

**Knowledge Management: The Catalyst for Creativity and Innovation
at the Algerian National company for Electronic Industries -Sidi Bel
Abbes-**

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Abstract:

The study examines the impact of knowledge generation on innovation and creativity in Algeria's electronics sector, based on a survey of employees at the National company for Electronic Industries in Sidi Bel Abbes. Findings highlight that knowledge creation is crucial for fostering innovation, though current ICT use is mostly limited to information storage and transfer. The study recommends enhancing IT infrastructure and promoting a knowledge-sharing culture among employees to better leverage information and generate new ideas through effective knowledge management.

Keywords: Knowledge; Knowledge management; creativity; innovation; Algerian National Company for Electronic Industries.

Jel Classification Codes : M150, O30.

1. INTRODUCTION

In recent decades, there has been a important shift in the global economy from a emphasis on tangible resources, such as factories and machinery, to a greater concentration on immaterial assets, encompassing knowledge, facts, and competencies. Intangible assets, including intellectual property rights and data, have become a significant contributor to the overall value of enterprises. Consequently, organizations ought to prioritize expertise management and the development of their employees' skills to cultivate creativity and advancement. The focus on learning is central to the computerization of business services, where all production, distribution, and delivery activities must be managed using the most cutting-edge technology based on the type and quality of information (TROUBIA, 2024, P.2).

Algeria is working to develop wisdom and invention approaches with the goal of enhancing its economic performance and diversifying its income sources. The country is nurturing a culture of novelty and Intellectual capital supervision within both governmental and private institutions by adopting advanced strategies and implementing training programs designed to develop skills and raise. By the end of 2022, the Algerian new venture fund had provided financial support to over 80 start-up companies, awarding them the “Modernalization Project” and “Emerging Company” designations. This illustrates Algeria's dedication to fostering an entrepreneurial ecosystem (Algiers Press Service, 2022).

1.1. Research Problematic

Acknowledging the importance of knowledge as a key driver of originality is essential. It delivers valuable insights, fosters innovative thinking, and empowers both individuals and organizations to create novel solutions for intricate problems. Given this context, our research question is as follows:

- How does immaterialities contribute to fostering creativity and innovation in the Algerian National Organization for Electronic Industries?

The following sub-questions arise from this main question:

- Does the generation of cognition contribute to the organization's ingenuity and novelty?

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-Does the process of storing awareness contribute to the organization's inventiveness?

-Does the process of sharing knowing contribute to the generation of creative and innovative solutions within the institution?

-Does the application of Processed information contribute to the organization's c to create and originate?

1.2. Study hypotheses

The National Organization for Electronic Industries (NOEI) employs knowledge management processes to stimulate and create new ideas and solutions. These processes are designed to enhance creativity and innovation within the establishment.

-The main hypothesis is supported by the following sub-hypotheses:

-The procedure of information acquisition contributes to creativity and innovation at the company.

-The process of storing knowledge contributes to the creation of creativity and innovation within the enterprise.

-The process of sharing knowledge contributes to creativity and innovation in the organization.

-The process of applying knowledge contributes to creativity and innovation within the foundation.

1.3. Study objectives

The objective is to highlight the significance of intellectual capital in enabling creative and innovative processes to flourish.

- Understand the role of knowledge management in fostering creativity and innovation.

- Identify the theoretical concepts related to knowledge management and innovation.

1.4. Study methodology

The descriptive-analytical approach was used to describe the phenomenon under study by relying on theoretical literature from books, articles and theses in order to link the variables of the study. In the field, the questionnaire and interviews were used as the main tool to collect field information from the employees of the National Organization for Electronic

Industries, analyze, and interpret the results based SPSS V26 software program in order to draw recommendations that help to achieve knowledge management and its contribution to the formulation of creativity and innovation.

2. Knowledge Management and Innovation within the company

2.1. Definition of Knowledge Management

The concept of knowledge management encompasses all steps involved in generating, acquiring, processing, storing, and transferring essential knowledge, with the ultimate objective of improving performance and enhancing organizational effectiveness (King, 2009, p. 10). Knowledge supervision oversees the data continuum, which begins with inception, formalization, validation, propagation, repurposing, and monetization (Prax, 2019, p. 20).

It is the operation by which a firm effectively manages its cognition assets with the aim of producing value, promoting advancement, and driving progress. The purpose of Intellectual capital supervision is to organize and coordinate the knowledge available within the enterprise, and to support its exchange and use in a way that enhances to accomplishing the agency's aspiration and strengthening its position in the market (Yang, 2004, p. 6).

In essence, knowledge management concerns the intangible funds within the establishment that are managed by its members through knowledge sharing. The goal is to either generate new knowledge or apply existing wisdom in a creative and revolutionary way to attain organizational objectives.

2.2. Processes of Knowledge Management

It is clear that, just as physical resources are subject to effective management to maximize their utility, knowledge is subject to administration by virtue of the fact that it is an intangible resource characterized by accumulation and multiplication.

As (Grundstein, 2002, p. 6) notes, intangible capital management encompasses the phase of recognizing and leveraging expertise. This entails identifying and acquiring both internal wisdom derived from experiences

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and external from diverse sources like research and consulting. Once identified, this erudition must be preserved through storage via information and communication technologies inside the entreprise to prevent loss of value and enable future exploitation, as well as development and sharing. Furthermore, it necessitates the continual updating of this assets and the continuous coordination of these four operation to guarantee the optimal utilization and enhance institutional efficiency and efficacy.

(Wiig, 1997, p. 10; Kanat & Atilgan, 2014, p. 11) Human capital propulsion comprises four levels. which encompasses the creation of recent insights, the assimilation of external perspectives, and the documentation of existing data within the company. This entails activities such as research, progress, experimentation, and collaborations with outer entities like universities, as well as internal cooperation among employees. The next point is maintain these non-material resources, which involves the electronic storage to prevent loss. The third juncture is the communication of Insight, whether tacit or explicit, among employees.

2.3. Exploring Innovation and creativity

The concept of novelty is complex and can be defined in different ways depending on the context. In an organizational context, creativity and advancement refer to the ability to generate new and originality ideas, approaches, and solutions that can enhance action, products, and services. This involves the creation of something unconventional that holds both economic and social value (Fernez-Walch, 2006, p. 250).

(Prax, 2005, p. 143) Furthermore, disclosure entails the deliberate examination of change and a methodical assessment of potential avenues for economic or social advancement. It provides resources with recent capabilities to generate and distribute wealth. From a micro perspective, within the organization, originality represents the introduction of modern ideas or novel approaches to activities, whether in products, services, or procedure. The goal of advancement is to improve performance, address emerging needs, and create new value. It is suggested in reports that novelty serves as a means of transforming an entreprise, whether in response to external or internal shifts or proactively to influence its environment (Alves,

2018, p. 8).

2.4. The role of knowledge management in promoting innovation and creativity in the organization

The implementation of Intellectual capital management strategies has been shown to significantly enhance a company's capacity for invention. Optimizing information management practices enables to enhance the performance in product revolution. The process of acquiring, discovering, and leveraging wisdom for application in products or services fosters breakthrough within the insitution (Donate, 2015, p. 2).

According to (Castaneda, 2020, p.10) exchanging tacit expertise is crucial for driving originality, as it boosts an organization's innovative capacity. Thus, knowledge management is vital for fostering renewal within an entreprise. It helps accumulate, organize, and disseminate knowledge internally, enhancing the ability to generate new ideas and products. Effective administration of erudition allows organizations to leverage experiences and transform tacit experience into explicit for use in advance processes.

3. EXPERIMENTAL

The following section provides an'éez analysis of the study data collected from the sample via the questionnaire. It is divided into two parts: the first analyzes the demographic variables, and the second examines the questionnaire items.

3.1. Introducing the National Corporation for Electronic Industries:

It is an Algerian establishment for the electronics industry, symbolized by the abbreviation (ENI) . The institution's headquarters are located near the city of Sidi Bel Abbes, And was established in 1983, after the restructuring of the parent entreprise. Produces audio-visual devices, the most important of which are televisions, of a variety that have evolved with the development of technology. The foundation also has a branch specialized in the computer industry, Alvetron Company (SONELEC), which specializes in the production of home electrical appliances.

3.2. Sample and Data Collection

The data was collected through a questionnaire administered among the workers of the National Organization for Electronic Industries in Sidi Bel Abbas. In order to study the role of information management in creating creativity and innovation, administrators and technicians were surveyed, a paper survey was distributed and 13 poll responses were retrieved out of 30 distributed.

We used 17 Items and divided the form into two sections: One related to the personal characteristics of the respondents and the other focused on the axes of study.

The first axis: intangible asset direction processes, which are: acquiring, storing, sharing, and applying knowledge. Then the following questions are divided into two dimensions: originality and advancement, and the contribution of learning administration in creating them. A three-dimensional Likert scale was used, where the options were strongly agree, somewhat agree, somewhat agree, and disagree.

3.3. Reliability test

A reliability test was carried out using Cronbach's alpha, We can see from Table 01 that Cronbach's alpha stability coefficient for the total score was 0.86 at the significance level of 0.01, 0.79 in the knowledge management process axis, 0.83 in the creativity and innovation axis, and 0.86 in the knowledge management contribution to creativity and innovation items, thus indicating good stability.

Table 1. Cronbach's Alpha

Cronbach's Alpha	Variables
0.7980	Knowledge Management Processes
0.8340	Originality and invention
0.8640	The contribution of Intangible capital to and novelty and originality
0.8620	Total drawer

Source: Prepared by the researchers based on the output of the SPSS program

3.4. Statistical data analysis

The data was analyzed using the Social Sciences Analysis Program, employing various methods such as Cronbach's alpha, correlation coefficient, regression, inter-variable reliability, Likert scale, standard deviation, arithmetic mean, and frequency counts.

4.RESULTS AND DISCUSSION

Table 2. Descriptive Statistics for : Intellectual capital management operations

Items	Arithmetic mean	standard deviation	General trend
The acquisition of knowledge			
The National Company for Electronic Industries encourages its employees to seek wisdom related to their activities	2.31	0.751	3
The entreprise for provides a supportive environment for scientific research (books, articles, the internet...)	1.77	0.599	2
The company focuses on extracting internal information (from the minds of its individuals) to develop Industries	1.69	0.630	2
The foundation has a data base of wisdom derived from professional experience	2.15	0.689	2
Workers can easily access the database	1.85	0.555	2
Storage Understanding			
The substructureuses a data base to quickly access the necessary cognizance	1.69	0.480	2

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The organization uses information technology (software) to process expertise within the company.	1.92	0.641	2
The establishment uses electronic methods to store insight.	2.08	0.760	2
The outfit documents innovative new ideas.	1.69	0.630	2
Knowledge sharing			
The general policy of the institution encourages employees to share their new ideas with each other.	1.85	0.689	2
The National Company for Electronic Industries enjoys a high level of information and idea sharing.	1.85	0.689	2
The industries works on fostering trust and cooperation among its employees.	1.77	0.725	2
The institution conducts training sessions among its members to share information.	1.54	0.776	1
Application knowledge			
The entreprise provides the necessary resources to apply knowledge	2.15	0.801	3
The establishment works on converting expertise into action plans.	1.77	0.725	2

The organization focuses on utilizing knowledge by turning it into products	1.54	0.776	1
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Source: Prepared by the researchers based on the output of the SPSS program

The results indicate that the mean scores range from 1.54 to 2.31, reflecting a moderate to low agreement with statements related to the application, sharing, and storage of insight in the National Company for Electronic Industries. The standard deviation ranges from 0.480 to 0.801, indicating a moderate dispersion in participants' opinions. The overall trend shows a general moderate agreement. These results suggest some alignment with management of intangible assetspolicies but also highlight the need to improve various aspects to enhance knowledge distributing and application more effectively to support innovation and creativity within the organization.

Table 3. Descriptive Statistics for : the axis of creativity and innovation

Items	Arithmetic mean	standard deviation	General trend
At the National Company for Electronic Industries, new ideas are actively promoted.	1.85	0.689	2
The entreprise encourages creative performance, innovative ideas	1.46	0.660	1
Employees at the establishment propose unprecedented mode for performing tasks.	1.69	0.630	2
The society motivates its laborer to embrace change.	1.77	0.599	2
Workers at the industries help their organization innovate moderne production procedure.	1.54	0.519	2
The foundation adopts a competence-building approach within the entity.	1.64	0.519	1
The group offers superior products compared to its competitors	1.62	0.650	2

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by relying on originality and invention.

The agency supports the innovations of operators with technical expertise by providing full support.	1.46	0.519	1
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Source: Prepared by the researchers based on the output of the SPSS program

The results indicate that the mean scores range from 1.46 to 1.85, reflecting a moderate to low agreement with statements related to promoting fresh perspectives, creative performance, embracing change, and innovating recent fabrication methods at the National Company for Electronic Industries. The standard deviation ranges from 0.519 to 0.689, indicating a moderate dispersion in participants' opinions. The overall trend ranges from 1 to 2, suggesting a general moderate to low agreement with the statements. These results reflect some alignment with the policies of encouraging brainstorming at the organization but also highlight the need to further enhance these aspects to encourage recent thought, originality performance, and acceptance of change among workers. Improving the internal environment to foster originality could be beneficial in enhancing the overall performance of the entreprise and the competitiveness of its products in the market.

Table 4. Descriptive Statistics for : The contribution of knowledge management to creating creativity and innovation

Items	Arithmetic mean	standard deviation	General trend
-Knowledge sharing among employees at the National Company for Electronic Industries contributes to achieving ingenuity and advancement	1.77	0.439	2
-The industries fosters invention based on the information acquired by its employees.	1.46	0.519	1
-Training sessions for workers at the establishment stimulate creative thinking among its staff.	2.00	0.707	2
-The supportive environment for scientific research at the foundation encourages inspiration and reform	1.69	0.480	2

-expertise processing software at the entity contributes to achieving vision and modernization	1.92	0.277	2
-Applying wisdom leads the firm to moderne innovations	2.15	0.689	2

Source: Prepared by the researchers based on the output of the SPSS program

The results show a moderate agreement (mean scores 1.46 to 2.15) with statements on Intellectual exchange, breakthrough, and fostering creativity at the foundation. The standard deviation (0.277 to 0.707) indicates moderate to low dispersion in opinions. The overall trend suggests moderate agreement, with lower agreement on stimulating creative thinking (1.46) and higher agreement on applying knowledge for new innovations (2.15). These findings highlight alignment with knowledge management policies but also indicate the need to enhance creative thinking stimulation and work environment support to boost overall performance and competitiveness.

Table 5. Correlation coefficient between Intangible capital management processes and creativity and innovation

Knowledge Management phases		
Originality and transformation	Correlation coefficient	0.791
	Confidence level	0.00
	Significance level	10.0

Source: Prepared by the researchers based on the output of the SPSS program

It is clear from list No (05) that there is a statistically significant correlation between supervision of Intellectual asset procedures and Ingenuity and transformation. The correlation coefficient value reached (0.79), which is statistically significant at the significance level (0.01). Therefore, manage the information processes have a significant role in contributing to stimulating the process of advancement, and thus the main hypothesis that states that Insight coordination processes

Table 6. impact of acquiring knowledge on inventiveness and transformation

The acquisition of information					
	Correlation coefficient	Selection	Regression	Confidence Level	Significance
Novelty and Originality	0.67	0.46	3.89	0.01	0.01

Source: Prepared by the researchers based on the output of the SPSS program

It is clear from chart No. (06) That there is a correlation between insight acquisition, reform and Ingenuity, at the level of significance (0.01), where the value of the correlation was (0.67), and of determination was (0.46), and the regression was estimated at (0.46). With (3.89), and since the confidence is equal to (0.01) and it is statistically significant at the significance (0.01), therefore the hypothesis of the information acquisition procedure contributes the brainstorming.

Table 7. The impact of storing expertise on advancement

The acquisition of knowledge					
	Correlation coefficient	Selection	Regression	Confidence Level	Significance
Creativity and innovation	0.45	0.20	3.24	0.12	/

Source: Prepared by the researchers based on the output of the SPSS program

It is clear from list No (07) that there is no correlation between intangible asset storage and ingenuity and breakthroughs, as the value of the correlation coefficient is (0.45), which is not statistically significant, the coefficient of determination is (0.20), the regression is (3.24), and since the confidence is (0.12), which is not statistically significant, and therefore the

hypothesis that information storage contributes to originality and development within the organization is not fulfilled.

Table 8. The impact of knowledge cooperation on creativity and innovation

expertise Distribution					
	Correlation coefficient	Selection	Regression	Confidence Level	Significance
Inventiveness and Transformation	0.81	0.67	1.12	0.00	0.01

Source: Prepared by the researchers based on the output of the SPSS program

It is clear from list No. (08) that there is a relationship between insight sharing, modernization and growth, at the Statistical relevance (0.01), where the value of the correlation was (0.81), the determination was (0.67), and the regression It was estimated at (1.21), and since the trust is equal to (0.00) and is significant at the Statistical importance level (0.01), therefore the hypothesis of exchange awareness contributes to modernization within the enterprise, has been verified.

Table 9. The impact of applying wisdom on invention and novelty

Application of information					
	Correlation coefficient	Selection	Regression	Confidence Level	Significance
Originality and transformation	0.66	0.43	0.34	0.01	0.01

Source: Prepared by the researchers based on the output of the SPSS program

It is clear from chart No. (09) that there is a relationship between the application of intangible asset, at the level of significance (0.01), where the value of the correlation coefficient was (0.66), the determination was (0.43), and the regression It was estimated at (0.34), and since the confidence is equal to (0.01) and is statistically significant at the significance (0.01),

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therefore the hypothesis of the process of applying information that contributes a creativity and innovation within the organization is verified.

5.Conclusion

This study demonstrates the substantial and far-reaching impact of expertise on organizational efficiency and rivalrous benefit. By fostering novelty and continuous progress, foundation can adapt to dynamic environments and gain a competitive edge. This is achieved by ensuring the smooth flow of intangible asset management operations (acquisition, storage, dissemination, and application), which serve as effective mechanisms for nurturing originality. The provision of supportive mechanisms serves to validate the hypotheses set forth in the study. Furthermore, the following conclusions were drawn:

-The Algerian National institution for Electronic Industries suffers from the application of functional technologies to store awareness to promote invention at the company.

-Monopolization of data and learning within the corporation is an obstacle to creative and innovative endeavors.

-Intangible asset supervision and novelty are closely linked to drive economic progress. Innovation thrives by transforming knowledge into tangible goods or services, or developing operations that enhance an establishment's cutthroat characteristic and expand its market share.

We propose the following recommendations for the study:

-Clone knowledge administration tools from private sector firms

-Upgrading the organization's information and communication technology to ensure knowledge storage and sharing processes. (Delio Ignacio Castaneda, 2020)

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