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The Role of Economic Intelligence in the Valorization of the Knowledge within An Algerian Society / Case of the Center for Technological Studies and Services of the Building Materials Industry, by Abbreviation CETIM, Subsidiaries of the GICA Group.

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Abstract:
This article deals with one of the managerial devices necessary for the valorization of the knowledge available to a company in order to create a strategic advantage. This article complements article N **IJFMR23069085 published in November 2023 in International Journal for Multidisciplinary Research** and which deals with the role of the KM process as the first managerial device involved in the valorization of knowledge.
Through a qualitative research by single case study, our objective was to verify the existence and functioning of the economic intelligence in the valorization of knowledge within the Center for Studies and Technology Services of the Building Materials Industry. (CETIM) Subsidiary of the Groupe Industriel des Ciments d'Algérie (GICA), then to demonstrate how it allows the transfer of knowledge from the CETIM to the subsidiaries of the same Group and consequently, obtaining a strategic advantage from knowledge transferred.
Through the analysis of data collected, since the period from 2020 to 2022, in the field from two (02) methods of investigation (observation and interviews), the results showed that in addition to the managerial devices included in the literature review and set out in the conceptual framework, other operational mechanisms involved in the valorization of knowledge have been identified in the field.

Keywords: Knowledge, Economic intelligence, Knowledge management (KM), the managerial devices, CETIM, GICA, the valorization of knowledge.

1. Introduction:

Knowledge development is at the heart of the strategic management process knowledge, which itself aims to formally structure and manage capital knowledge of a company, linked to its strategic orientations and its needs innovation and improvement of competitiveness, supported by technological infrastructure and organizational, with the human being as the first place of interaction, of creation and knowledge valorization.

Preservation and exploitation of skills-related knowledge organizational measures specific to the core business of a company must be its priority.

Literature has a wide range of necessary organizational devices to the sustainability of a company's expertise, these systems are classified into Three (03) categories : strategic **(Grant RM, 1996; Davenport T H, 1998; Bück J Y, 2000; Veybel L and Prieur P, 2003)**, structural **(Drucker P, 1999; Grant RM, 1996; Zghal R, 2002 and Grundstein M, 2006)** and managerial or operational **(Nonaka I and Takeuchi H, 1997; Alavi M and Leidner D, 1999 and Malhotra Y and Galletta DF, 2003).**

Aligning with the scientific discipline of knowledge management and engineering knowledge, this article deals with an operational device (economic intelligence) for management knowledge that a company can use to enhance its intangible capital

with a view to creating a strategic advantage, and complements article N **IJFMR23069085 published in November 2023 in International Journal for Multidisciplinary Research.**

Moreover, while integrating several approaches and models, the ambition of this article proposes to treat the role of economic intelligence which intervenes as a managerial device involved in the valorization of knowledge, and to answer the question :

What is the role of economic intelligence activity in valorization knowledge within an Algerian economic company?

To respond to this problem, we opted for a qualitative approach, oriented towards a single case study conducted within the Center for Studies and Services Technologies for the Construction Materials Industry, by abbreviation CETIM – Subsidiary of the industrial group cements from Algeria, by abbreviation GICA. Our choice for the Algerian technical center for the construction materials producing industry is supported by its contribution to technical progress, improved productivity and the development of the Algerian construction materials industry. It is being transformed into a technological center comparable to internationally renowned technological centers.

Our objective is to verify the existence and functioning of managerial mechanisms relating to the valorization of knowledge within CETIM, known for having focused its strategy on the development of subsidiaries of the same group.

The methodology adopted follows:

A hypothetico-deductive logic, according to which the body of hypotheses developed before the empirical study can lead to conclusions and draw a consequence from empirical research. These hypotheses will be invalidated or confirmed, based on a logic of demonstration or proof which must be proposed;

And a constructivist paradigm, according to which constructed knowledge does not reflect an objective ontological reality but concerns the shaping of a world constituted by our experience.

The remainder of the paper is organized as follows: Section 2 reviews the relevant literature, Section 3 presents the research methodology, Section 4 results, section 5 discussion, while Section 6 provides the conclusion and recommendations.

2. Literature Review:

Knowledge management is associated with informational richness and breadth existing databases. A company will be better than its competitors if it has, before others, the right information at the right time, whether market knowledge, legal, technological, normative or other information.

The vast majority of decision-making processes put information at the heart of the suffering of businesses and all the operations necessary for the passage of a information to an acquaintance passes through comm-

unication and an exchange of information accumulate between people.

However, and according to **Nonaka and Konno (1998),** it is impossible to separate knowledge of the physical and cognitive context in which it arises, in fact, for these authors, the interactions between individuals are conditioned by their cognitive context, also, a space named "Ba" shared between these individuals is created and necessarily constituted of information to the creation of knowledge.

Furthermore, **Cohen and Levinthal (1990)** emphasize the capacity of organizations to absorb not only the scientific and technical information that circulates internally "In ward looking", but also those which are available in the "Out ward" environment looking". The indicators used to assess the absorptive capacities of a company are innovation and the presence of R&D activities. The company must listen to all information that emanates from the environment and which can fuel its capital knowledge and this, through monitoring activity **(Maier J L and al., 1997).**

In **1999**, **Drucker** suggested that businesses should be structured around feedback organized. The latter, by comparing results with expectations, allow everyone to exercise a self-check. In practice, he suggests that each individual write a report in order to provide the information necessary for the people on whom he depends and those who depend on him. These people are mainly those with whom the author of the report maintains close relations. coordination; hence the notion of "information responsibility" that **Drucker** considers as a condition for valorizing knowledge. This transparency is found nevertheless faced with the reluctance of certain individuals to share the information they have; and this in order to increase the dependence of the company on them because the information is a source of power in organizations **(Crozier and Friedberg, 1977).**

As a result, the valorization of knowledge risks being hampered by games of power within the company, due to the fact that an employee, with strategic information (linked to individual expertise, a network outside the company for example), decides not to not broadcast it for its own reasons. The valorization of knowledge within a company supposes that the border between the receiver and transmitter of information fade and everyone comes into direct contact with several interlocutors, so that everyone has access to the same amount of data via the network and therefore has the same capacity to intervene.

From the above and referring to the model of the hierarchy of concepts (Data, information, knowledge and wisdom) developed by **Eliot (1934)**, Nobel Prize winner literature in 1948 and taken up by **Monino et al, 2006** and Cited in **Monino, 2013** and **Monino and al, 2016**, for a company, the challenge of maintaining a strategic advantage is to have the ability to cross-reference as much data as possible in order to extract the best elements decision. **Monino (2006)** assimilated wisdom (Top of the pyramid).

Going beyond the academic compartmentalization between monitoring and internal information management, **Paturel and Richomme-Huet (2009)** and **Monino J L & al, (2016)** emphasize the importance of extending the notion of monitoring to that of Economic Intelligence (EI). In order to analyze the environment external and internal environment (knowledge and know-how) of the company, the authors propose an approach to EI based on four pillars : monitoring, influence, protection of heritage, as well as the coordination of activities and actors.

The information absorbed (internally and externally) by the company passes, depending on **Simon (1981),** in *"human intelligent filters"*, for their sorting, analysis, synthesis, in view to retain only the most relevant ones. As noted, the information collected through the day before do not have the same usefulness for the company; this information should be prioritized according to business needs. For this, the author distinguishes the environment global (macroeconomic), the specific (or sectoral) environment and the environment of proximity (or local or even territorial), with the aim of prioritizing the intensity with which

These various environments will impact the company's activity.
The advantage of this method of prioritizing the environment and information that result is that it allows the decision maker to focus on the most important factors for him, avoiding wasting his time and energy.
From this reflection, we deduce that the presence of coordinated intelligence activities
economical allows the sorting and prioritization of information with a view to aligning the knowledge management with the company's strategy and therefore promotes the valorization of knowledge.
With reference to the literature, the valorization of a company's knowledge involves the implementation of a set of structural, managerial and strategic measures to take advantage of its strategic reach. In our research, we deal with the importance of economic intelligence of which act as managerial devices for the valorization of knowledge.
They represent part of our empirical work, in the sense that the conceptual framework, the hypotheses and therefore the operational variables were developed from the different points treated.
The literature review carried out in this part corresponds to a basis which helped us to establish the operational variables necessary for our field investigation (section 4) but also, it armed us with arguments during the discussion of the data (section 5).

3. Research methodology / Paradigme :

Our epistemological and methodological choice which is based on :

- The recommendations of a hypothetico-deductive logic by **David A, (1999),** according to which a body of hypotheses developed before the empirical study can lead to conclusions and draw a consequence from a general rule and empirical observation. These hypotheses will be invalidated or confirmed, based on a logic of demonstration or proof which must be proposed (see §3.1.).
- A constructivist posture **(Le Moigne J L, 2002),** in fact, the valorization of knowledge transferred from CETIM to the subsidiaries of the GICA Group is essentially based on interaction between individuals via group work, discussion and sharing, integration via operational processes, transfer via service provision which may include training and learning (tutoring) and then capitalization via codification, standardization and backup processes. It should be noted that the desire to grasp social reality based on the representation of actors does not constitute the aim of our research. Above all, it is a matter of producing the representation of a process by accessing the underlying logic of the individuals participating in its creation, without relying exclusively on their representations of the process in question.
- A qualitative approach, which is based on a single case study and which is centered on the contribution of CETIM in terms of valorization of knowledge transferred to the subsidiaries of the same industrial group (GICA Group), to analyze in a second step, the way in which do these subsidiaries exploit and capitalize on the knowledge transferred? This choice was motivated by the nature of our research question (how type) and by the comprehensive aim of our project (understanding). In addition, among the different research strategies offered which opt for a qualitative methodology, we have retained the case study, as a strategy for accessing reality.

3.1. Conceptual frame:

By definition, a concept is a formulation from which scientists have derived an ancient vocabulary to designate the possibilities of the reality they wanted to study scientifically **(Mace G and Pétry F, 2003).**
However, the literature review provides support for the development of a conceptual framework, dealing with models of knowledge creation and transformation, knowledge management, as well as knowledge

valorization. It offers a wide range of organizational measures that a company can implement to promote its knowledge capital. A summary of these numerous devices was proposed by **Charfi A et al, (2017)**, this allowed us to classify them into three main categories :

Aligned with the knowledge-based approach - Knowlegne Based View, this article deals with one of the practical managerial measures that a company can implement to enhance its intangible capital with a view to creating a strategic advantage. the objective is to verify the existence of operational mechanisms linked to economic intelligence involved in the valorization of knowledge within the center for technological studies and services of the construction materials industry of the GICA group, by abbreviation CETIM, reputed to have focused its strategy on the development of subsidiaries of the same group.

The elements of these systems dealing with the valorization of knowledge were studied based on the concepts and models studied in the literature review. These elements include :

- Organization of a monitoring activity **(Maier et al, 1997et Jakobiak F, 1998);**
- Absorption of scientific and technical information through the company's capacity to innovate, notably the presence of R&D activity **(Cohen et Levinthal, 1990);**
- Existence of intelligent human filters (people responsible for sorting, analyzing and synthesizing information) **(Simon, 1981);**
- Responsibility for information: writing reports and documents necessary for understanding **(Drucker P, 1999).**

All research must be based on a certain number of propositions or hypotheses, they represent answers to questions previously formulated using existing literature and the research context. The formulation of a research hypothesis represents the culmination of conceptual reflection. They will be confirmed or denied. As will be seen later, this step also constitutes the first step towards the empirical part of the research. This is therefore a pivotal point. Therefore, and to answer our main question, the following hypothesis is put forward:

The relevance of internal and external information promotes valorization knowledge with a view to creating a strategic advantage for CETIM.

Correlatively, the translation of operational devices into operational variables that can be observed in the field, confronts the hypothesis developed above with the reality of the Center for Studies and Services Technologies of the Construction Materials Industry, CETIM (by abbreviation).

3.2. Data:

A/ Case selection:

Our research object has the advantage of having a well-defined field of investigation, essentially, centered on the valorization of technical knowledge transferred to clients, with the highlighting of the different operational devices that an organization can establish to create a competitive or even strategic advantage. Indeed, the Center for Studies and Services in Materials Industry Technologies of construction, by abbreviation CETIM – Subsidiary of the cement industrial group of Algeria, by abbreviation GICA has the essential mission of contributing to technical progress, improving productivity and the development of the construction materials industry, in particular, subsidiaries of the same group (GICA Group). Also, it acts as an interface between the company and the University for Research, training and economic intelligence activities. It is the Algerian technical center for the industry producing construction materials such as cement, concrete, lime and plaster, bricks, tiles and ceramics, etc.

The Algerian cement industrial group, by abbreviation GICA, of which CETIM is a subsidiary, is an economic and strategic player in the country, and is configured into: Fourteen (14) cement companies, Three (03) aggregates and BPE, One (01) construction materials distribution company, two (02) maintenance and industrial assembly companies, one (01) training and development company, one (01) security company and a training center technical assistance (CETIM).

CETIM has existed since 1965 under other forms and names. It inherited from its predecessor companies experience and know-how gained during more than fifty-seven (57) years of activity in the cement industry. Indeed, CETIM is the result of successive restructurings undergone, starting in the Eighties (1980), by public companies responsible for the development, production and marketing of construction materials. Currently, in addition to these non-subsidiary customers, CETIM is the study and engineering center serving the Fourteen (14) cement plants and the Three (03) aggregates and BPE companies (all subsidiaries of the GICA group).

As a corollary, **Barcelo (1992)** believes that the industrial sector, in relation to economic intelligence, values knowledge and considers it to be one of the key sectors of the new economy focused on human wealth.

Indeed, with more than 79% qualification of its workforce (statistics for the year 2021), broken down into: 55% engineers, masters, magisters and doctors, and 24% senior technicians, technicians and of DEUA, and an average experience per agent of Thirteen (13) years. CETIM has a skills and knowledge management policy centered on three (03) dimensions: cognitive (knowledge), technical (IT) and managerial (direction, motivation, etc.). He seeks to develop his knowledge at three (03) levels :

- The knowledge learned during the realization of its various services and strategic projects;
- The tacit and explicit knowledge acquired in the various meetings, it concerns the overall functioning of the company (means and priorities), the strategy and policy of the company, the management control procedures and monitoring Standards;
- Knowledge acquired through adaptive type learning (individual) or that which comes from generative type learning (collective or even organizational).

Our empirical work takes into account the study of the organizational and inter-organizational level with issues on the external environment. Our selection of cases focused on CETIM, because the creation, acquisition, and transfer of knowledge is at the heart of its service provision (activities), the most important are :

- Testing and analyzing the characteristics of raw materials and products in the construction materials industry;
- Support in terms of development and production support for industrial projects ;
- Carrying out audits (quality and technical), expertise and inspections;
- Monitoring and support for certification (product, system), example of the API certification and approval project for petroleum cement at the Ain El Kebira Ciment Factory (SCAEK);
- Metrology services (calibration and verification of measuring instruments), topography, environmental studies;
- Applied research on construction and innovative materials.

However, the quality of the services cited above is recognized essentially by:

- The French Accreditation Committee (COFRAC) with from 2000 to 2016, accreditation No. 1-1110 to the ISO/IEC 17025 standard for testing

- The Algerian Accreditation Body (ALGERAC) with :
  - From 2017 to date, accreditation No. 1-2-024 to the ISO/IEC 17025 standard, for Thirty-two (32) tests and ;
  - From 2015 to 2018, accreditation No. 1-1-007 to the ISO/IEC 17025 standard for the temperature quantity;
  - From 2019 to date, accreditation No. 1-1-020 to the ISO/IEC 17025 standard, for the Temperature quantity (from -40 °C to 140 °C) and the Mass quantity (from 1 mg to 10 Kg on class F1).
- The mandate of the CACQE, Ministry of Commerce, for quality control of materials;
- The Algerian Institute of Standardization (IANOR), for product certification management projects and standards monitoring;
- The Ministry of Industry and Mines, to obtain approval for studies to upgrade and implement quality assurance systems;
- The Ministry of the Environment and Renewable Energy, for obtaining approval for environmental studies;
- The partnership between the National Environment and Sustainable Development Organization (ONEDD) and CETIM for monitoring liquid effluents and atmospheric discharges from classified installations subject to environmental regulations.

To be able to claim to have covered the arguments linked to our selection of cases, the technological development of organizations motivated by the preponderance of innovation in certain economic sectors remains one of the arguments directly attached to the operational mechanisms of valorization of knowledge.

B/ Data collection:

Our research aims to analyze our object of study at the time of observation and through space, the information collected is concentrated in the present and in the near past. In other words, our work focuses on the valuation at a given moment, and not on the evolution of the object studied over time. Also, depending on the problem, the unit of analysis can concern the individual, the group, the organization as a whole, the inter-organizational, the interrelations between several levels. Determining the level of the unit of analysis sets the limits necessary for data collection, and thus influences the analysis and interpretation of the latter. Regarding our research, the level of analysis retained is the organization as a whole, but also the influence it has on the subsidiary organizations of the same group. Thus, the scopes of our study is intra and inter organizational, point A/ Case selection, presents the organization of the GICA Group and the relationship of CETIM with the subsidiaries of this group, mainly those concerned by this study.

The two (02) main data collection methods used in our research, namely: observations (participants and non-participants) and questions via questionnaires or interviews.

Dans notre étude de cas, nous avons eu l'opportunité d'avoir accès :

To the two (02) types of observations:

- **Participant observation:** As a CETIM employee, the interaction with the people interviewed during the interviews was very useful to us in choosing the subject of our research, because we ourselves participated in transfer projects. knowledge of CETIM towards Four (04) cement plants (SCAEK, SCIZ, ECDE and SSC) of the GICA group and one (01) private cement plant SARL AMOUDA

INGENEERING. This participant observation allowed us to participate in the drafting of second-order data, such as contracts and their amendments, monthly project progress reports, activity reports, etc ;

- **Non-participant/passive observation:** This method of data collection allowed us to have second-order information, mainly from the Technical-Commercial Management of types: customer satisfaction survey reports, service contracts carried out or in progress, missions with knowledge transfer, etc.

To the Three (03) types of questions:

- **The speech interview,** was used in the maturation phase of the research subject, with two (02) people: on April 16, 2020 with the former Head of the Industrial Division who is the current President and CEO of CETIM, then on February 25, 2021 with the former President and CEO of CETIM and when choosing the people to be interviewed, with the current CEO on February 8, 2022;
- **The semi-structured interview,** Three (03) additional interview guides were carried out: the first for the CETIM supervisory staff, the second for the directors of the GICA group and the third for senior managers of the GICA Group subsidiaries. They were developed based on the conceptual framework and the identification process of the case study. They were enriched and clarified as the empirical study progressed. The interviews carried out with the directors of the Group and the subsidiaries were intended to refute or confirm the responses collected from CETIM supervisory staff.

The interviews lasting an average of an hour and a half, carried out with CETIM supervisory staff as well as the group's directors, were conducted at the workplace and during working hours. Regarding the interviews carried out with the managers of the GICA group subsidiaries, they were carried out remotely via telephone calls. These interviews took place:

- For CETIM supervisory staff, during the period from February 28 to March 10, 2022;
- For directors of the GICA group, March 13 and 14, 2022;
- For managers of GICA Group subsidiaries concerned by this research, during the period from March 18 to 24, 2022.
- **The directive interview,** a questionnaire was developed as simply and clearly as possible, with brief and targeted questions in order to maximize response rates. Its writing made it possible to verify the existence of a transfer of knowledge from CETIM to the subsidiaries of the same group (GICA), focused on the one hand on the development of these subsidiaries and on the other hand, on obtaining a strategic advantage for CETIM. It was designed on Google Forms, sent by email to more than Sixty (60) people, with a return of Thirty-one (31) responses. One in two people who received the questionnaire therefore responded. The respondents are directors, department heads and service heads of fourteen (14) GICA Group subsidiaries.

In total, Fifty-three (53) interviews were carried out and are distributed as follows:

- Three (03) non-directive interviews with the CEOs (former and current) and the head of the Industrial Division of CETIM;
- Nineteen (19) semi-structured interviews divided into: Ten (10) with CETIM supervisory staff and Five (05) with directors of the GICA group and Four (04) with directors of subsidiaries of the GICA group;
- Thirty-one (31) responses to the directive questionnaire sent to senior managers (director, department head and service head) of the GICA group subsidiaries.

4. Result:

4.1. Data analysis:

Qualitative data analysis has been the subject of numerous publications, it involves examining and interpreting data in order to develop answers to questions.

The main steps in the analysis process are to identify the topics of analysis, determine the availability of appropriate data, decide which methods to use to answer the questions of interest apply the methods and to evaluate, summarize and communicate the results.

However, the textual data analysis method is the most popular method for studying data collected through questions and observations, and therefore, the most appropriate for our case study. Today it brings together many methods and tools, which aim to discover the essential information contained in a text.

Taking into consideration that discourses (field investigations) constitute a privileged entry into the object of study of management researchers and among the Four (04) major families of textual data analysis, namely: lexical, linguistic, cognitive and thematic, thematic analysis is the chosen method because it relates the content of the data collected to pre-established themes. In other words, it follows deductive reasoning, and therefore makes it possible to verify or validate predefined hypotheses, and consequently, is part of the epistemological posture chosen at the start.

Behind the generic term content analysis, numerous manual tools were first proposed (concept grid, counting of propositions, expressions, etc.).

Currently, IT offers facilities that make it possible to provide new assistance to analysts. Indeed, software can provide significant assistance in the organization and processing of data, even if the desired results are qualitative.

Furthermore, thematic content analysis includes most of the steps to follow for the analysis of the data collected during the semi-structured interviews.

These steps are :

a/ Pre-analysis of data:

This is the preliminary stage of intuition and organization to operationalize and systematize the initial ideas in order to arrive at a diagram or an analysis plan, it includes:

- **the choice of documents to submit for analysis**, in our case, we transcribed the interviews by hand, in a logbook then reproduced on digital media, with everything the interviewees were able to say, without changing the text, without the slightest interpretation or judgment. With more than Twenty-four (24) hours of recordings, or Seventy (70) hours of transcription, each interview is transcribed into a separate file, in total more than One Hundred (100) pages of verbatim, entered on a computer in Word format. However, for better control of the information collected, no voice recognition software was used, because certain words can be distorted, particularly technical words.
- **The formulation of the initial hypothesis and the objectives**, which will be compared with the results obtained and therefore, this will be confirmed or refuted.
- **The development of indicators on which the interpretation of the results will be based,** the way of choosing the field of study and that of analyzing the data collected are the two aspects of the qualitative research approach which must be more particularly examined, in fact, the CETIM is the Algerian technical center of the industry producing construction materials, such as cement and concrete, and has the main mission of contributing to technical progress, improving productivity and developing the construction materials industry. It is currently being developed into a technology

center, comparable to internationally renowned technology centers. Therefore, future research could focus on the transferability of our results to other areas of investigation.

b/ Data coding:

Coding is a meticulous, manual process for which there is no described automatic system. It classifies and transforms qualitative data, which should be transcribed, before proceeding with their coding. It was carried out for the data collected during semi-directive interviews only, the second-order data, for their part, will fuel our reflection in the discussion section of the results. Therefore, the coding grid is carried out on the transcribed interviews which are represented by paragraphs of meaning composed of groups of sentences which refer to ideas.

The choice of code assignment can be established after data collection or determined in advance based on the study objectives. In our research, this choice was determined in advance and based on the research hypotheses. It corresponds to the attachment of the chosen unit of analysis to functions called "Nodes" in the terminology of the textual analysis assistance software (Nvivo). These nodes are mainly used to classify the data content into codes/themes, each theme covered in the different interviews is possible to be selected and can be coded into an appropriate node, with the result of finding all the extracts dealing with this theme in a single place, a single node.

The coding grid used is of the closed type, because it is composed of operational variables established a priori according to a deductive approach. These variables allowed us to develop the questions contained in the interview guides. Indeed, once we were able to illustrate our conceptual framework, its operationalization helped us to highlight the theoretical concepts as well as the operational variables.

c/ Data processing assisted by Nvivo software:

The software chosen to assist us in our data analysis is the Nvivo version 12 Pro software, because in addition to its main objective which is to help manage, format and give meaning to qualitative data, it is designed according to a manual approach, that of paper-and-pencil analysis (**Descheneaux et Bourdon, 2005**).

The principle of software analysis is based on an approach of decontextualization-recontextualization of the corpus **(Descheneaux, 2007).** This decontextualization consists of taking an extract of the text out of the real context in order to make it semantically independent with the aim of creating categories, also called themes. In addition, the use of Nvivo aims to "store information, classify it, organize it and then […] carry out search operations" **(Descheneaux and Bourdon, 2005).** According to a logic of automatic classification or framework fixed in advance, it facilitates the manipulation of data and helps to extract meaning from paragraphs.

Codification operations are decided by the researcher and him alone, the objective being to produce an analysis and not a catalog of ideas or quotes. Indeed, After importing the data from the interviews, we proceeded to introduce the different themes included in the interview guides in the "Knots" category. Subsequently, the overall corpus of analysis is cut into units of meaning (process of decontextualization-recontextualization of the corpus), each time one of the themes is identified, the analysis places all of the extracts attached to this theme in one place.

Once the data is coded, advanced data exploration is done using multiple wizards to perform queries on the software in question, so the presentation of the analysis results can be done.

4.2. Result of data analysis:

The impact of economic intelligence activity aimed at relevance and richness informational is important for any company that cares about knowing the information necessary for its development.

This point raised questions via semi-structured interviews with (15) people including (Ten (10) supervisory managers of CETIM and Five (05) central directors of the GICA group namely: the Director of industrial development, the Director of the information system of the development and economic intelligence division, the Marketing Director and communication, the Sales and Export Director and the Vision Coordinator strategic).

The need to speak with the directors of the GICA Group was felt during of the execution of the theme on monitoring activity and the deployment of the group's strategy of the interview guide with CETIM supervisory staff. In another way, their answers support those declared by the CETIM respondents.

Verification of the existence of a business intelligence activity was carried out initially, by the presence of a monitoring activity, a written strategic plan and disseminated and a CETIM development or improvement program, then through the management and valorization of information essential to its sustainability.

The responses concerning waking activity were very heterogeneous, some people spoke of an informal activity or monitoring function and gave these arguments:

- *"We have monitoring tools such as: word of mouth, telephone or the internet…etc. (…). We have also created a vast network of consultants, made up mainly of former cement workers, throughout the national territory, these are experts in their fields, they know people with strong influence, through this network, we are in continuous contact with our customers, from the appearance of a need or something new, these consultants automatically have the information that they are going to broadcast to us, they have the capacity to provide us with a lot of information, through this, we were able to bring major projects to fruition";*
- *"The competitive intelligence activity is informal, when we carry out our on-site customer missions, a sort of prospecting is done according to the need and the customer request" ;*
- *"At the level of the quality and environment management department, a function normative monitoring exists, and is necessary for the proper functioning of our activities";*
- *"We have a strategic and technological monitoring structure, we are much inclined towards technological monitoring, because we are obliged to be informed of technological developments also, in relation to our laboratories, to our engineering services… etc (…) We do competitive monitoring in an informal manner";*
- *"We have a normative, legal and regulatory monitoring activity and technological (…) We subscribe to engineering techniques, for technological monitoring, we have a conversion with IANOR for technological monitoring normative and we have a documentary subscription for legal monitoring and regulatory";*
- *"Economic monitoring should not be neglected, we should monitor our competitors and have a prospecting policy; recently, a customer charter has been developed, it allows us to identify the rules of communication and collaboration with our customers."*

When other people interviewed mentioned, on the contrary, the presence of a project strategic monitoring that the GICA Group created and supervises, our interviews with the Documentation and Information Director of CETIM who is a member of the unit strategic monitoring, as well as with the coordinator of this same unit, revealed to us that this project was created on the instructions of the Ministry of Industry, and that it goes through several phases, which are :

1. Raising awareness among all managers of the GICA group subsidiaries, on the importance and necessity of having a strategic monitoring unit at their level;

2. Constitution of two (02) groups, a restricted group with eleven (11) members from of the different subsidiaries of the group and another group extended to each subsidiary, a summary progress of the project must be presented to the larger group. The members of the group restricted were chosen from the different subsidiaries, according to their geographical proximity, because they are expected to meet at least once a week.
3. Training in strategic monitoring of the chosen people, in fact, the coordinator completed a master's degree in strategic monitoring at the Higher Institute of Management and Planning (ISGP) and the rest of the members followed, in turn, action training in the same field at the National Institute of Productivity and Industrial Development (INPED);
4. Support in setting up a strategic monitoring system, assisted by an expert, this phase can go through several stages, namely

Diagnosis of the reality on the ground on information management, because in fact, the strategic monitoring system must be consistent with the information system existing, it was done via questions on interview guides (semi-directive), over several weeks, and with all the group's subsidiaries. One of the main objectives of this diagnosis is to detect the implicit monitoring that already exists for better adaptation of the formal monitoring system;

- Analyze the information management process, because the group has a system of well-developed information management, the strategic monitoring unit must in first adapt to it, then think about making improvements;
- Raising awareness among CEOs on the importance of management informational on decision-making power;
- Installation of strategic monitoring within the group and the various subsidiaries, will begin with the creation of an information network, information collectors, publishing bulletins and monitoring reports.

It is a project which is currently being carried out, with ultimately a control and valorization of the information which will provide anticipation in decision-making, from which all the subsidiaries of the GICA group will benefit.

The responses concerning the presence of a written and disseminated strategic plan were also very mixed, when some spoke of:

- Presence of a commercial strategy drawn up by the technical-commercial management, and which aims to know how to project itself on a commercial level and which follows a strategy for the smooth running of its activities;
- Presence of the group’s strategic plan, and the place of economic intelligence in this plan is essentially responsible for the valorization of information, via strategies very specific, example of export/shipment of clinker or cement, prices put on the market, competition, etc.;
- Presence of a development plan drawn up over the medium term, because long-term projection term is not obvious, we are talking about a projection of 03 to 05 years, which gives us a medium-term strategic vision;
- Presence of a company strategy described in the quality manual, more precisely at the level of CETIM’s quality policy. This document is distributed to all company personnel, and this is a requirement of the ISO/IEC 17025/2017 standard.

Others spoke of the presence of informal strategy which is concentrated at high level of the hierarchy.

Furthermore, we were able to consult the documents cited above, namely the policy sales, the quality plan,

the quality manual and the development plan, each of them deals with of a part of the CETIM strategy, and therefore, by deduction, the strategy is written and disseminated but is not structured into a single document.

Regarding the place of economic intelligence, CETIM has a division dedicated to this purpose, with the technological center project as a result.

All those interviewed confirmed the presence of a concrete program and well defined to improve their business, and have given each in their specialty these arguments:

- Indeed, it is concrete because the place (present and future) that the structure holds industrial development for CETIM and even for the GICA Group, depends market need. We have even explained the solutions to these needs by the creation of new activities, for example the water treatment laboratory or that of refractory;
- It plays a role in the development of CETIM activities, in particular, its laboratories and the various services provided to customers;
- As a technical center and accredited organization, our program development includes prospects for monitoring an action plan that allows to carry out the decided actions. Prospects for creating the laboratory geotechnical engineering, the extension of metrology laboratories and services of the environment sub-directorate were cited.

Several answers were given as to the nature of the information that the CETIM needs to fuel the thinking of its management team, and which are:

- Information coming from the group or the ministry of industry with a request punctual;
- Information from the market, from customers (example of grievances), competitors, monitoring (technological news via new processes, new technologies (technological information)), and a need;
- Technical, legal and regulatory information, which can be developed in services or projects for the company;
- Internal information at CETIM such as: monthly activity reports, audits (to detect anomalies, system-level failures), reviews of direction in which there are development prospects, action plans and all the means to be implemented as well as the definition of responsibilities for every action. This information contributes to the feedback of information to higher hierarchical levels.

All those interviewed confirmed that they have the capacity to absorb information (scientific and technical) through innovation, a person gave the example of information on the cost price of cement, made it possible to innovate, and develop/optimize the process of clinker and cement production workshops.

However, it should be noted that CETIM has more than 55% of its staff who are qualified, divided into engineers, masters and doctors, the average experience of each is 13 years,

in addition, there are :

- A Research Department whose role is to carry out research projects applied, she does not work alone, but in collaboration with researchers and;
- An Industrial Development Department whose role is to provide technical support for the group's subsidiaries and internally when a need arises, for example: participation in the technical audit for the lifting of a reservation following an external audit.

All those interviewed declared that all information provided whether they are relevant, are sorted, analyzed and transformed then transmitted for exploitation, either internally or externally for clients. Furthermore, monitoring tools internet used are: subscriptions to websites, project news (Tender notice), builders'

website, technological innovation of materials construction companies, cement producers (FLS THYSSENKRUPP… etc).

5. Discussion:

The operational elements retained in this research to verify the impact of a business intelligence activity aimed at the relevance of the information can be summarized in the following four (04) points: the presence of a monitoring activity, a strategic plan written and disseminated and a CETIM development or improvement program, then through the management and valorization of information essential to its sustainability.

Furthermore and referring to the literature, and more precisely to the work of: **Simon (1981), Maier et al (1997), Jakobiak (1998), Cohen and Levinthal (1990) and Drucker (1999),** CETIM has :

- Three (03) types of monitoring activities (normative, legal and regulatory and technological) and informal economic or competitive monitoring, based essentially on prospecting missions and human social networks, which the company uses to collect external information;
- A project to implement strategic monitoring at the GICA group level, ninvolving all subsidiaries;
- Commercial policy, development plan, quality policy and strategy described in the company quality manual;
- Development program, irrigated by information from various monitoring;
- All types of information necessary to fuel the thinking of your team manager, with an organized feedback of information to hierarchical levels superiors;
- Competent and qualified staff who have the ability to absorb information through innovation;

All these devices promote, according to **Jakobiak (1998),** the emergence of processes development and innovation, anticipation of customer needs and analysis of competitors' behavior with a view to differentiation. This is then a collection of information with the aim of creating and exploiting rare, non-imitable knowledge and not substitutable. According to **Charbonnier-Voirin (2011),** these elements also reinforce the pro activity of the company, reflected in its capacity for monitoring and innovation.

Indeed, the responsible people responsible for the various monitoring (normative, legal and regulatory and technological) take care of the search for external information necessary for the proper functioning of CETIM activities and decision-making processes.

According to **Simon (1981) and Paturel (2008),** these people fuel cognitive capital of the company with the information deemed relevant. Furthermore, and from the responses data from the respondents, we deduced that all responsible executives are involved in collecting information relating to customer needs, new supplier products, technological developments, competition, etc.

However, beyond the ordinary information that the human intelligent filter should, according to **Simon (1981)** capture, interpret, filter and evaluate its relevance for the company, **Caron-Fazan (2001)** proposes a cognitive approach to exploiting weak signals that the company can use as a strategic intelligence tool. The author suggests a method which allows, from weak signals, to make significant groupings for files already open, and to gradually consolidate the groupings by making the synthesis of information linking them. Indeed, through prospecting and the various activities monitoring, CETIM managers have sufficient information available to them making it possible to fuel, among other things, the company's development program, followed by its action plan, we received several examples of new developments.

In addition to the external information needed to resolve problems and the development of CETIM, the results obtained showed that the activity reports monthly reports or audits, management reviews, etc.,

provide information on CETIM's activities.

This aspect of information management directly participates in the capitalization of the company's knowledge, as proposed by **Drucker (1999a),** which supports the literature consulted. In addition, from the observation of the functioning of the CETIM, the information seems to take a multi-directional meaning, this converges towards the specifications of an organization called a knowledge organization. This result is also consistent with the work by **Sani (2002),** which states that the valorization of knowledge assumes that information internal circulation circulates freely between the different collaborators without there being any boundaries hierarchical, likely to retain it.

From this reflection, we deduce that the presence of coordinated intelligence activities economical allows the sorting and prioritization of information with a view to aligning the knowledge management with the company's strategy and therefore, promotes valorization knowledge.

Furthermore, during our investigation in the field, we were able to identify other elements in relation to the knowledge management process, emerging from the field and which play a role in the valorization of knowledge.

Indeed, we have noted that the CETIM participates frequently and regularly to economic events such as national and international trade shows and fairs construction materials. Although the literature consulted does not establish a direct link between this type of action and the company's ability to promote knowledge, we think that the latter present several advantages for the CETIM, the most important are :

- Strengthen monitoring activity, in the sense of Maier et al. (1997), by helping him to know new technologies and practices relating to construction materials;
- Motivate and involve the staff responsible for representing CETIM at these events, in the sense of the OECD (1992), because these actions generate training and qualification of the personnel concerned;
- Strengthens the intellectual capital and future capabilities of employees, in the sense

by Koenig (1994) and Amidon (2001), commercial practice and initiation into taking responsibility are qualified as a form of learning organizational.

Thus, participation in events such as international exhibitions and fairs allows to place CETIM in external professional networks, likely to strengthen monitoring, professional qualifications, motivation and organizational learning.

To this end, we consider that the relationship that a company can undertake with its external environment (networking) could help it capitalize and promote his knowledge.

The outcome of the discussion of this management system promoting knowledge within of an organization, helped us verify the second hypothesis put forward, and which concerns the relevance of internal and external information promotes valorization knowledge with a view to creating a strategic advantage for CETIM. Consequently, this hypothesis is confirmed for our case study.

6. Conclusion, limits and perspectives:

The main part of our work consisted of subjecting the conceptual model established, a priori, to field testing. For this, we first translated the characteristics of the managerial mechanisms linked to the valorization of the knowledge developed in the model into operational variables. Through qualitative research using a single case study, the characteristics of the model were compared to those identified at the Center for Studies and Services Technologies for the Construction Materials Industry, by abbreviation CETIM – Subsidiary of the industrial group of Algerian cements, by abbreviation GICA.

Through the analysis of data collected in the field using two (02) investigation methods (observation and questioning), the results showed that almost all of the operational systems involved in the managerial aspect are likely to help CETIM promote its knowledge. Indeed, and in accordance with the results obtained, we found that:

In addition to the Four (04) operational devices which verify the impact of an activity economic intelligence aimed at the relevance of information (presence of activity organized and sustained monitoring, the emergence of development processes and innovation, anticipation of customer needs and behavior analysis competitors with a view to differentiation), establishing external professional networks (networking) is a new operational device identified in the field and which can help companies capitalize and promote their knowledge.

Beyond this contribution, this thesis presents limits which we summarize in **article N IJFMR23069085 published in November 2023 in International Journal for Multidisciplinary Research,** and which concerns:

- This research does not address the company as a whole, only the dimension relating to managerial aspects were analyzed, in fact, organizational reality does not include all the variables necessary to understand it;
- The investigations were carried out with the supervisory managers of the CETIM, consequently, the role of all employees in terms of knowledge valorization could not be studied. This limitation is inherent to interview case studies. In fact, the people interviewed were the only ones to have provided us with the data collected;
- The descriptive nature of this research does not allow us to explain the role that knowledge development plays in company performance.

Taking into consideration all the limitations cited above, we can raise research perspectives to follow for future research which concerns:

- Operational devices not covered in this article;
- The strategic mechanisms linked to the valorization of knowledge, which a company implements: an institutional framework, a culture, a budget, processes and common tools to support the valorization of knowledge which it considers as a strategic objective;
- Structural mechanisms facilitating the valorization of knowledge;
- A more precise quantitative study which will give more validity to the results obtained in this research;
- Establishing a link between the valorization of knowledge and the achievement of a company's performance with a view to obtaining a strategic advantage.

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