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The Role of Green Intellectual Capital in Strengthening the Elements of the Knowledge Economy: An Analytical Descriptive Study of the Opinions of a Sample of Managers in the Oil Products Distribution Company /Iraq- Nineveh

Amer S. Abd[1], *Ibrahim. M. Jassim*[1] *and Hasoon H. Hasoon* [2,*]

[1]Department of Business Administration, Al-Hadba University College, Mosul, Iraq
[2]Department of Human Resources, General Directorate of Education in Nineveh, Iraq

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Abstract: The current research sought to identify the role of the dimensions of green intellectual capital in strengthening the elements of the knowledge economy, by determining the level of the relationship and the impact between them and applying it on the Oil Products Distribution Company in Nineveh, the sample of study was selected intentionally. It consists of (100) managers, as it relies on collecting data and information on the main research tool (questionnaire form), a number of statistical tools have been adopted, namely (correlation coefficient, linear regression). Where many conclusions were presented, the most important of which is indicating a case of the actual contribution of the dimensions of green intellectual capital in strengthening the elements of the knowledge economy in the researched organization. It also made a set of proposals, including the need for more attention to be paid to employing the possibilities and capabilities of green intellectual capital (human, structural, social) towards strengthening the elements of the knowledge economy in the researched organization, in a way that, it contributes to enhancing efforts in support of knowledge economies and achieving added value in all directions.

Keywords: Green intellectual capital, Knowledge economy.

1 Introduction

In light of the new changes in the environment in various fields, in particular, the rapid and widespread development of technology and information brought about, the necessity to shift to knowledge economies has become something that cannot be overlooked. Therefore, departments in all organizations, especially the industrial and productive ones, have sought to investigate enhanced opportunities to strengthen the elements of the knowledge economy, and how to employ the dimensions of green intellectual capital towards that. Accordingly, the ability to produce and economic progress depends on the level of innovation and creativity and how to transform information into knowledge, then convert this knowledge into a distinct product, in a way that contributes to making knowledge a wealth that has a lasting impact and development. This is done by the contributions of intellectual capital, starting with the human contributions that are associated with structural and social aspects and with a green vision. To achieve this, the researcher divided the current research into four axes: The first of which is the research methodology. The second was devoted to the theoretical framework. The third dealt with the field frame. The axes concluded in the fourth by presenting a summary by focusing on the most prominent conclusions and proposals, as follows:

2 Methodology

It aims to present the current research methodology in light of the following paragraphs indicating:

First: the research problem

Most of the industrial and productive sector organizations suffer at the level of the Iraqi environment, specifically in the Oil Products Distribution Company in Nineveh from the rapid economic transformations and technological

*Corresponding author e-mail: hasoonhaitham2@gmail.com

developments, this required the need to shift from traditional economics to knowledge-based economies, hence, the reasons called for the abilities and capabilities to be invoked, particularly with regard to the dimensions of (GIC), and to direct them towards strengthening the elements of (KE), in a way that contributes to achieving a state of actual balance between what the organization owns and what contributes to adding value to its business, therefore, the current research problem can be presented in the following question: (What is the role of green intellectual capital in strengthening the elements of knowledge economy in the researched organization?), and it is divided from this:

1. What is the level of perception among the subjects of (GIC) and (KE) elements, and what indicates a degree of understanding and recognition thereof in the researched organization?
2. What is the relationship of correlation between the dimensions of (GIC) and (KE) elements in the researched organization, and what indicates the level of relationship between the independent variable and the dependent variable?
3. Do the dimensions of (GIC) have a significant impact on the elements of (KE) in the researched organization, as it indicates the level of impact of the independent variable and the dependent variable?

Second: Significance of the research

The Significance of the current research focused on the significance and variables modernity of the research (green intellectual capital, knowledge economy), where the availability of the dimensions of green intellectual capital in the organizational work can actually contribute in several areas, the most prominent of which is related to the possibility of strengthening the elements of the knowledge economy, and that the process of interacting between these variables, their effects can be reflected in supporting the trends aiming to shift from traditional economics to knowledge economies, including leading to sustainable development.

The Aims of the Research

1. Presenting a conceptual theoretical framework with a vision analytical view of the current research variables by reviewing some proposals of writers, researchers and specialists in administrative sciences, what enables researcher to find out the implications of these variables and enrich them as much as possible.
2. Measuring the level of the relationship and the impact between the (GIC) dimensions and the (KE) elements, in a way that contributes to identifying the level of the independent variable contribution to the adopted variable.
3. Directing departments by presenting many theoretical and field conclusions, as well as supporting proposals for how to employ (GIC) dimensions in strengthening (KE) elements in the researched organization.

The outline of the hypothetical research

The hypothesis of the research reflects the presence of two variables, which are the independent variable, green intellectual capital, and it includes three components (human capital, structural capital, social capital), and the approved variable, which is embodied by five elements (Innovation, Education, Information Technology, Economic stimulus, Institutional system) with the aim of testing the relationships between them, which contributes to determining a set of results. In the light of which conclusions and recommendations are presented:

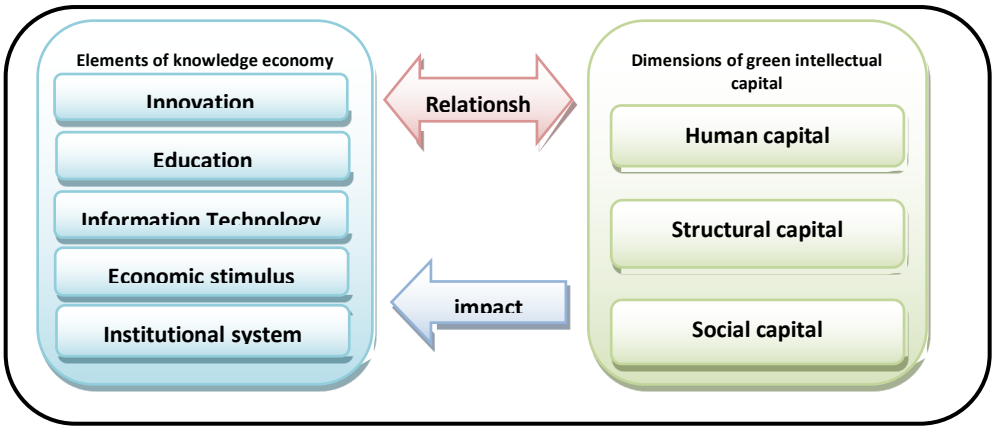

Figure (1): Hypothesis Research Scheme

Hypotheses of the Research

The research hypotheses contribute to guiding the researcher in developing temporary solutions, as follows:

1. The first main hypothesis: There is a significant correlation relationship between (GIC) dimensions and (KE) elements in the researched organization, and the following sub-hypotheses are branched out of it:

a. There is a correlation relationship between human capital and (KE) elements in the researched organization.

b. There is a correlation relationship between structural capital and (KE) elements in the researched organization.

c. There is a correlation relationship between social capital and (KE) elements in the researched organization.

2. The second main hypothesis: the dimensions of green intellectual capital have a significant impact on the elements of the knowledge economy in the researched organization. the following hypotheses are branched from them:

a. Human capital has a significant impact on (KE) elements in the researched organization.

b. Structural capital has a significant impact on (KE) elements in the researched organization.

c. Social capital has a significant impact on (KE) elements in the researched organization.

The population and Sample of the research

The current research community is represented by the Oil Products Distribution Company in Nineveh, an intentional sample was chosen from the managers (general manager, technical and administrative assistants, department heads, divisional directors, unit managers), which amounted to (110) individuals, when (110) questionnaires were distributed, (100) questionnaires were used for statistical analysis, at a rate of (90%). This contributes to indicating the reality of the current research variables at the level of the Iraqi environment, specifically in the Oil Products Distribution Company in Nineveh.

Methodology of the Research

The researcher relied on the descriptive analytical approach, as a comprehensive research methodology that enables the researcher to study all aspects of the studied phenomenon, especially with regard to identifying practical problems and studying them through data collection and analysis in order to reach results, in a way that indicates the level of contribution of the research results to the work and activities of the researched organization.

Limitations of the Research

1. Time limits: the completion of the theoretical and field frameworks in the research during the period from 10/12/2020 to 1/4/2021.

2. Spatial boundaries: Conducting the field framework for the current research in the Oil Products Distribution Company in Nineveh

Human borders: related to a sample of managers in the researched organization.

4. Scientific boundaries: are directed towards research variables (green intellectual capital, knowledge economy).

Methods of data collection

The researcher adopted in covering the contents of the theoretical framework of the current research by invoking many proposals of writers and researchers in administrative sciences and Arab and foreign scientific references. In the field framework of the current research, the questionnaire was adopted as the main tool for measuring the reality of the current research variables in the researched organization. Using a triple scale (agree, somewhat agree, disagree), the values were defined as (1, 2, 3) for the answers, as the questionnaire form included three parts, the first of which was devoted to presenting the personal data of the subjects. The second of them deals with the dimensions of green intellectual capital with (12) paragraphs, specifically (X1-X12). And the last part of it is devoted to the elements of knowledge economy and by (20) paragraphs (X13-X32) and Appendix (1) clarifies the questionnaire.

Tenth: statistical tools

The researcher used a number of statistical tools through the statistical program (SPSS), as follows:

1. Correlation coefficient to indicate the relationship between the variables of the current research in the researched organization.

2. Linear regression to determine the significant impact of the independent variable on the dependent variable in the researched organization.

3 The theoretical framework

First: the green intellectual capital

1. The concept of green intellectual capital

Intellectual capital is the modern concept of intellectual assets in modern organizations, which represents an intellectual asset based on knowledge, which makes the organization able to meet the needs and desires of customers through a variety of skills such as intelligence, attitudes, trends, learning, development, innovation and knowledge sharing Abd [1]. But due to the negative effects of the activities and functions of business organizations and their practices, particularly their productivity towards the environment, this led to an increase in pollution cases, causing an increase in theoretical and field studies, by researchers in large measure towards adequate awareness of the contents of environmental management and how to preserve it, in addition to the necessity for administrations to invoke solutions that support green trends in the field of work within a framework characterized by social responsibility and meeting environmental requirements, Hence, the concept of green intellectual capital emerged as the main entry point for the successful implementation of green regulatory trends Sabir et al [2]

Investing in (GIC) is one of the most important organizational resources and capabilities, in terms of working on environmental management and protection from its multiple risks, and then focus on improving levels of self-awareness towards reducing pollution levels, in a way that contributes to achieving sustainable development in all its directions Sudibyo and Sutanto [3] , green intellectual capital is formed from a group of high-value and scarce resources that are concerned with addressing environmental issues. The reason for that concern is to achieve the largest possible response to environmental changes, survival and growth Shang [4] , green intellectual capital revolves around intangible assets, which have become more important than physical assets, especially in the knowledge-based economy, where it actively contributes to improving the level of organizational performance and the ability to overcome competitors, through environmental contributions directed towards containing the environment in its green concept Yusuf et al [5].

From the above, a green intellectual capital can be defined as a set of intangible knowledge assets, including (capabilities, skills, competencies). which depends on its capabilities to contain the changing environmental requirements and address its risks in an innovative and creative framework, with the interaction and integration of (human capital, structural capital, social capital) with a green orientation, in order to achieve the competitive advantage of the organization and work on its sustainability.

2. The importance of green intellectual capital

Business organizations have realized the importance of focusing on environmental issues that have become a pressure factor on them, by the effects of these organizations on society. From here, the trends began to focus on evoking environmental factors and requirements in the organizational work. The human resource is the beginning of this process, as the actor in the field of work, therefore, organizations started trying to move from material economies to knowledge with green orientations, with the aim of achieving many positives, the most prominent of which is related to reducing the level of negative impacts of the work and activities of organizations towards the environment in which they operate, as well as increasing its capacity for innovation and creativity. Thus increasing its contribution to social responsibility, as societies started moving towards green organizations, this contributed to reducing costs and increasing its market share and profits, by attracting new customers, While preserving existing customers and their potential to outrun competitors Yahya et al [6].

3. The dimensions of the green intellectual capital

The dimensions of green intellectual capital included the following: Rwzaei et al [7], Erinos and Rahmawati [8] and Astuti and Datrini [9]

a. Green human capital: The efforts of business organizations in managing green intellectual capital focus on concern for unconventional human resource. Here we mean the green human resource, where work is done to achieve the actual investment of the efficiency and effectiveness of workers, with the aim of improving the organization's capabilities in overcoming competitors, green human capital is defined as all that the human resource possesses in terms of knowledge, skill, experience, ability to innovate, creativity, problem-solving, and work with high flexibility, responding to environmental changes and adding value to business activities, directing all of these capabilities and possibilities towards caring for the environment, reducing the level of pollution so that organizations become an entrance to managing the environment and positively impacting it.

b. Green Structural Capital: Organizations cannot manage their environment and improve their responsibilities towards society without having the capabilities, structural possibilities and systems that the organization enjoys. Where investment is made in the available systems, this is all related to the procedures, practices and processes on which the work of the organization is based, as well as the philosophy and culture of the organization, especially towards green businesses, this means that green structural capital focuses on infrastructure, thus the focus is on knowledge systems and technology, with the evocation of the occupational safety and security factor in the organizational work.

c. Green social capital: The efforts of the organization's management in this dimension focus on improving the level of relations with all internal and external work parties, this relates to forming good relationships between management and workers, as well as the agile and flexible relationship with customers as the main pillar of the organization's business, suppliers, government regulations and society, thus improving the organization's ability to identify its environment and then work on managing it efficiently, so that these organizations devote their efforts towards the parties dealing with them, in a way that contributes to strengthening green trends by invoking the factor of trust, understanding and cooperation in order to improve the environment.

Second: the knowledge economy

1.The concept of knowledge economy

Knowledge economics in business organizations is related to many elements that work to provide and pay attention to them, these elements are among the most important requirements for the transition from traditional economies to internal and external knowledge economies Balchik et al [10]. The knowledge-based economy stems from the necessity of recognizing the place of knowledge and technology, and working to implement it in all economic activities as an advanced stage of the knowledge economy Ziyadat [11]. The knowledge economy is related to bringing about a set of strategic changes, specifically in the nature of the economic environment, and then organizing it to be more responsive to the challenges of globalization and technological and cognitive developments, in a way that contributes to achieving sustainable development. Therefore, it is known as the visible knowledge that includes databases, information and software, represented by the tacit knowledge that individuals represent through their experiences, relationships and interactions Najm [12] . It is referred to as the economy in which knowledge creates added value, reflecting the knowledge-based economy in which knowledge plays a role in creating wealth Elayyan [13] . Fred [14] defined it as an economy characterized by a high percentage of knowledge-intensive jobs, in addition to the percentage of knowledge or intellectual capital, it is greater than the percentage of physical capital, and what it entails in terms of knowledge-intensive use in carrying out economic activities and in their expansion, development and growth. Fundamentally, the knowledge economy can be defined as the ability of an organization to manage its information, and then provide it upon request, in a way that contributes to improving the work and activities of the organization and making decisions and focusing on cognitive efforts in comparison to material efforts.

2. The importance of the knowledge economy

The importance of the knowledge economy lies through its actual contributions to the work and activities of the organization, as it contributes to opening the field of innovation and creativity and its application in all economic activities as follows: Al-Khudairi [15]

a. Attention to the role of human capital by attracting resources according to the new economic situation.

b. Increasing the distribution of knowledge and taking advantage of new work practices.

c. Providing new sources for economic growth and raising the level of production in order to achieve economic prosperity.

d. It works on acquiring, forming and effectively sharing knowledge to achieve economic and social development.

3. Elements of the knowledge economy.

The knowledge economy depends on a number of elements interacting and complementing each other, where the organization cannot focus on one of them without the other, and these elements can be explained as follows:

a. Innovation: an effective system of economic links with organizations that can keep pace with the growing knowledge revolution, assimilate and adapt it to the organization's needs in light of environmental variables, the OECD defines innovation as the sum total of industrial, technical, commercial and financial steps, necessary for the successful development and marketing of new or improved industrial products, and the commercial use of new or improved methods, processes and equipment, or the introduction of a new method in social service, and research and development is only one of these steps Al-Sayed [16].

b. Education: Education contributes to changing the capacity of the organization and its development, especially with regard to obtaining and managing information, With the aim of increasing knowledge and improving the organization's competitiveness Namada [17]. education is essential for achieving efficiency and competitiveness, Where organizations must attract and maintain human capital capable of integrating modern technology in the required work, about 20% of workers in advanced economies are information workers, many of them are using their ideas and knowledge more than material efforts Al-Da'ami [18].

c. Information and communication technology: Contribute to facilitating the dissemination and processing of information and knowledge and its adaptation to the needs of the organization, to support the organizational activity and stimulate the production of high added value, this structure is an important element in bringing about the necessary change to move to a knowledge economy, being the basic tool through which individuals in the knowledge society can relate to each and every new knowledge, information and communication technology indicators are of great importance as they contain a number of details related to technology and the economic aspect at the same time Ali [19]. Technology has three impacts on the knowledge economy:

- ❖ It allows to enhance profits in the field of processing, storage and exchange of information, and achieve high levels of profits and have private markets.
- ❖ The emergence of new jobs and replacing the old ones or making them help them, such as the distance education service, as well as e-government, e-commerce and health.
- ❖ The new information and communication technology promotes the emergence and prosperity of new industries. These industries have formed a demand for services associated with these industries, given that these industries include programming and data processing services.

d. Economic stimulus: The importance of this element is embodied in laying down the laws and policies necessary to operate in the knowledge economy, which aims to make information and communication technology more available and easy, these policies are represented in supporting patents and reducing tariffs on technological products Bashir [20].

e. Institutional system: The World Bank calculations were based on four levels of the values of the knowledge economy indicators, namely: Bashir [20]

f. A high level: the countries stand out in this ranking at a level of discreetness and the sovereignty of knowledge economy activities within this level in the seven industrialized countries.

g. Good level: The countries of this level are characterized by acceptance in the field of the knowledge economy with the shift from the information society to the knowledge society.

h. Medium level: includes countries that have succeeded in expanding the information economy and started laying the basic building blocks of a knowledge economy while providing the requirements of a knowledge society.

i. Low level: countries that are still seeking to obtain an information society are paralyzed in preparation for reaching a knowledge society.

4 The field frame

The third axis aims to identify the contents of the field frame in terms of describing the characteristics of the individuals studied, and diagnosing the reality of the research variables, and determining the relationship and impact between them, as follows:

First: A description of the researched organization and the personal characteristics of the individuals studied

The Oil Products Distribution Company in Nineveh is one of the most important and main formations in the industrial and production sector at the level of the Iraqi environment, one of the most important of these is due to its effects on the sustainability of economic activity, and their contributions to achieving sustainable development and working to provide society's needs of oil products, it is possible to identify some of the personal characteristics of the individuals researched in the current research in terms of diagnosing the contents of Table (1) as follows:

1. Distribution of the individuals surveyed in terms of gender: The majority of individuals surveyed are males, whose percentage in the researched organization is (83%), While the percentage of females is (17%), where we notice a big difference between them, and this situation is normal because the nature of the work of this type of organization requires high efforts at work.

2. Distribution of individuals surveyed in terms of age: The highest percentage of individuals surveyed amounted to (41%), these are within the age group (40-49), while the age group (50-59) came next with (35%),and in the third place, the age group (30-39), at a rate of (19%),while the other age groups have achieved (less than 30 years). (60 years and over) a percentage of (4%) and (1%) respectively, thus, we note that the majority of the subjects are in the age group between (30-59), and this is a normal condition.

3. Distribution of individuals surveyed in terms of academic achievement: Almost half of the individuals surveyed are holders of a bachelor's degree, at a rate of (49%), technical diploma achieved 27%, as for the middle school certificate, it achieved (18%), while holders of higher degrees amounted to (6%), this indicates a low level of holders of the upper guards in the researched organization.

4. Distribution of individuals surveyed in terms of their job title: The majority of individuals surveyed are specialists in administrative work, at a rate of (63%), as for the specialists in artistic works, the percentage reached (17%), this is a natural case because the individuals researched work in the research organization, and not in the productive refineries in which the majority of their members are technical specialties.

5. The distribution of the individuals surveyed in terms of years of service in the position: The majority of the individuals surveyed have high years of service in the research organization, with years of service amounting to (11-19) ratio of (34%), as for years of service from (20-29), it achieved (33%), while the years of service (30 years or more) yielded a rate of (24%), and she achieved the lowest percentage of years of service (10 years or less), which amounted to (9%), thus, we note that the majority of individuals surveyed have serious years of serious experience in the researched organization.

6. Distribution of individuals surveyed in terms of environmental training courses: 55% of the individuals surveyed do not participate in environmental resources. A percentage (36%) of the individuals surveyed achieved a percentage of (5%), as for the participants in two and three courses, each achieved a rate of (2%). We conclude that there is a large percentage of the individuals surveyed who are not participating in the training courses.

Table (1): Description of the personal characteristics of the subjects

Item					
Female			Man		
% 17			83%		
Age					
--------	60 years and over	From 50 to 59	From 40 to 49	From 30 to 39	Less than 30 years old
--------	1%	35%	41%	19%	4%
Academic achievement					
Middle school	Technical Diploma	Higher Diploma	Bachelor	M.A.	PhD
18%	27%	2%	49%	4%	0%
Career Title					
Technical			Administrative		
39%			61%		
Years of service on the job					
--------	--------	30 years or more	From 20 to 29	From 11 to 19	10 years or less
--------	--------	24%	33%	34%	9%
Environmental training courses					
--------	Four cycles or more	Three courses	Two courses	One course	There is no
--------	5%	2%	2%	36%	55%

The table was prepared by the researchers.

Second: The results of the test of the correlation between intellectual capital and its dimensions with the knowledge economy

It is evident from the results of Table (2) that there is a positive and significant correlation between green intellectual capital and the knowledge economy at the macro level, this is in terms of the value of the correlation coefficient of (0.64) and with a value of (0.000), which is a value less than (0.05), it also confirms the confidence limits of the

preview technology by returning (Bootstrap). The relationship between green intellectual capital and the knowledge economy is a moral one, this is in terms of the similarity of the sign of both the upper and lower limits, as both appeared positive, thus, bringing in green intellectual capital contributes to strengthening the elements of knowledge economy, as for the results of the correlation at the micro level, they are as follows:

1. The results of Table (2) indicate the existence of a positive and significant correlation between the green human capital dimension and the knowledge economy, this is in terms of the value of the correlation coefficient of (0.57) and a probability value of (0.008), which is a value less than (0.05). These results indicate that the introduction of green human capital contributes positively to the elements of the knowledge economy.
2. The results of Table (2) show the existence of a positive and significant correlation between the green structural capital dimension and the knowledge economy, This is in terms of the value of the correlation coefficient, which amounted to (0.68) and with a probability value of (0.001), which is less than (0.05). These results indicate that the introduction of green structural capital contributes to the development of the elements of the knowledge economy.
3. The results of Table (2) show that there is a positive and significant correlation between the green social capital dimension and the knowledge economy, this is in terms of the value of the correlation coefficient, which amounted to (0.74), and with a probability value of (0.000), which is a value less than (0.05). These results indicate that the introduction of green social capital contributes to the effectiveness of the elements of the knowledge economy.

Based on the foregoing, the first main hypothesis can be accepted (There is a significant correlation between the dimensions of green intellectual capital and the elements of knowledge economy at the level of the research organization), accepting the sub-hypotheses emanating from it.

Table (2): The results of the correlation between intellectual capital and its dimensions with the knowledge economy

Correlations							
				Green intellectual capital	Green human capital	Green structural capital	Green social capital
Knowledge Economy	Pearson Correlation			.64**	.57**	.68**	.74**
	P-value			.000	.008	.001	0.000
	N			100	100	100	100
	Bootstrap	95% Confidence Interval	Lower	.231	.143	.016	.050
			Upper	.563	.493	.322	.416

The table was prepared by the researchers.

Third: Results of testing the impact of intellectual capital collectively on the knowledge economy as a whole

The results of Table (3) indicate the existence of a significant positive impact relationship for green intellectual capital in the knowledge economy at the macro level, this is in terms of the value of the regression coefficient of (0.28), as well as the (P-value) of (0.006) which is less than (0.05), by observing the value of the coefficient of determination (R-Square), it was found that (39%) of the changes occurring in the knowledge economy were caused by green intellectual capital, (61%) of the changes in the knowledge economy are attributable to other random variables that were not included in the regression model.

Within the framework of the data and results contained in Table (3) regarding testing the impact of intellectual capital collectively, on the knowledge economy combined. We can accept the second main hypothesis, which is(Green intellectual capital has a significant impact on the knowledge economy of the researched organization).

Table (3): Results of the impact relationship of green intellectual capital in the knowledge economy

Regression analysis						
	Coefficients	ANOVA	R-squared	Average of error squares MSE	The calculated (tCal) value	Sig.
	B	F_{Cal} (Sig.)				
Dependent variable / knowledge economy						
(Constant)	1.8	7.1 (0.009)	0.39	0.03	7.3	0.000
Green intellectual capital	0.28				2.66	0.006

The table was prepared by the researchers.

Fourthly: The results of testing the impact of the dimensions of intellectual capital on the knowledge economy as a whole

It is evident from the results of the analysis of variance that there is at least one of the three dimensions of green intellectual capital, It differs significantly from zero, because the probability value of the ANOVA table is significant, as it is equal to (0.000) and it is less than (0.05), also, from noting the value of the coefficient of determination (R-Square), it appears that (44%) of the changes in the knowledge economy are caused by the dimensions of green intellectual capital, (56%) of the changes in the knowledge economy and are attributable to other random variables that were not included in the regression model. As for the results of the regression model in Table (4), they are based on the following:

1. The existence of a positive and significant impact relationship of green human capital in the knowledge economy, This is in terms of the value of the regression coefficient of (0.341), as well as the (P-value) that amounted to (0.001), which is a value less than (0.05).
2. There is a positive and significant impact relationship of green structural capital in the knowledge economy, this is in terms of the value of the regression coefficient, which amounted to (0.157) and with a probability value less than (0.05) of (0.025).
3. There is a significant positive impact relationship for social capital in the knowledge economy, this is in terms of the value of the regression coefficient of (0.235), as well as in terms of the probability value (0.020), which is less than (0.05).

Within the framework of the above data and results, we can accept the sub-hypotheses stemming from the second main hypothesis.

Table (4): Results of the influence relationship for the dimensions of intellectual capital in the knowledge economy

Regression analysis						
	Coefficients	**ANOVA**	**R-squared**	**MSE**	**The calculated (tCal) value**	**P-value**
	B	**F_{Cal} (Sig.)**				
Dependent variable / knowledge economy						
(Constant)	0.803	7.77 (0.000)	0.44	0.015	1.968	0.052
Green human capital	0.341				3.595	0.001
Green structural capital	0.157				2.281	0.025
Green social capital	0.235				2.358	0.020

The table was prepared by the researchers.

From the foregoing, it is necessary for business organizations to work to bring the green concept in line with its promise as an effective starting point in the field of work, with the aim of minimizing the organization's impacts on its environment, as well as the importance of shifting from economics and material efforts to knowledge-based economics, in which the information is the main source, where business organizations have moved largely towards knowledge practices and knowledge management, especially the implicit ones, this necessitated the invocation of the capabilities and possibilities of the intellectual capital in terms of human, structural and social, towards improving their efforts in shifting towards knowledge economies and managing them, So that we make it a factor of competition that enables the organization to overcome competitors.

5 Conclusions and suggestions

First: the conclusions

1. Most of the theoretical and field studies indicated the importance and novelty of the topic of green intellectual capital, as an effective starting point towards keeping pace with green developments at the business level.
2. The theoretical and field studies revealed the importance of moving from traditional economics to knowledge economics, as an effective entry point to achieve added value and organizational excellence supported by defeating competitors.
3. The interest of the management of the researched organization in keeping pace with green trends in the field of work, specifically, in green intellectual capital and directing it towards strengthening the elements of the knowledge economy.
4. The existence of a statistically significant correlation between the dimensions of green intellectual capital and the elements of knowledge economy at the macro and micro level, this indicates a correlation between the two variables despite the difference in the degree of correlation of these dimensions in the knowledge economy.

5. The results showed that there is a significant impact of the dimensions of green intellectual capital on the elements of knowledge economy at the macro and micro levels, to varying degrees from one dimension to another, as the evocation of the dimensions of green intellectual capital contributes to strengthening the elements of the knowledge economy.

Second: The suggestions

The necessity of conducting more studies and research related to administrative disciplines, focusing on linking green intellectual capital and the knowledge economy in various sectors, whether it comes to the productive, industrial or service sectors.

1. The importance of carrying out a continuous division of the reality of green intellectual capital and the knowledge economy in the researched organization by focusing on the dimensions and the elements affiliated with them, in a way that contributes to evoking continuous improvement directed towards achieving the goals.
2. Focus on evoking the experiences of organizations in the field of keeping pace with green trends and knowledge economies, know how to interact and then direct them towards enhancing the competitive advantage of the organization.
3. Striving to improve the level of the actual contribution of the dimensions of green intellectual capital in strengthening the elements of the knowledge economy, focusing on the available capacity and capabilities related to human, structural and social aspects, and directing it towards enhancing opportunities for innovation and learning while invoking information and communication technology and the institutional system supported by economic incentives, Thus, improving the position of the organization in adding value and enhancing its competitive importance.

Conflict of interest:

The authors declare that there is no conflict regarding the publication of this paper.

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