

The role of green intellectual capital management in acquiring Green Competitive Advantage An exploratory study on a sample of faculty members at Al-Isra University

Mohammad Salameh Zaid Almahirah
Associate Professor, Business Faculty, Isra University, Amman, Jordan

ABSTRACT

The study aimed to identify the role of green intellectual capital management in obtaining the green competitive advantage. The study population was represented by the University of Isra in Jordan, where the sample consisted of (94) respondents from the faculty members. The results of the study indicated that the study sample was aware of the availability of the competitive advantage variable and strongly in the study community. The weighted arithmetic mean was higher than the hypothetical arithmetic mean, and the results of the regression coefficients of both green human capital and green structural capital were significant at the level (1%), while the social capital regression coefficient was not significant within the limits of the current study.

Keywords: green intellectual capital, competitive advantage, Al-Isra University

INTRODUCTION

It's no secret to for those knowledgeable the importance of competitive advantage as one of the most important factors that decide the success of institutions, as it is directly affected by the performance of employees and levels of creativity, motivation and loyalty to the organization, but it may also be affected by an important factor, which is the green intellectual capital, which is currently one of the determinants of the success or failure of organizations (Yong et al, 2019). In light of the rapid transformations and changes in the external environment of organizations, which prompted organizations to search for tools and capabilities that would enable them to harmonize between their capabilities and the requirements of the environment (Singh et al, 2020). As a result, new trends and applications have emerged focusing on the trend towards achieving the green competitive advantage that gives organizations the ability to global competitiveness and excel in the complex business environment, as global organizations have employed green intellectual capital as a way or approach that enables them to achieve that orientation. (Suryanto et al, 2018).

It is worth noting that green intellectual capital is determined in the intangible assets of the organization, in addition to the skills, capabilities, competencies, participation, understanding and knowledge of individuals, that paves the way to the achievement of its objectives (Zhang et al, 2018). Green intellectual capital is represented by technologies, culture, consumer associations, the communications system and the organization's brand (Mishra, 2017). From the above considerations, the basic concept of green intellectual capital is the excess of market value over book value (Chaudhry et al, 2016). The market value is the value of the organizations in the market if all the shares belonging to them are for sale, while the book value is the value recorded in the financial statements. And the surplus is due to new ideas, knowledge and discoveries that are applied inside the organization, which is the value of intellectual capital (El-Kassar& Singh, 2019).

It should be noted that the green intellectual capital of the organization is always greater than its financial capital and this is evident in the gap between the market and book value of the organization may be constantly increasing and therefore the real value of the organization is no longer true on its financial statements (Moravcikova et al, 2017). Accordingly, the assessment of the actual value of the organization should shift from the previous assessment of tangible assets to intangible assets (Mishra, 2017). Chen (2008) indicates

that the processes of measuring green intellectual capital are done by integrating the social responsibility of organizations with the management of intellectual capital, and that the green elements of intellectual capital have a positive impact on the competitive advantage.

From the previous premises, there are dimensions of intellectual capital, which Chen (2008) classified as green human capital, and it is represented by the knowledge, skills, experiences and capabilities that individuals have. When intelligence, creativity, the ability to learn and accepting change is found among the individuals this will enhance the long-term performance of the organization. It is an investment to improve the efficiency of people so that they are able to be more efficient to create a competitive advantage for the organization. The second dimension is green structural capital, which is the investment that the organization makes to the applied system. The third dimension is green social capital, which is the organization's investment to strengthen its relations with employees and suppliers, which leads to an increase in the organization's reputation associated with trust with customers and suppliers (2017, Rahmawati&Erinos NR). Accordingly, green social capital is considered as a repository of the organization's interactive relationships with customers, suppliers, network members and partners around the organizations' environmental management and green innovation, which enable them to create wealth and get competitive advantages (Chaudhry et al, 2016).

On the other hand, competitive advantage is considered a fundamental goal that organizations seek to reach, by using green intellectual capital strategies (Almahirah, 2020). Of course, organizations are not isolated from the global trend towards achieving competitive capabilities, and those organizations seek development in their departments through the ability to adapt to global changes to achieve excellence in quality, customer acquisition and competitive advantages (Al-Amoush, 2018).

The competitive advantage starts the time companies discover new methods that are more efficient than those used by competitors, where they are able to apply this discovery in the field, in other words, by simply creating an innovative process in its broad sense (İpek, 2020). In other words, the competitive advantage indicates to the characteristic that makes the company different and distinctive from the competing companies and achieves for this company a strong position towards the various parties. (Balducci&Marinova, 2018).

Proceeding from the foregoing, the research into knowing the role of green intellectual capital management in acquiring Green Competitive Advantage has its justifications. This is because academic research on green intellectual capital is very few and almost non-existent, and one of these justifications is also to shed light on the concept of green intellectual capital and its dimensions.

PROBLEM OF THE STUDY

The problems facing the various organizations are growing as a result of the developments in the work environments of these organizations, and the responsibility has become greater on the shoulders of the management in order to harmonize the continuity of the organizations, and take into account the requirements of development and change. In light of this, the trend towards the pioneering green competitive advantage has a crucial part in revealing the future of organizations, and predicting the challenges that they may face that negatively affect their productive efficiency in accordance with the values and traditions of working individuals.

Based on this, the research conducted on intellectual capital has drawn great attention to how to assess the true value of organizations, and accordingly, knowledge-based organizations gain a competitive advantage through intangible resources and intellectual capital. Through this angle, intellectual capital contributes mainly to the success of the organization, and it also has a positive impact on performance. Intellectual capital is the total balances of all intangible assets, knowledge and capabilities of the organization that can create values or competitive advantages, to achieve its goals.

Hence the problem of the study focuses on trying to find out how green intellectual capital affects the achievement of the orientation towards competitive advantage and leadership, and the study problem can be summarized in the following question:

What is the role of green intellectual capital management in acquiring Green Competitive Advantage?

SIGNIFICANCE OF THE STUDY

The orientation towards competitive advantage is of great importance in building and achieving the organization's main goals of profitability, growth, flexibility, social responsibility and other goals. The main directive of the activities of any organization is its quest to be in the good faith of its customers. Hence the importance of the study, because the orientation towards achieving a high and effective competitive advantage does not work effectively to achieve that goal, and similarly, to achieve a high and effective competitive advantage, it must rely on a set of elements, the most important of which is the availability of green intellectual capital. Accordingly, the importance of the study emerges through:

1. Green intellectual capital is an important and recent topic at the level of modern strategic literature, which requires in-depth study and clarification of its dimensions.
2. The need for Jordanian organizations to adopt a genuine pioneering approach that stems from the reality of those organizations, and by taking advantage of the skills and experience available to their employees.
3. The intensity of competition among organizations, which pushes each of them to make maximum use of the skills of employees to attract the largest possible number of customers.

OBJECTIVES OF THE STUDY

1. Identifying the green intellectual capital, and giving a clear idea of its dimensions.
2. Identifying the mechanisms for achieving the green competitive advantage.
3. Identifying the impact of green intellectual capital in achieving the green competitive advantage of Jordanian organizations.

STUDY HYPOTHESES

1. The first main hypothesis: There is no statistically significant correlation between green intellectual capital with its dimensions and green competitive advantage.
2. The second main hypothesis: There is no statistically significant effect of green intellectual capital in its dimensions in achieving the orientation towards green competitive advantage.

TERMS OF THE STUDY

Green intellectual capital

It is defined as the cognitive skills, capabilities and understanding of experiences, information and competencies related to environmental protection and environmental issues, as well as the totality of intangible assets, knowledge, capabilities and relationships of the organization that are capable of maintaining the organization's environment (Yong et al, 2019).

Competitive advantage

It is defined as the ability of companies to establish their presence in the market by performing their activities of satisfying customers (Kumar & Gupta, 2017). It is also known as the unique feature of companies through which they evaluate their success and market superiority over other competitors (Amin et al, 2016).

Competitive advantage is also defined as the skill, technology, or distinguished resource that allows companies to produce values and benefits for customers that exceed what competitors offer them, and confirms their distinction and difference from these competitors from the point of view of customers who accept this difference and distinction, as it brings them more benefits and values that outweigh what other competitors offer them (Almahirah, 2020).

FIELD STUDY

Methodology of the Study

The study relied on the descriptive analytical method (survey), in addition to the analytical test method, which depends on measuring the study variables by conducting a questionnaire and analyzing its results, and then testing the study variables.

Population of the Study

The study population is represented by Al-Isra University in Jordan. To represent the primary sample, the sample size was estimated according to the scale provided by Palta (2003 Survey System). The sample size was (90) faculty members, and for the sake of accuracy, (120) questionnaires were distributed, of which (94) were subjected to statistical analysis.

Instrument of the Study

To achieve the objectives of the study, the researcher prepared a questionnaire that included two dimensions: green intellectual capital, in addition to the dimension of competitive advantage.

Validity of the questionnaire

The validity of the questionnaire was calculated using the internal consistency method by calculating the correlation coefficients between the total score for each dimension and the total score for the questionnaire; The following table shows the procedures for calculating the internal consistency validity.

Table (1) Pearson correlation coefficients for the degrees of each dimension

Dimensions	Correlation Coefficients	Value Of Significance
Green Intellectual Capital	0.762**	0.000
Competitive Advantage	0.684**	0.000

It is clear from the previous table that the correlation coefficient of green intellectual capital was (0.762), and the competitive advantage correlation coefficient was (0.684), which are high correlation coefficients, and they are statistically significant at the level of significance (0.05).

Scales of Study and its Reliability

In this study, the researcher relied on an internationally approved scales in measuring its variables. All search scales were designed based on the five-point Likert scale. Note that the scales were as follows:

1. Green intellectual capital: It represents the independent variable in its three dimensions (human capital, structural capital and social capital), and each dimension included (5) items. Chen's scale, (2008) was adopted to measure this variable
2. Competitive Advantage: It represents the dependent variable in its dimensions (risk taking, creativity and proactivity), and each dimension included (3) items. The Hughes & Morgan (2007) scale was used to measure this variable.

Table (2) provides a detailed explanation about these scales, with the values of (Chronpach alpha) that measure the reliability of the scale, and it is clear from the table that all values are acceptable.

Table (2): The measures used in the research with the values of (Cronbach alpha)

T	Variable	Sub-Dimensions	Source	Cronbach Alpha
1	Green Intellectual Capital	Human Capital	Chen, 2008	0.93
		Structural Capital		0.89
		Social Capital		0.92
2	Green Competitive Advantage	Take A Risk	Hughes & Morgan 2007	0.91
		Creativity		0.94
		Proactivity		0.87

Descriptive statistics and correlations between study variables

In Table (2) we find the correlation matrix and descriptive statistics for the study variables, knowing that the hypothetical arithmetic mean of the scale which was (3) was relied on mainly to determine the extent of the study sample’s awareness of the research variables:

1. Green Human Capital: The general weighted arithmetic mean of the green human capital dimension reached (3.60), and the value of the arithmetic mean is higher than the hypothetical arithmetic mean. This strongly indicates the availability of the mentioned dimension in the study community. In the sense that the employees of Al-Isra University possess the skills, knowledge, experience and creativity capabilities, and they strongly support maintaining a clean and sound environment, and this is supported by the fact that the value of the standard deviation was (1.01), which is a small value that indicates the convergence of the views of the study sample regarding the strength of the availability of green human capital dimension.

2. Green Structural Capital: The general weighted arithmetic mean of the dimension of green structural capital reached (3.39), and the value of the arithmetic mean is higher than the hypothetical arithmetic mean of (3), which indicates the realization of the study sample that the mentioned dimension is available in the study population. In other words, Al-Isra University possesses knowledge systems, information technology systems and databases, and adopts certain administrative philosophies, and this is supported by the fact that the value of the standard deviation was (1.07), which is a small value that indicates the convergence of the views of the study sample regarding the strength of the availability of green structural capital.

3. Green Social Capital: The general weighted arithmetic mean of the green social capital dimension reached (3.56), and the arithmetic mean value is higher than the hypothetical arithmetic mean of (3), and it indicates the realization of the study sample that the power dimension is strongly available in the study community. This is supported by the fact that the standard deviation value was (0.99), which is a small value that indicates the convergence of the study sample's views regarding the strength of the availability of the mentioned dimension. It is clear from the above analysis that the green social capital was the most consistent dimension in terms of the answers of the sample members, because the value of the standard deviation was the lowest. In general, the green intellectual capital variable achieved a weighted arithmetic mean of (3.52) with a standard deviation of (1.03).

Accordingly, the above results indicate that the study sample was aware of the availability of the green intellectual capital variable strongly in the study population, where the weighted arithmetic mean was higher than the hypothetical arithmetic mean. Also, the value of the standard deviation was small, which indicates the strong convergence of the sample answers.

4. Risk-taking: The general weighted arithmetic mean of the risk-taking dimension was (3.58), and the arithmetic mean value is higher than the hypothetical arithmetic mean of (3), and it indicates the realization of the study sample that after taking the risk is strongly available in the study community, which means that the community accepts to take the risk, and this is supported by the fact that the standard deviation value was (1.08), which is a small value that indicates the convergence of the views of the study sample regarding the strength of the dimension availability.

5. Creativity: The general weighted arithmetic mean of the creativity dimension reached (3.72), and the value of the arithmetic mean is higher than the hypothetical arithmetic mean of (3), and it indicates the realization of the study sample that the creativity dimension is strongly available in the study community, which means that the study community encourages its members to Creativity, and this is supported by the fact that the value of the standard deviation was (1), which is a small value that indicates the convergence of the views of the study sample regarding the strength of the availability of the mentioned dimension.

6. Proactivity: The general weighted arithmetic mean of the proactive dimension reached (3.75), and the value of the arithmetic mean is higher than the hypothetical arithmetic mean of (3), and it indicates the study sample's realization that the proactive dimension is strongly available in the study population, and this supports that the value of the standard deviation was (0.90), which is a small value that indicates the convergence of the study sample’s views regarding the strength of the availability of the mentioned dimension.

Accordingly, the above results indicate the study sample’s awareness of the availability of the competitive advantage variable and strongly in the study population, where the weighted arithmetic mean was higher than the hypothetical arithmetic mean. Also, the value of the standard deviation was small, which indicates the strong convergence of the sample answers. It is noted from the table below that there is a direct and significant correlation at the level (1%) between the study variables.

Table (3) Correlation matrix, arithmetic means and standard deviations of the research variables (N=94)

T	Variables	Green capital	Human capital	Green structural capital	Green Social capital	green intellectual capital	Competitive advantage
	Competitive advantage	0.91**		0.90**	0.85**	0.93**	1
	Arithmetic mean	3.60		3.39	3.56	3.52	3.50
	standard deviation	1.01		1.07	1.99	1.03	1.13

Study hypothesis testing

The researcher relied on a set of statistical methods to test the hypothesis that emerged from the research, as follows:

1. There is no statistically significant correlation between green intellectual capital in its dimensions and competitive advantage, as Table (3) above indicates the results of the correlation between the study variables. It is clear from it that there are positive and statistically significant correlations at the level (1%) between green intellectual capital with its dimensions and competitive advantage. Which means rejecting the above hypothesis, and accepting the alternative hypothesis that indicates the existence of a statistically significant correlation between green intellectual capital with its dimensions and competitive advantage. The negative relationship indicates that the higher the level of green intellectual capital among the employees, the greater the tendency towards the competitive advantage of the organization.

2. There is no significant statistically significant impact relationship between green intellectual capital in its dimensions and competitive advantage. In order to test the above hypothesis, the researchers used the regression equation through the use of multiple regression analysis and using the regressive deletion method. One of the most important advantages of this method is that it deletes dimensions that have an insignificant effect on the dependent variable (Field, 2009).

Accordingly, the influence power of the independent variables in the dependent variable was measured by measuring the significance of (T) values calculated for the multiple regression coefficient, and the coefficient of determination (R²) was used, which measures the explanatory power of the independent variables in the dependent variable through the statistical program (25.SPSS v.).

Table (8) Analysis of the multiple regression relationships by the regressive elimination method between the dimensions of green capital and the trend towards competitive advantage

Model		Coefficients				
		Unstandardized Coefficients		Standardized Coefficients	T	Sig
		B	Std. Error	Beta		
1	(Constant)	-0.028	0.076	-	-.372	0.711
	Green Human capital	0.352	0.132	0.330	2.663	0.009
	Green structural capital	0.581	0.092	0.588	6.319	0.000
	Green Social capital	0.082	0.149	0.075	0.549	0.584
2	(Constant)	-0.015	0.072	-	-0.213	0.832
	Green Human capital	0.407	0.087	0.381	4.665	0.000
	Green structural capital	0.605	0.081	0.612	7.500	0.000
a. Dependent Variable: competitive advantage						
R ² = 0.97						

It is evident from the above table that:

1. The first model included all the dimensions of the independent variable (green intellectual capital), and it was clear from it that the regression coefficients of green human capital and green structural capital were significant at the level (1%), while the social capital regression coefficient was not significant within The current study.

2. The second model included the deletion of green social capital, which formed the dimensions (green human capital and green structural capital) the final multiple regression model, which included the following:

- The regression coefficient of green human capital on competitive advantage was (0.407), which means that the orientation towards competitive advantage in the study community will increase by (0.407) if green human capital increases by one unit. Note that this effect was significant at the level (1%) because the calculated value of (a) for the regression coefficient was (4.66), which is a significant value at the mentioned level.

- The regression coefficient of the structural capital on the creative orientation was (0.605), which means that the competitive advantage in the study community will increase by (0.605) if the structural capital increases by one unit. Note that this effect was significant at the level (1%) because the calculated value of (1) for the regression coefficient was (7,500), which is a significant value at the mentioned level.

Therefore, the researcher infers from the above analysis the rejection of the null hypothesis (H0) and the acceptance of the existence hypothesis (H1), meaning that there is a significant statistically significant effect relationship between the dimensions of green intellectual capital and competitive advantage and the acceptance of the hypothesis was 66%.

CONCLUSIONS

1. The study community realizes the great importance of green intellectual capital, and the dimensions of this modern concept are available in different proportions within the study community, and this is a positive case.
2. With regard to the competitive advantage, the study community suffers from a significant weakness in granting workers the necessary independence in order to enable them to perform their work.
3. By exploiting the green intellectual capital in the study community, it can develop and increase its orientation towards competitive advantage, and thus Al-Isra University outperforms its competitors from other colleges and universities.
4. Isra University should focus on green human capital and green structural capital, as they are the most influential in achieving competitive advantage.

RECOMMENDATIONS

1. Paying attention to the issue of green intellectual and knowledge assets and expanding studies and research related to them in a way that enables the investment of these assets, an investment that contributes to maximizing the material assets.
2. Giving human development efforts and training with several strategies that meet the needs of developing creativity and organizational learning, by providing the appropriate environment and providing the required support and capabilities.
3. Paying attention to green intellectual capital, because it represents a great wealth that contributes to increasing the market value through the adoption of flexible organizational structures that facilitate the process of communication and coordination between various departments and allow for creative ideas and benefit from the information owned by workers to reach decisions that achieve outstanding performance.
4. Revitalizing and sustaining the process of attracting and manufacturing green intellectual capital, as it is a source for the organization's survival and its continued growth and success in light of competition.
5. Maintaining the stability of the working frameworks and working to develop them continuously.
6. Setting benchmarks for outstanding performance through which the benchmark is compared with the best other comparable universities and each university is identified in its journey of excellence.

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