Hambrick & Quigley (2014) explaining skills of some people matter greatly: top managers can play a central role in creating and sustaining a competitive advantage. The analysis findings also resonate with Weng & Lin (2014) who in their study discovered a relationship between organizational environment and executives having a strong influence on personnel competence. Which corroborates Dahlgaard-Park and Dahlgaard (2010), that firms need a set of skills that allows it to integrate all internal capabilities coherently. Dahlgaard-Park and Dahlgaard explained that a firm must enhance the leadership, people, partnership, and organizational capability before implementation of the original process of innovation and new product development.

Conversely, this result of analysis is in line with Simon and Laland (2002) assertion on analytic skill, stating that environmental intelligence analytics has a positive influence on operational efficiency. As noted, if firms are composed of distinct but related activities, then superior performance can come from better managing and synchronizing of these activities (Gavetti, 2005). The result also aligns with Helfat and Martin (2015) evidence claiming that information is essential for operations management. Subsequently, the data analysis results align with Kaplan, Klebanov and Sorensen (2012) on correlated managers' analytic skills and firm performance stating similar feat.

Still, the results resonate with Mohlin (2012) hypothesizes that analytic skills improve performance, but they may not suffice when the optimal strategy depends on the actions of others. There, success hinges on accurate mental representations of others, such as rivals, because the ultimate value of any action depends on their choices and responses. From games such as rock-paper-scissors and chess to decisions about employee management, market-entry, R&D investments, and geographical locations, many choices are strategic in the strict sense of the word—the outcome hinges not only on the characteristics of the decision, such as the presence of cognitive biases but also on the simultaneous choices or subsequent reactions of others. Adler and Shenbar (1990) stressed that innovation capability facilitates the firm to apply appropriate process technologies to develop new products to meet the market needs and eliminate competitive threats. It helps to shape up and manage multiple capabilities of the firm for supporting to integrating capabilities and stimulus to innovation successfully).

CONCLUSION

From the data analysis and research findings, the following conclusions can be empirically made: There is a positive relationship between environmental intelligence and the innovation capability of Communication companies in Nigeria. To this effect, the strategic moves, actions, and reactions of a competing firm are significantly determined by its capability to vary its

strategic intelligence hence, the results also indicate that communication companies with low knowledge culture perform below expectation when compared to other companies in the same industry.

Recommendations

i. From the foregoing findings and conclusions, the study recommends that since environmental intelligence was identified as having a significant relationship with innovation capability, communication companies should economically compete with the right mix of motivational factors to achieve a competitive advantage. It is therefore recommended that firms should review their environment and ensure higher level consideration to environmental factors with a view to increasing their competitive capabilities and achieving the corporate performance target.

ii. Also, to compete favorably in this highly competitive market, communication companies should constantly seek information and scientifically or honestly determine their position in the market. This will help them determine their competitive behaviors in terms of moves, actions, and reactions. And if this is properly understood, it will put them in a strong position to control the market and hence serve as a market leader.

REFERENCES

Adler, P. S., & Shenbar, A. (1990). Adapting your technological base: The organizational challenge. *Sloan Management Review*, 25, 25–37.

Adner, R., & Helfat, C. E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal*, 24(10), 1011–1025.

Akman, G., & Yilmaz, C. (2008). Innovative capability, innovative strategy and market orientation: an empirical analysis in Turkish software industry. *International Journal of Innovation Management*, 12(1), 39-111.

Albrecht, K. (2009). Social Intelligence: The new science of success. *Personal Excellence*, 10(12), pp.5.

Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of management review*, *28*(2), 238-256.

Blonigen, B. A., & Taylor, C. T. (2000). R&D intensity and acquisitions in high-technology industries: Evidence from the US electronic and electrical equipment industries. *Journal of Industrial Economics*, 4 (1),23-36.

Calvo-Porral, C., Medín, A. F., & Losada-López, C. (2017). Can Marketing Help in Tackling Food Waste?: Dissertations in Developed Countries. *Journal of Food Products Marketing*, 23:1, 42-60, DOI: 10.1080/10454446.2017.1244792

Campbell, B. A., Coff, R., & Kryscynski, D. (2012). Rethinking sustained competitive advantage from human capital. *Academy of Management Review*, 37(3), 376–395.

Dahlgaard-Park, S. M., & Dahlgaard, J. (2010). Organizational learnability and innovability – A system for assessing, diagnosing and improving innovation excellence, *International Journal of Quality and Service Sciences,* 2(2), 153–174.

Dalvand, V., Moshabaki, A., & Karampour, A. (2015). The impact of innovation capabilities on export performance of firms. *Applied Mathematics in Engineering, Management and Technology*, *3*(2), 295-308.

Darroch, C., & McNaugton, B. (2002). Toward a model of organizations as interpretation systems.*Academy of Management Review* 9(1), 284–95.

Emmerling, R. J. & Boyatzis, R. E. (2012). Emotional and social intelligence competencies: cross cultural implications. *Cross Cultural Management: An International Journal*, 19 (1), pp. 4--18.

Geroski, P., (1995). Innovation and competitive advantage. Working Paper No. 159, OECD, Paris

Goleman, D. (2006). *Social Intelligence: The New Science of Social Relationships*. New York, Bantam Books.

Hambrick, D. C., & Quigley, T. J. (2014). Toward more accurate contextualization of the CEO effect on firm performance. *Strategic Management Journal*, 35(4), 473–491

Helfat, C. E., & Winter, S. G. (2011). Untangling dynamic and operational capabilities: Strategy for the (n)ever-changing world. *Strategic Management Journal*, 32(11), 1243–1250.

Helfat, C. E., & Martin, J. A. (2015). Dynamic managerial capabilities: Review and assessment of managerial impact on strategic change. *Journal of Management*, 41(5), 1281–1312.

Hsu, L. C., & Wang, C. H. (2012). Clarifying the effect of intellectual capital on performance: The mediating role of innovation capability. *British Journal of Management*, 23(2), 179–205.8(1), 47–70.

Kaplan, S. N., Klebanov, M. M., & Sorensen, M. (2012). Which CEO characteristics and abilities matter. *Journal of Finance*, 67(3), 973–1007.

Kor, Y. Y., & Mesko, A. (2013). Dynamic managerial capabilities: Configuration and orchestration of top executives' capabilities and the firm's dominant logic. *Strategic management journal*, *34*(2), 233-244.

Lawrence, A.W., & Lawrence, D. O. (2020). Effects of emotions, memory and thought on decision outcomes and judgments of organizational and business leaders. *The International Journal of Business & Managements* 13(8). Doi: https://doi.org/10.5539/ijbm.v15n4p43.

Li, L., (2007). An analysis of sources of competitiveness and performance of Chinese manufacturers. *International Journal of Operations and Production Management* 20 (3-4), 299-315.

Lichtenthaler, J.F., (2020). Ambidexterity and performance in small-to medium-sized firms: the pivotalrole of top management team behavioral integration. *J. Manag*.32, 646---672.

Marsh, S. J., & Stock, G. N. (2006). Creating innovation capability: The role of intertemporal integration, knowledge retention, and interpretation. *Journal of Product Innovation Management*, 23(5), 422–436.

McAdam, R., Keogh, K., (2004). Transitioning towards creativity and innovation measurement in SMEs. *Creativity and Innovation Management* 13 (2), 126-141.

Mohlin, E. (2012). Evolution of theories of mind. *Games and Economic Behavior*, 75(1), 299–318.

Mouritsen, K. N., & Poulin, R. (2003). Parasite-induced trophic facilitation exploited by a non-host predator: a manipulator's nightmare. *International journal for parasitology*, *33*(10), 1043-1050.

Riggio, R. E. & Reichard, R. J. (2008). The emotional and social intelligences of effective leadership: an emotional and social skill approach. *Journal of Managerial Psychology*, 23 (2), pp. 169--185.

Saunila, M., Ukko, J., & Rantanen, H. (2012). Innovation capability and its measurement in Finnish SMEs. In *Practice-Based Innovation: Insights, Applications and Policy Implications* (pp. 417-435). Springer, Berlin, Heidelberg.

Stata, R. (1989). Organizational learning-the key to management innovation. *MIT Sloan Management Review*, *30*(3), 63.

Stiglitz, J. E. (2010). The road to hell: The dynamics of distrust in an era of quality. In R. Kramer & T. Tyler (Eds.), *Trust in organizations: Frontiers of Theory and Research (pp. 196–215)*. Thousand Oaks, CA: Sage.

Tajeddini, K., Trueman, M., & Larsen, G. (2006). Examining the Effect of Market Orientation on Innovativeness. *Journal of Marketing Management*, 22:5-6, 529-551, DOI: 10.1362/026725706777978640

Teece, D. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable)enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350.

Weng, D. H., & Lin, Z. (2014). Beyond CEO tenure. *Journal of Management*, 40(7), 2009–2032.

Wiggins, R. R., & Ruefli, T. W. (2005). Schumpeter's ghost: Is hypercompetition making the best of times shorter?. *Strategic Management Journal*, *26*(10), 887-911.

Wolf, M., Beck, R., & Pahlke, I. (2012). Knowledge management: an introduction and perspective. *Journal of Knowledge Management*, 1 (1), 6–14.