Intellectual Capital, Absorptive Capacity and Competitive Advantages. What effect on Performance Organization's? Proposition of an Analysis Model.

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ARTICLE INFORMATION

Original Research Paper
Received: 13/10/2023
Accepted: 07/02/2024
Published: 21/03/2024

Keywords:
Keyword.1: Intellectual Capital
Keyword.2: Absorptive capacity
Keyword.3: Competitive advantages
Keyword.4: Performance
Keyword.5: Analysis Model
JEL Classification Codes: M19

Abstract :

Nowadays, managers focus more and more on the pivotal role of intellectual capital as a spillover of competitiveness and firm's performance, especially in the industrial sector. However, researchers highlight the importance of the absorptive capacity as a moderator variable between Intellectual capital and accomplishing competitive advantages. Thus, we try to analyze the effect of intellectual capital on the performance of the firm, through its several components, namely: human capital, structural capital, and relational capital. This paper proposes an analysis model containing the major variables and showing the several links between them.

Mots clés:
Mot clé.1: Capital intellectuel
Mot clé.2: Capacité d'absorption
Mot clé.3: Avantages concurrentiels
Mot clé.4: Performance
Mot clé.5: Modèle d'analyse

Codes de classification JEL:M19

Abstract :

De nos jours, les dirigeants se concentrent de plus en plus sur le rôle central du capital intellectuel en tant que facteur de compétitivité et de performance de l'entreprise, en particulier dans le secteur industriel. Cependant, les chercheurs soulignent l'importance de la capacité d'absorption en tant que modérateur entre le capital intellectuel et la création d'avantages concurrentiels. Ce papier examine l'impact du capital intellectuel sous ses différentes dimensions, à savoir le capital humain, structurel et relationnel, sur la performance de l'entreprise. Nous proposons un modèle de recherche incluant les principales variables et montrant les liens entre elles.

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1- Introduction

The intellectual capital (IC) still the most important company resource's and a vital driver of organizational success and leads it to achieve an important source of competitive advantages. In other words, IC represents an intangible assets covering several aspects such as skills, expertise, training and relationships within a company that contribute to its value creation and innovation. Thus, manager focus on the absorptive capacity (AC) as a process of acquisition, assimilation, transformation, and exploitation of knowledge, which plays a crucial role in understanding the differences in the use of knowledge. Moreover, Absorptive Capacity leads the transfer of knowledge within the diverse organizational components (Engelman and al.,2017).

According Jansen and al. (2005), when the organizations invest on assimilating and exploiting new external knowledge they have a better ability to capitalize on changing environmental conditions by producing innovative products and detecting wants of developing markets. While significant benefits can be realized by the AC of external knowledge, a different impact on AC's dimensions may be driven by resources, thus leading to different results on performance level.

Accordingly, absorptive capacity process of organization can lead it to achieve an important competitive advantages which improve finally its performance.

This paper aims to analysis the relationship between the Intellectual capital and absorptive capacity as a dynamic and multidimensional field of study. Also, we study the effects of AC on achieving competitive advantages and increasing organization's performance.

While abundant studies have highlighted the potential benefits of IC in enhancing AC, there are also challenges and complexities associated with their implementation and utilization. Thus, it is important to explore into the problematic aspects surrounding the effect of intellectual capital on improving performance.

Also, this study will contribute to the existing body of knowledge by shedding light on the potential implications, opportunities, and challenges associated with the utilization of intellectual capital.

Ultimately, the findings from this research will have practical implications for organizations, offering guidance on how to effectively harness intellectual capital to enhance firm's performance through an analysis model including the major variables in that research.

2. Literature Review

2.1. Intellectual capital

IC means the set of intangible assets of an organization (Marr and Chatzkel, 2004). In other side, Nahapiet and Ghoshal (1998) state that intellectual capital presents a knowledge and knowing ability of a social collectivity, which can appear in the form of an organization, intellectual community or professional practice. Besides, for Stewart (1998) and Harrison & Sullivan (2000), intellectual material, knowledge, information, intellectual property, and experience are related to IC which can be put to use in order to create a value market of organization, collective brainpower and also can be converted into profit. Wherefore, many research highlighted the dynamic role of IC in the field of creation of a strategic advantage based on extreme utilization of intangible assets (Edvinsson and Sullivan, 1996; Bontis and al., 2000; Goh, 2000; Firer and Mitchell Williams, 2003; Cohen and Kaimenakis, 2007; Choong, 2008; Ting and Lean, 2009; Ngah and Razak, 2009; Iazzolino and Laise, 2013; Eklund, 2020). Nevertheless, given the difficulty of measuring knowledge, education level, and the quality of intangible assets, it appears that the evaluation of IC represents a complex task.

Therefore, the several components of IC are:

- human capital;
- structural capital;
- and relational capital

2.1.1. Human capital:

Organizations place great importance on their human capital, which justifies the development of strategic plans aimed at providing technical skills as well as theoretical knowledge, through planning, training and monitoring (Sadq & al., 2020).

Muslim& al. (2019) argue that human resource includes aptitudes, efforts, individual values, behaviors, attitudes, education and training, and time that employees have to invest in their work, and in other side, capacity to contribute to increasing the economic value of organization's business. In other words, it's the tacit and explicit knowledge of employees, as well as their ability to generate new knowledge useful to the organization, which constitute human capital. Accordingly, the concept of human capital covers employee's competences, employee's creativity, employee's knowledge and social competence.

a. Employee's competences

Ping & al. (2019) state that competences are linked to the skills and experience employee's held throughout their professional life. Effectively, they are the result of different and continuous training operation acquired within firms. Therefore, skill refers to the capability employee's in different fields such as implementation, coordination, support, investigation, evaluation, concentration, ...etc. In other words, skill development is becoming a lifelong process, where people increasingly engage in job and career changes well after receiving a formal education (Frederick & al., 2023).

Accordingly, employee's competencies are of an individualistic nature, and are damaged by employee turnover.

b. Employee's creativity

Creativity is the capability of an employee to transform his imagination or original ideas into practice which is used in order to create products, services, or any other action in a successful resource (Moorhead, and Griffin, 2000). Thus, creativity allows the organization to find innovative solutions through a way of thinking that stimulates, challenges, and aids them to create opportunities from problem situations. Innovation takes several forms linked to process innovation, product innovation, management innovation and technical innovation (Oslo manual, 2018).

c. Employee's knowledge

knowledge is an important organizational resource and an immaterial asset to achieve their goals (Dwivedi et al., 2020).

Knowledge refers to the level of education. Hence, it originates and resides in people's minds (Davenport and Prusak, 1998). Besides, it is organized information in employee's heads (Stonier, 1990). Accordingly, knowledge includes technological, technical and operational fields that lead organization to realizing the changing in a business environment. Thus, organization can increase its performance level by realizing its goals due the knowledge as a crucial asset (Abdullah & al. 2023). Conversely, when employees have lack of knowledge, it is probable that it will main to decreased performance (Hong & al., 2022; Widianto, 2021).

d. Social competence

Social competence is the ability to engage in meaningful interactions with others. In other words, it's involves the aptitude to evaluate social situations and determine what is expected or required; to recognize the feelings and intentions of others; and to select social behaviors that are most appropriate for that given situation. Thus, social competence is based on behavioral flexibility witch is very important in organization and lead him to facilitate the cooperation among employees in achieving performance. Accordingly, social competence refers to the ability of an individual to optimize its social behavior depending on available social information (Taborsky,2012). Also, social competence enhance knowledge sharing conducting persons to complete many responsibilities and rise their efficacy (Nanan & Arunyaphum , 2021)

2.1.2. Structural capital

It's also called organizational capital, and is divided into dynamic or static categories. The first one contains organizational culture and environment, the working of groups of practice, and innovation systems. Further, the set of policies, procedures, or data constitute the static category (Carson et al, 2004). In other words, structural capital refers to that capital existent within the firm as the stock of patents, trademarks, intellectual property, copyrights, and other legal protections that an organization has for its inventions, designs, and creative works.

Besides, structural capital includes hardware, software, databases, organizational culture and organizational capabilities, which cannot be taken away when employees leave (Edvinsson & Malone, 1996; Roos & Roos, 1997). Organizational culture refers to the beliefs, shared values, leadership, employee alignment, teamwork and behaviors that describe a firm and influence the behavior of its employees in order to be more performant. According to Rahim et al. (2011), structural capital is linked to the goods or systems the organization has produced eventually. So, it represents the methods, information systems, strategies, procedures, patents, and also the competitive intelligence.

Accordingly, organizational capital includes the major components: innovation and development capital; information capital; and finally strategies and process capital

a. Renewal and development capital

For Bueno and Salmador (2000), structural capital is a type of knowledge that is systematized, explicit, and also has been internalized within the organization. It represents the institutionalized knowledge and the codified experience within the organization through its culture, routine, and structure (Engelman et al., 2017). Firms in possession of solid structural capital lead their workers to be innovative due to a supportive culture by trying new things, acquiring, and practicing them (Gogan et al. 2015). Hence, innovation capacities can be affected by knowledge preserved and used for achieving this goal (Edvinsson and Malone, 1998). Thus, innovation leads to the creation or development of new products and services. Besides, renewal and development capital involves the set of investments that are made in developing new products and new technologies which give firm more competitiveness (Ciprian & al., 2012). Effectively, in nowadays forceful, complexity and competitive marketplace a greater level of innovation offers organization with valuable opportunities and tools for accomplishing sustainable competitive advantages and extended first-mover advantage (Zyl, 2005).

b. Information capital

For Davenport and Prusak (1997), the structural capital, as a component of IC, is linked to technological changes, and operations related to the management of information technology. It represents the use of technology within an organization for managing and processing information. Investments made by the firm in the IT field are normally improving productivity. Despite the importance of costs generated by IT investments the majority of which are not visible in the financial statement, such as software and training operations for the benefit of workers, it enhances the market value of the organization (Gorgan et al., 2015).

Hence, information capital includes the set of information systems, computer systems, strategies, and organizational structures applied in the firm in order to ensure the search for, find, collect, treatment, sharing, diffusion, and protection of information. For this reason, Cohen & Kaimenakis (2007) state that the move from human capital to structural capital must be the several objective of management operations. Moreover, structural capital represents the physical and organizational structure, property of the enterprise, which supports human capital and enables information and knowledge transfer and also their sharing.

Presently, firms emphasize the act of knowledge sharing to improve individual performance as well as rise the organizational competitiveness level in diverse activities (Kucharska, 2019; Lin & al., 2020; Uyun & al., 2020).

c. Strategies and process capital

Structural capital refers also to the internal processes capital which include processes quality's, products and services that gives the company a durable competitive advantages. These processes and structures are important and needed by the employee in order to be productive (Mertin et al., 2009).

Moreover, process capital has a positive effect on profitability as it has an impact on efficient production processes and is able to reduce unwanted productions costs, and should also be properly managed (Fernandez Jardon & al., 2020).

In other side, Bontis et al, (2000) highlight that structural capital contains strategies, organizational charts, processes, and other deposits of non-human knowledge in firms, and completes that any firm whose market value is better than its financial value comprises the structural capital.

2.1.3. Relational capital

Relational capital is the aptitude of the firm to make external intangible assets. These intangible assets represent the knowledge of external partners such as customers and suppliers. It concerns contracts with customers, their level of satisfaction and loyalty, market share, the image and reputation of the firm and the commercial brand,

Further, relational capital refers to the knowledge collectively deep-seated within the firm generated from the system of relations owned by an individual or social entity (Engelman et al., 2017, Nahapiet and Ghoshal,1998). In other words, it refers to the social capital related to the internal relationships, and client capital associated to the external contacts.

a. Social capital

Social capital represents the set of actual and potential assets located in and around the firm. It results through interactions between employees, work groups, and their social networks, but without the formality or the rigidity of structural capital (Subramaniam and Youndt, 2005).

b. Costumer capital

Costumer capital refers to the relationships of organization with their resource providers, distributors, investors, customers, the government, and other stakeholders (Edvinsson, 1997, Sveiby, 1997, Stewart, 1998, Meritum, 2002, Mouritsen et al, 2002, 2004).

Thus, the common perspective of learning that can enhance capability is closely linked with the firm's ability to identify and investigate knowledge acquired from external sources.

2.2. Absorptive capacity

The absorptive capacity (AC) notion was established by Cohen and Levinthal in 1989 at the organizational level. They argue that AC refers to the organizational capacity to identify the importance of new data, understand it, and integrate it into marketable goals. Subsequently, several researches were done to expand this theoretical definition, and its dimensions, such as Flatten et al., (2011), Lichtenthaler, (2009); Todorova & Durisin (2007), Lane et al. (2006), and Zahra & George, (2002). For this last one, the AC represents a complex concept with diverse dimensions, which allow the firm to produce a dynamic organizational capability combining different and complementary aptitudes of knowledge at four levels, namely: acquisition, assimilation, transformation, and exploitation. In this case, organizational routines and processes play an important role. According to Engelman et al. (2007), these dimensions are defined bellow:

2.2.1. Acquisition

Acquisition of knowledge refers to the continue search for relevant information concerning the firm and the employee's motivation to use different information sources within and out of organization.

Thus, it is the capacity of organization to recover, identify and acquire external knowledge that is important to their operations.

2.2.2. Assimilation

Assimilation of knowledge mean the set of ideas and concepts communicated within different structures organization because of its quick information flow and interchange meeting in order to solve management problems.

Accordingly, it represents the organization's aptitude to examine, process, deduce and comprehend the information gotten from different bases.

2.2.3. Transformation

The knowledge's transformation is related to the employee's capability to structure and to use collected knowledge in one hand, and to absorb new knowledge, and also make it accessible. Therefore, the association of existing knowledge with new visions is successfully established by employees.

Consequently, it induces the recognition of two sets of apparently incompatible information and their grouping to create a new structure.

2.2.4. Exploitation

Exploitation of knowledge represents the set of new technologies investments within a firm and adapting them in order to enhance the effectiveness of work. In other words, it is related to the organization's capacity to improve, enlarge, influence, and generate existing abilities concentrated on the application of novel knowledge.

2.3. Competitive advantages

Michel Porter argue that the competitive advantage results from the way of organizing and managing the activities within the firm. So, through these activities, firms can generate value. In other words, a competitive advantage can be based on proposing more value to the clienteles than competitors (Passemard and Kleiner, 2000).

According to Altelbani, et al., 2012, Abo-Baker, 2012, Award, 2004, Qutob, 2002, Rosan, 2000, the concept of competitive advantages represents the organization's ability to make and implement strategies that lead it to a better place in the market, compared to their competitors activating in the same sector of activity. Wherefore, it's the ways that a firm can produce goods or deliver services better than its competitors and also allows a top management to achieve superior margins and generate value for the firm and its shareholders. For Maritan et al. (2018), competitive advantages can be defining as the degree to which a firm creates more economic value than rival firms in a given product market. According to Barney et al. The economic value refers to the difference between the value perceived by the firm's customers, measured by their willingness to pay, and the firm's costs. In other words, it's the firm's aptitude to accomplish the consumer needs or the value that they request realized from the product or the service, through low price level, high-quality, or delivery of different advantages in the product or service compared to competitors (Zhengwei et al., 2019).

Hence, competitive advantages are based on the four following components, namely: least cost, quality, service, and differentiation.

2.3.1. Least cost

Since consumer take an important attention to the price of a product/service then organization must focus on cost control. In order to achieve this goal several strategies are used within organization such as standard production at a lower cost than other comparable products. In that case, organization combine low profit margins per unit with large sales volumes to maximize profit. Firm seek the best alternatives in manufacturing a product/service and advertise this value proposition to make it impossible for competitors to replicate. Accordingly, least cost strategy lead organization to realize a better competitiveness level and performance.

2.3.2. Quality

Quality is an important target for most organizations. Quality can be defined from two points of view: manufacturing and marketing.

In the manufacturing field quality is related to quality of design, which focuses on product features that meet customer's needs. Besides, it refers to the quality of conformance, which focuses on whether the organization is matching the design specifications, or not, as mentioned previously.

From the second field of marketing, quality is linked *to quality of objective* and *quality of perceived*. The first one focus on technical side for evaluating quality product's. The second one is based on how consumer appreciates quality level of the product. However, it's important to highlight that in the concept quality of objective, its value should be constant, but in the second concept the value varies from one consumer to another (Alghamdi & Bach,2013).

Therefore, quality can be defined as meeting or exceeding customer expectations.

High level of quality product/service lead organization to enhance their competitiveness level as well as organizational performance such as improve financial and marketing performances. Quality refers to the organization ability to provide a product/ service including value for customers. Also, when organization prioritizes quality, it may lead to increase customer loyalty and improve brand reputation (Sadq et al., 2016).

These crucial elements represent a real competitive advantages that conduct organization to enhance its performance level.

2.3.3. Service

Sadq et al. (2016), define the concept of service as the organization's aptitude to deliver at the type and volume of goods that are necessary by the customer. According to Harr (2008), service quality measurement can be done with the following dimensions: tangibles, reliability, responsiveness, assurance, and empathy. For Parasuraman et al., (1988), the above dimensions are defined in the SERVQUAL model as follows:

- The Tangibles dimension expresses the apparent appearance of equipment and installations, as well as that of employees and communication materials used by a service company.
- Reliability dimension refers to the promised results obtained at the indicated level.
- Responsiveness dimension is related to prompt service held to customers.
- Assurance dimension represents the aptitude of firm's service to inspire belief and confidence in the organization due the knowledge, respect, and honesty of the personnel.
- Empathy dimension means the disposition and ability to accord particular care to a customer

Perasuraman et al., (1985) argue that several factors could generate a gap between the management perception of customer hopes and the present characteristics established for service. In this sense, a service quality model was established by the researcher Joonas (2013), where perceived quality is impacted by the following factors: the image of the organization, experience, communication, personalization, customization as well as the expectations perceived by the worker.

According to Gronroos (1983), functional quality is an essential resource of differentiation where technical quality is very comparable within organizations.

Consequently, a high level of service quality represents a crucial competitive advantage which lead firm to improve its performance level.

2.3.4. Differentiation

Differentiation refers to the ability of organization to develop unique product/service that are significantly including different characteristics from competitors, through strong investments in R&D and innovation. Thus, Sadq et al., (2016) argue that the organization may take into account customer's hope and use cutting-edge technology in their products or introduce some changes, as a kind of distinction relative to other competitors to realize a competitive advantage. By offering a unique product/service with a totally unique value proposition, firm can often convince consumers to pay a higher price which results in higher margins and also better competitiveness level and performance.

3. Proposal measurement model

3.1. Hypothesis

The concept of Absorptive Capacity represents the operation of obtaining, assimilating, and integrating previous knowledge base besides the new external knowledge generated (Chatterjee et al., 2022; Migdadi, 2022). Moreover, AC is linked to an advanced dynamic aptitude that is shared to all firms, and can rise the core capacities and work performance (Bouguerra et al., 2022).

Arguing to Wang et al. (2022), there is a strong relation between absorptive capacity and knowledge sharing because workers may disseminate their knowledge and use it to find solutions to problem's job they encounter.

Thus, intellectual capital may have different effects on absorptive capacity's dimensions. Also, the absorptive capacity improves cooperation, work relationship and encourages knowledge sharing in order to boost employee productivity. These effects lead firm to achieve competitive advantages and finally enhances performance level.

According to Lopes & Martins, (2006), intellectual capital includes those intangible assets that can produce future benefits for the firm and that create key competitive advantages for the business and are invisible, not easily quantifiable or acquirable or valued financially. Therefore, intellectual capital may have effects in achieving competitive advantages.

General Hypothesis: there is statistically a significant impact of intellectual capital on achieving competitive advantages within organization through its absorptive capacity.

Secondary Hypothesis:

H1: there is statistically a significant effect of human capital on achieving competitive advantages in organization through its absorptive capacity.

H2: there is statistically a significant impact of structural capital on achieving competitive advantages within organization through its absorptive capacity.

H3: there is statistically a significant impact of relational capital on achieving competitive advantages within organization through its absorptive capacity.

3.2. Research model

The research model proposed in this paper and based on the literature review presented above, includes three levels.

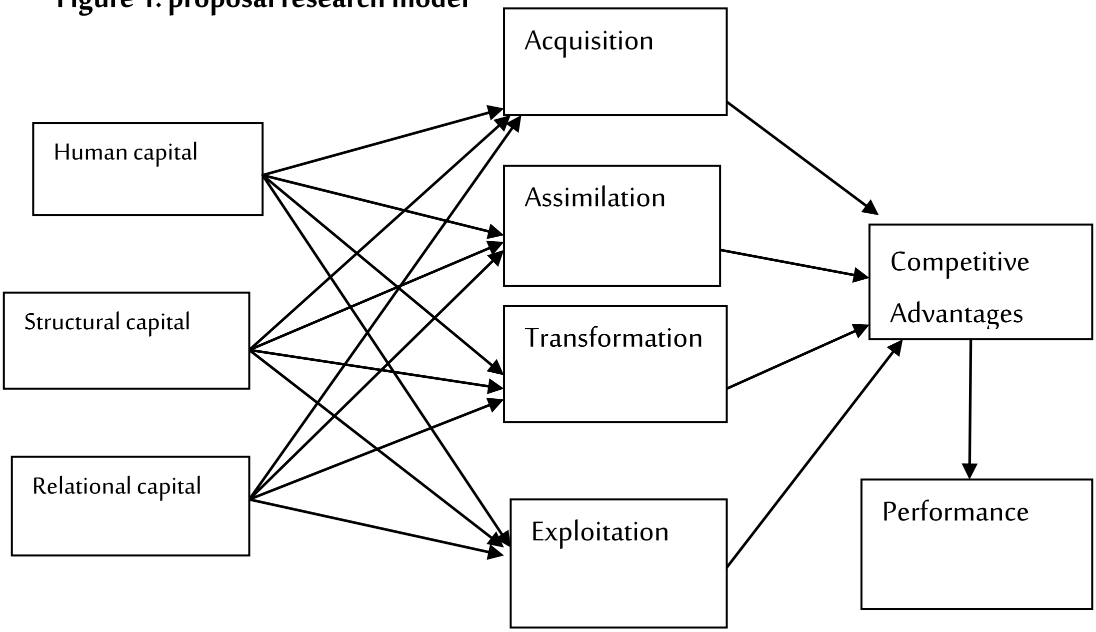
The first level comprises the different components that are part of intellectual capital, namely: human capital, structural capital, and relational capital.

The second level contain the different dimensions of absorptive capacity, namely: acquisition, assimilation, transformation and exploitation.

The third level represents competitive advantages.

The diagram below presents our research model analyzing the different relationship between variables.

Figure 1: proposal research model



Source: established by us.

4. Conclusion

The evaluation of intangible assets has been debated over the past decades. However, measuring the intellectual capital and its links with absorptive capacity can be considered a fairly recent concept in the research field.

This paper aims to analysis the possible influence of intellectual capital, as an intangible resource, on the AC of organization, and also the effect of AC in achieving competitive advantages which lead to better performance level.

The research gives principal elements to improve comprehension of the studied subjects in the field of academic knowledge. Precisely, about intellectual capital concept, the paper strengthens the effect from each of its components, namely: human capital, structural capital, and relational capital, on improving firm's competitiveness and consequently firm's performance level.

This contribution presents and discuss about the different dimensions of absorptive capacity, namely: acquisition, assimilation, transformation, and exploitation of knowledge. We also analysis their effects within organization and their links with different areas of competitive advantages.

Through the theoretical background adopted, we proposed an analytical model integrating the dimensions of our key variables, namely: intellectual capital, absorptive capacity and their influence on achieving competitive advantages and improving firm's performance.

The managerial implication of this research is to held managers to identify the development of a firm's intangible assets and its competitiveness impacts as well as its performance effect.

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