

THE IMPACT OF GREEN ECONOMY STANDARDS ON COMPETITIVE ADVANTAGE: THE STUDY OF ROMANIA

1 Hassiba Hadouga, Abdelhamid Mehri Constantine University, Constantine, Algeria

*Corresponding author's e-mail: hadouga.hassiba@yahoo.fr

1 ORCID ID: 0000-0001-6371-8608

ARTICLE INFO

Review Scientific Paper

Received: 05.01.2023

Revised: 12.04.2023

Accepted: 15.04.2023

DOI 10.7251/ACE2338111H

UDC

502.131.1:005.932.2(498)

Keywords: *Green economy, competitiveness, competitive advantage, Romanian companies.*

JEL Classification: O52, Q59.

ABSTRACT

The study aimed to reveal the impact of green economy practices in achieving competitive advantage in companies operating in Romania, according to the size of the companies. The study used the descriptive causal approach. As for the study population, it consisted of all employees in Romanian companies in the departments of quality assurance, quality control, research and development, and production. The questionnaire was used as a main tool for collecting data and information that was analyzed with a set of statistical means, via the Internet to collect data, followed by the analysis of correlations between specific variables. By applying the Pearson chi-square test, 355 questionnaires were distributed, and only 100 were retrieved. The results of the study have showed that there is an impact of green economy practices in achieving competitive advantage, as well as an impact of total quality management practices in achieving competitive advantage in the Romanian operating companies under study. There were no statistically significant differences in the averages of the impact of green economy practices on achieving the competitive advantage. There is a relationship between the use of green economy standards and the subsequent perception of their effectiveness.

© 2023 ACE. All rights reserved

1. INTRODUCTION

The Earth is warming and the climate is changing mainly due to human activities, such as burning fossil fuels, deforestation, changing natural land use, industrial processes and unsustainable agriculture, which emit gases, called greenhouse gases.

Recent reports indicate that in April 2022, carbon dioxide levels in Earth's atmosphere rose by more than 420 parts per million, which is the highest level ever recorded in human history.

The last time global carbon dioxide levels exceeded 400 ppm was around 4 million years ago when the world was around 3 degrees Celsius (5.4 degrees Fahrenheit) warmer and the sea level was much higher than it is today.

All these manifestations have made the countries of the world in urgent need to change the environment of the economy (brown or black) and to take the necessary measures to reduce the risks of crises and shocks increasingly rooted in the current traditional model followed in development which neglects the environmental perspective in economic development (Altenburg et al., 2016, Fankhauser & Jotzo, 2018).

The United Nations Environment Program carried the banner of change. Its initiative in 2008 was to move towards the green economy, which is a new model of economic development and represents a new engine to promote economic growth and development, create new employment opportunities, strengthen social equality and rely on renewable energies. Clean environment, which preserves the environment from pollution, preserves the right of future generations to development, improves the efficient use of economic resources, and provides a safe and carbon-free climate that ensures the well-being of humanity.

Countries around the world have started to turn to the so-called green economy as a new strategy to reduce the environmental risks associated with the economy, because the green economy works to achieve sustainable development.

The transition to a green economy and the criteria for using a green economy require the company to set goals and establish processes in order to achieve the result. Numerous studies confirm the preponderant role of the transition to a green economy through its financial, economic and social effects respectively (Dechezleprêtre & Sato, 2017).

Studies published over the past decade on the approaches taken to the transition to a green economy and the economic impact, have reported somewhat conflicting results. While arguments have been made that transitioning to a green economy is an inefficient tool and only a formal function, several surveys in Europe and America show that the transition to a green economy is still considered a critical method in the business sector. This fact is corroborated by surveys conducted in Poland, North America and Canada.

The unanswered question is why some companies have managed to deal with the inherent weaknesses of energy saving, while others have abandoned the energy system. Interestingly, an examination of the ways in which these well-established practices are modified to increase their effectiveness in the business environment and the benefits for decision-making is missing from the literature. Regardless

of alternative methods, some authors have attempted to suggest the transition to green economy as an inevitable consequence of development in various fields, and the enhancement of various positive effects in various economic aspects, including the financial and competitive aspect of companies (Schmitz & Schrader, 2015). This study summarizes recommendations for improving financial impact and competitive advantage, while examining their application in the real world. This is primarily to review the transition to a green economy through regular comparison of targets and actual performance to discern any discrepancies in it as implemented by businesses in the business environment, that is, Romanian business. Research has also been conducted to determine the factors that contribute to the adoption of these improved methods and to measure the perception of their success after their implementation.

According to the United Nations Environment Program, the green economy “is that economy that results in an improvement in human well-being and social equality while significantly reducing environmental risks and ecological scarcity of resources. We can look at the green economy in its simplest form, and it is that economy that it reduces carbon emissions, increases the efficiency of resource use, and accommodates all age groups.”

The green economy “is one of the new models of fast-growing economic development, which is based mainly on good knowledge of the environment, and whose most important objective is to address the mutual relationship between human economies and the natural ecosystem.” (Barry, 2007).

The incentives for the transition to the green economy are represented in the interest in rural development with the aim of alleviating poverty in rural areas, as the green economy contributes to alleviating poverty through the wise management of natural resources and ecosystems, and this will achieve the benefits of natural capital we can deliver to the poor, taking care of water and not polluting it and striving to rationalize it, as improving water efficiency and using it can greatly reduce its consumption. Improving methods of obtaining water will contribute to providing groundwater inside wells and also preserving surface water, supporting the transport sector. Collectively, reaching a 25% reduction in energy price subsidies in the Arab region will save more than 100 billion dollars within three years, and this amount can be transferred to greening energy and moving to it in the field of transportation. By greening 50% of the transportation sector in the Arab countries as a result high energy efficiency and the use of public transportation and hybrid cars save approximately \$23 billion annually, and spending \$100 billion in greening 20% of existing buildings over the next ten years, is expected to provide more than 4 million job opportunities (Khanfar, 2014).

Addressing the problem of solid waste and trying to recycle it (the production of phosphoric acid and fertilizers, the production of concentrated minerals, the concentrated use of fertilizers in agriculture, industrial and traditional tanneries, the pharmaceutical industry and the manufacturing industry) is important as more than 50% of this waste is thrown into the water, and the emissions coming out of it lead to water pollution, if it is not disposed of well by burying it in a sanitary landfill or recycled (Ismail, 2014).

It will lead to a clean environment and reduce toxic emissions. Work to increase sustainable investments in the field of energy and measures increasing energy efficiency, as the transition to a green economy will lead to a significant reduction in greenhouse gas emissions. In the investment scheme in which 2% of GDP is invested in key sectors of the green economy, more than half of that investment is allocated to increase the efficiency of using energy and expand the production and the use of renewable energy resources and the result is a 36% reduction in the intensity of energy use at the global level (van Zanten, 2010).

Thus, green political economy provides coherent analyzes and offers resistance to the new wave of economic globalization (Paterson et al., 2000; Figuière & Metereau, 2021). It brings together issues of threat from the global biotechnology industry, the dominant capitalist development model, the deepening of North-South inequalities, the concentration of poverty and misery, ecological restructuring and modernization, the character scientific expertise and technological imperatives in the development of public policies. It is a politics of speaking truth to power, giving voice to the powerless, future generations and the non-human world (Lavrinenko et al., 2019).

The theme of green economy was mainly addressed during the Rio+20 Conference held in June 2012 to celebrate the 20th anniversary of the Rio Summit. Governments have agreed to define the green economy as an important tool for sustainable development and an inclusive economy that drives economic growth, employment and poverty eradication while maintaining the healthy functioning of Earth's ecosystems.

Green economy, according to Margolis and Foster (1991), can be primarily understood as the term denoting any economic theory that views human economic activity as an integral part of ecosystems (Matthews and Boltz, 2012). Green economics is a complete economic theory to pursue economic growth based on sustainability with environment, energy, health and public welfare, promoting good governance, regulation, technology and education.

Economy of Sustainability in a four-book review. The first study is On the Road to a Green World Focusing on the Political Economy of the Global Environment

by [Clapp \(2014\)](#). The second study, *Trade, Growth and Environment*, focuses on theory and evidence by [Copeland and Taylor \(2004\)](#). Study III “Nations Natural Advantage,” *Business Opportunities, Innovation, and Governance in the Twenty-First Century* by [Hargroves and Smith \(2005\)](#). The fourth study is “Globalization and the Environment”, with a focus on the greening of the global political economy by [Kutting \(2004\)](#).

All of these studies, despite their diversity, agree that the pursuit of sustainability requires an understanding of the shape of the dynamics in the global political economy. In [Perry’s \(2007\)](#) study “A Green Political Economy Model: From Environmental Modernization to Economic Security,” he states that the weakest aspect in understanding sustainable development has been the economic dimension. It is suggested that ecological modernization is the dominant concept of sustainable development within the UK. The judgment is based on key sustainable development policy documents and an awareness of the strategic opportunities of policy discourse. In particular, it is suggested that the discourse of economic security should be used to present policy-relevant pathways to outline a green political economy.

From the point of view of system theory by [Owen \(2005\)](#). Systematic requirements, hierarchical characteristics, and gradual evolution from simple to complex are systematically identified ([Sultan & Mason, 2010](#)). Small and medium enterprises have limitations in controlling strategic resources, and the level of market research and formal planning is still relatively low. These conditions encourage the importance of investment to develop strategic resources in line with the implementation of strategies to create competitive advantage and results in improving business performance by gaining competitive advantage from strategic resources that are created or obtained, maintained and developed by the company as a basis for choosing the competitive strategy, for maneuvering to face competition in the market.

The Food and Agriculture Organization (FAO) defines sustainable development (adopted in 1989), as “the management and protection of the natural resource base and the direction of technical and institutional change in such a way as to ensure the fulfillment and continued satisfaction of human needs for present and future generations.” That sustainable development (in agriculture, forests, and fisheries resources) protects land, water, plant and animal genetic resources, does not harm the environment, is technically appropriate, economically appropriate, and socially acceptable ([Stanley, 2022](#)).

The term sustainable development was introduced in 1974 in the wake of the Stockholm Conference, which was followed by the Rio Summit for the first

time on the environment and sustainable development, which declared in 1992 the characteristics of sustainable development, summarized in, development in which the time dimension is the basis (Barney & Hesterly, 2010), as it is necessarily long-term development, which depends on the assessment of present potential, and is planned for the longest future period of time during which variables can be predicted.

It is a development that puts meeting the needs of individuals in the first place, as its priorities are meeting the basic and necessary needs of food, clothing, education, health services, and everything related to improving the physical and social quality of human life (Gassmann & Keupp, 2007). It is a development that takes into account the preservation of the biosphere in the natural environment, regardless of its basic elements and compounds such as air and water, for example, or the vital processes in the biosphere, such as gases, for example. Therefore, it is a development that requires not depleting the natural resource base in the biosphere, and also requires preserving the minor cyclical processes. And the largest in the biosphere, through which resources and elements are transported and purified to ensure the continuation of life (Pavic, Koh, Simpson & Padmore, 2007).

The concept of competitive advantage occupies an important place in both the areas of strategic management and business economics, and this concept emerged clearly in the early eighties of the last century when Porter introduced the concept of competitive strategies, “and pointed out that the most important and determining factor for the success of business organizations is their competitive position in the industry in which they work.” There are many tools and indicators that are used in empirical studies to assess competitiveness. These indicators differ according to the level of analysis, whether it is at the state level or at the sector level.

Or at the enterprise level. At the macroeconomic level, the most important measures and indicators that are often used in testing and evaluating competitiveness are considered the trade balance as the most used indicators. As for the sector level, the focus is usually on three types of indicators: relative production costs, relative productivity and exchanges. As for the enterprise, among the most important indicators are profitability, manufacturing cost, total factor productivity, and market share.

Accordingly, the notion of competitive advantage is an edge over competitors gained by delivering greater customer value, through lower prices or by providing more benefits that correspond with higher pricing. Some of the indicators used to measure competitive advantage is unique, rare, not easily imitated, not easily

replaced, and competitively priced. Competitive advantage is a collection of strategies to determine the benefits of a company from the competition between other companies. The competitive strategy includes low cost and differentiation. Furthermore, the combination of both strategies is called the focus. Basically every company competing in an industry environment has a desire to be more superior to its competitors. Competitive advantage is the relative advantage of an organization that may exceed its competitors. Competitive advantage is basically growing from a value or benefit that the company could create for the customer.

If the company is able to create excellence through one of the three generic strategies proposed by Porter, it will obtain competitive advantage. He states that competitive advantages are the kinds of strategies to help the company maintain its viability (de Jong & van Dijk, 2015).

The opinion was supported by which is it stated that in a competitive market, the company's ability to produce the performance, especially the financial performance, is highly dependent on the degree of competitive advantage.

2. MATERIALS AND METHODS

The aim of the study is to examine how traditional budgeting processes are modified to suit firms in the Romanian business environment and to identify the factors that determine the choices that are made.

2.1. Sample data

The target group consists of companies operating in the Republic of Romania that have adopted green economy methods in their work.

In order to obtain a wide range of respondents, quantitative research was carried out in the form of a web-based questionnaire distributed via e-mail. Contact information for the companies' senior employees was obtained from the Albertina database, the target group which includes executives and employees in positions such as chief executive officer, chief financial officer, heads of finance and control, and project managers. These individuals are ideal because of their experience in creating and working with budgets.

Data was collected from January to June 2018. In all, 1,360 businesses were contacted, 100 of whom completed the survey. The data of the respondents is in Table 1.

Table 1. Summary Statistics

Variable	Fre	Perc
Manufacturing	40	40%
Construction	25	25%
Energy supply	20	20%
Engineering	10	10%
Other	5	5%

Source: Author’s calculation

2.2. Determination of hypotheses

After reviewing the literature, the author identified the research questions below as a basis for hypothesis formulation:

- Does the perception of moving to a green economy affect the competitive effects of companies?
- Can the use of green economy standards affect the quality of competitiveness within companies?
- Do companies adopt green economy standards and the dimensions of competitive advantage?

The survey conducted here primarily measured the factors that influence whether a company has used green economy standards. First, if companies adopt the dimensions of competitive advantage, and measure the correlation between the use of criteria for the transition to the green economy and competitive advantage, and then measure the impact of the use of green economy criteria in each of the dimensions of competitive advantage adopted in the study, the first hypothesis below examined the effect of visualizing the effect of using The green economy dimension is the quality of intra-firm competitiveness, measured by the self-evaluation of beneficiaries on a scale of 1 to 5 (from “very disagree” to “highly agreed”) in decisions regarding the implementation of the use of green economy standards

H1: The use of green economy standards affects the quality of competition within firms.

As for the second aspect, it examined the impact of the perception of the impact of the use of green economy on the research and development dimension within companies, measured by the self-evaluation of beneficiaries on a scale from 1 to 5 (from “very disagree” to “highly agreed”) in decisions related to the implementation of the use of economic standards.

H2: The use of green economy standards affects research and development within companies.

The third hypothesis was developed to examine the extent to which the perception of the impact of green economy use affects the quality of market share within companies, measured by the self-evaluation of beneficiaries on a scale of 1 to 5 (from “very disagree” to “highly agreed”) in decisions about implementing the use of economic standards.

H3: The use of green economy standards affects market share within companies.

The fourth hypothesis was developed to examine the impact of perception of the impact of green economy use on financial profits within firms, measured by the self-evaluation of beneficiaries on a scale of 1 to 5 (“very disagree” to “highly agree”) in decisions about implementing the use of green economy criteria.

H4: The use of green economy criteria affects financial profits within companies

The defined hypotheses were all tested by Pearson’s chi-square test of independence, whereby comparison of observed frequencies with expected ones was made assuming normal distribution. It follows that the variables were tested to see if they were dependent on each other. While the zero hypothesis (H0) assumed the independence of both variables, the alternative hypothesis (H1) was confirmed if the variables were dependent on each other. The level of significance was set at $\alpha = 0.05$. After collating the answers to the survey in Google forms, the database containing these responses was transferred to spss v25. The calculation occurred in spss v25.

3. RESULTS

Since the study investigated the potential enhancement of traditional budgeting processes, it was necessary to know which respondents were using a traditional budget. To avoid various interpretations of traditional budgeting, the term was defined in the questionnaire as a method of planning on an annual basis that uses financial variables.

According to the aforementioned definition and most respondents mentioned in Table 2, the company is working to increase investments within it in order to green the economy. This means mobilizing new and additional resources besides reallocating capital came with the largest average of 4.25. Then I took the phrase work to encourage green private investment within the company through stable and predictable incentives, policies, and market frameworks average 4.11, so that the company takes full advantage of its comparative advantage in trading in

environmentally sustainable goods and services with a mean of 4.07, while the statement that product designs and plans are developed within our company to focus on the environment took the lowest average of 3.57, and accordingly the Romanian companies under study are working to use green economy standards.

Table 2. Factor Analysis for The use of green economy standards

Statements	Arithmetic mean	Standard deviation
Policies to increase energy efficiency are the easiest and cheapest way to achieve energy security	3.83	0.84
Technologies such as efficient LEDs offer significant energy reduction potential	4.07	0.74
The green economy contributes to the provision of sustainable electricity to Romania	3.88	0.85
Access to renewable energy systems within the green economy is affordable	3.79	0.66
Increasing investments within the company in order to green the economy means mobilizing new and additional resources as well as reallocating capital	4.25	0.87
Promote green private investment within the company through stable and predictable incentives, policies, and market frameworks.	4.11	0.81
Government regulations encourage the policy framework for the transition to a green economy.	4.02	0.90
Increasing investments in green economy resources within the company	4.01	0.80
The company has the right to make full use of its environmentally sustainable comparative advantage	4.07	0.91
Operations are reduced and environmental requirements are met within our company	3.91	1.07
Product designs and plans are developed within our company to focus on the environment.	3.57	0.96
In our company, green products are classified and stored in different places than other products.	3.84	1.00
Energy and resource savings are achieved in our company, and emissions reduction, control, reuse and recycling are implemented.	3.93	0.97
In our company, training is provided to our employees on environmental protection.	3.83	0.84

Source: Author’s calculation

The respondents’ answers to the phrases of competitive advantage ranged between (3.67-4.30) where the phrase “the institution uses electronic methods in administrative work effectively” took a greater average of 4.30, then came the phrase that the institution develops its intellectual capital through professional development and employee motivation with an average of 4.05, then the phrase “striving” the company aims to expand the market geographically in order to achieve a large market share with an average of 3.91, then the statement that

there has been an increase in the market share in the last three years with an average of 3.82, and this confirms that Greek companies have a competitive advantage inside and outside Romania, and all dimensions of the competitive advantage are applied to create competition inside and outside Europe.

Table 3. Factor Analysis for Competitive advantage

Variables	Statements	Means	Std. dev.
The quality	Designing production processes to achieve the best level of products	3.85	0.99
	The outputs of the institution are commensurate with the national standards	3.86	0.90
	The organization develops its intellectual capital through professional development and employee motivation	4.05	0.92
	The organization contributes to the continuous training of employees	3.92	0.87
Research and development	The organization uses electronic methods in administrative work effectively	4.30	0.88
	The institution responds to societal changes in a way that it contributes to the development of the labor market	4.04	0.89
	The company's ability to face competition and achieve competitive advantage	3.96	0.92
	Improving productivity by achieving efficiency and effectiveness in performance	3.75	0.89
Market share	The company innovates new ways to increase the percentage of sales.	3.76	0.94
	The company seeks to expand the market geographically in order to achieve a large market share	3.91	1.00
	The company seeks to carry out marketing campaigns to increase its profits.	3.67	0.97
	The company seeks to devise promotional methods at low cost.	3.80	1.01
Financial profits	Annual sales increase in the last three years	3.78	1.00
	Increased market share in the last three years	3.82	0.99
	Net profit increase in the last three years	3.79	1.01
	Outperform competitors in the last three years	3.81	0.85

Source: Author's calculation

3.1. Testing the hypotheses

At first, the existence of a correlational relationship between the independent variable green economy and the dimensions of competitive advantage was examined (through the Pearson correlation coefficient test), and the following is an explanation of this:

Table 4. Results of the Correlation Pearson test between green economy and competitive advantage

Financial profits	Market share	Research and development	The quality	correlation coefficient	Green economy
.763*	.830*	.832*	.753*		
.000	.000	.000	.000	sig	
1000	1000	1000	1000	The number	

Source: Author’s calculation

It is clear from Table (4) that there is a positive relationship between each of the green economy, and each of the dimensions of competitive advantage, and the significance value of all the mentioned areas reached 00.0, which is less than 05.0. It is also clear that this relationship is strong and positive, because the values of the correlation coefficient ranged from what between (.753, .832) and this indicates the possibility of examining the existence of an effect between these variable.

Based on the results of the previous procedures that showed the suitability of the data to the assumptions of the regression analysis, the following are the results of the hypothesis examination:

The first hypothesis: There is an impact of the green economy on the quality of the economic institutions located in Romania to test this hypothesis, a Regression Multiple Analysis test was conducted, and Table 5 shows the results of this test:

Table 5. The results of the Analysis Regression Multiple between the use of green economy and quality in economic institutions

T. signification level	Calculated T value	Unstandardized	Variables
.000.	2.513	.868	(Constant)
.001	3.765	.402	green economy
		.762	R
		.580.	R-square
		.576.	Adjusted R-square
		184.654	Calculated F
		.000.	F . Test significance

Source: Author’s calculation

It is evident from Table 5 that there is a statistically significant effect of the use of green economy on quality in economic institutions in Romania, as the calculated F value amounted to 184.654, which is a function at the significance level of 000. The coefficient of determination reached 580, which indicates that

the use of the green economy explains what is valued at 58% of the quality in the economic institutions in Romania from the point of view of its employees. The green economy has 3.765 with a significance level of .001, and this value is less than 0.05, which indicates that there is an effect of each use of the green economy on quality.

The second hypothesis: There is an impact of the green economy in research and development among the economic institutions located in Romania.

To test this hypothesis, a Regression Multiple Analysis test was conducted, and Table 6 shows the results of this test:

Table 6. Results of Analysis Regression Multiple between the use of green economy and research and development in economic institutions

T . signification level	Calculated T value	Unstandardized	Variables
000.	3.430	.899	(Constant)
000.	2.861	.530	green economy
		.636	R
		404.	R-square
		400.	Adjusted R-square
		176.435	Calculated F
		000.	F . Test significance

Source: Author's calculation

It is evident from Table 6 that there is a statistically significant effect of using green economy in research and development in economic institutions in Romania, as the calculated F value amounted to 176.435, which is a function at the significance level 000. The coefficient of determination was 0.404, which indicates that the use of the green economy explains its value of 40.4% of research and development in economic institutions in Romania from the point of view of its employees, and the table shows that there is a significant effect of ≤ 0.05 for each use of the green economy in research and development in institutions, as the calculated T value for each use of the green economy is 2.861, with a significance level of 000., and this value is less than 0.05, which indicates that there is an effect for each use of the green economy in research and development.

The third hypothesis: There is an impact of the green economy on the market share of the economic institutions located in Romania.

To test this hypothesis, a Regression Multiple Analysis test was conducted, and Table 7 shows the results of this test:

Table 7. Results of Analysis Regression Multiple between the use of green economy and market share in economic institutions

T . signification level	Calculated T value	Unstandardized	Variables
000.	2.881	.759	(Constant)
004 .	3.578	.305	green economy
		.622	R
		386.	R-square
		380.	Adjusted R-square
		284.421	Calculated F
		000.	F . Test significance

Source: Author’s calculation

It is evident from Table 7 that there is a statistically significant effect of the use of the green economy on the market share in economic institutions in Romania, as the calculated F value amounted to 284.421, which is a function at the significance level of 000. The coefficient of determination was 380. This indicates that the use of the green economy explains its value of 38 % of the market share in economic institutions in Romania from the point of view of its employees, and the table shows that there is an effect of ≤ 0.05 for each use of the green economy on the market share in the institutions, as the calculated T value for each use of the green economy was 3.578 with a significance level of 004. And this value is less than 0.05, which indicates that there is an effect of each use of the green economy on the market share.

Fourth hypothesis: There is an effect of the green economy on the financial profits of the economic institutions located in Romania.

To test this hypothesis, a Regression Multiple Analysis test was conducted, and Table 8 shows the results of this test:

Table 8. Results of Analysis Regression Multiple between the use of green economy and financial profits in economic institutions

T . signification level	Calculated T value	Unstandardized	Variables
000.	2.198	.755	(Constant)
.029	3.740	.375	green economy
		.804	R
		646.	R-square
		640.	Adjusted R-square
		265.176	Calculated F
		000.	F . Test significance

Source: Author’s calculation

It is clear from Table 8 that there is a statistically significant effect of using the green economy in financial profits in economic institutions in Romania, as the calculated F value reached 265.176, which is a function at the significance level 000. The coefficient of determination reached 646 which indicates that the use of the green economy explains its value of 64.6 % of the financial profits in the economic institutions in Romania from the point of view of their employees, and the table shows that there is an effect of ≤ 0.05 for each use of the green economy in the financial profits in the institutions, where the value of T calculated for each use of the green economy was 3.740 with a significance level of .029, and this value is smaller than 0.05 indicating that there is an effect of each use of the green economy on financial profits.

4. DISCUSSIONS

The results of the study showed that the decisions made regarding the criteria of competitive advantage in Romanian companies are affected by objective factors in the external environment, and by structural factors within the company. There is also an effect and harmonization between the use of green economy and the competitive advantage of Romanian companies.

According to the results of the applied study, the acceptance of the H1 hypothesis “the distinctive role played by the green economy for business owners” is confirmed. Not in the sense of a method that underpins effective quality, but rather as a means that provides executives with insight into designing production processes that achieve the best level of product. The institution’s outputs are commensurate with the national standards, through which and through professional development and employee motivation, the institution develops its intellectual capital, and the H1 results fully meet the expectations of the study.

Based on the results of the H2 hypothesis, the effect that the use of the green economy plays in research and development has been confirmed. The use of green economy standards has an impact on the organization’s effective use of electronic methods in administrative work, which responds to the societal changes that contribute to the development of the labor market, the company’s ability to face competition, achieve competitive advantage, and improve productivity by achieving efficiency and effectiveness in performance.

The use of green economy standards also contributes to the company innovating new ways to increase sales, as the company works to expand the market geographically in order to achieve a large market share, and to carry out

marketing campaigns to increase its profits, and innovate promotional methods with low cost, and this is proven by the predictions of the hypothesis. H3

Based on the results of the H4 hypothesis, the use of green economy criteria affects financial profits, by increasing annual sales, increasing market share, increasing net profits, and outperforming competitors in the last three years.

Therefore, these results can be interpreted as confirmation of the effectiveness of the use of criteria for the transition to a green economy in the dimensions of competitive advantage. As a result, it can be assumed that the financial implications of the transition to a green economy become more evident through the simultaneous use of the dimensions of competitive advantage.

5. CONCLUSIONS

Romania is a country rich in renewable energy sources, and solar energy and wind energy are among the most important sources that may help Romania get out of many economic and social crises. The projects of installing power stations and connecting them to the roofs of buildings are among the most influential projects on the economic and social dimension, and there is a huge virgin market. Solar and wind energy projects in Egypt are capable of growth for years to come. But what is important is the availability of legislation and laws motivating this. What is required from the current tariff is to increase the price of energy produced from rooftop projects, provided that there are the same soft financing mechanisms announced by the government. Only then will we have a very good opportunity to use solar energy and wind energy to change the lives of citizens for the better.

Therefore, as recommendations:

Many results can be reached to benefit from the experience of Romania in the following points:

A. Renewable energy is of great importance in protecting the environment, as it is a clean, non-polluting energy, and its use is expanding with this target, and thus reducing the use of traditional energy sources (known for their bad impact on the environment in view of the pollution and carbon emissions they create), especially due to the cost of generating electricity from sources. Renewable energy is declining, and from it one of the sustainable development goals can be achieved, which is to maintain a clean environment and achieve economic development.

B. Romania is witnessing a great boom in the field of renewable energy. This is due to the entry into force of the Renewable Energy Sources Law (EEG) on

April 1, 2000. The most important characteristic of this law is that it is only for renewable energy. The law aims to address climate change and reduce dependence on fossil fuels. It contains monetary incentives for those who provide renewable energy sources and interest in scientific research in the field of renewable energy.

C. In light of the complexity of the environmental problem in Romania, the Romanian government seeks to solve these problems by resorting to renewable energy, especially as we mentioned earlier that Romania is witnessing a great boom in the field of renewable energy, including reducing the use of traditional energy and reducing harmful gas emissions of carbon dioxide, nitrogen and sulphur.

Conflict of interests

The author declares there is no conflict of interest.

REFERENCES

- Aaheim A., & K. Nybory (1995). On the interpretation and applicability of a “Green National Product. *Review of Income and Wealth*, 41(1), 57-71. <https://doi.org/10.1111/j.1475-4991.1995.tb00093.x>
- Aaker, D. (1989). Managing assets and skills: The key to a sustainable competitive advantage. *California Management Review*, 31(2). <https://doi.org/10.2307/41166561>
- Adams, W. M. (2001). *Green development: Environment and sustainability in the Third World*. Routledge, New York.
- Altenburg, T., & Rodrik, D. (2017). Green industrial policy: accelerating structural change towards wealthy green economies. In: Altenburg, T., Assmann, C. (Eds.), *Green Industrial Policy: Concept, Policies, Country Experiences* (pp. 2-20). German Development Institute. https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/Green%20Industrial%20Policy_Concept%2C%20Policies%2C%20Country%20Experiences.pdf
- Altenburg, T., Sagar, A., Schmitz, H., & Xue, L., (2016). Guest editorial: Comparing low-carbon innovation paths in Asia and Europe. *Science & Public Policy*, 43(4), 451-453. <https://doi.org/10.1093/scipol/scv073>
- Baksi S., & Green, C. (2007). *Calculating economy-wide energy intensity decline rate: The role of sectoral output and energy shares*. *Energy Policy* 35(2007), 6457-6466. <https://doi:10.1016/j.enpol.2007.08.018>
- Barney, J. B. (2001). *Gaining and Sustaining Competitive Advantage*. Addison Westley Reading.
- Barney, J. B., & Hesterly, W. S. (2010). *Strategic Management and Competitive Advantage*. Prentice Hall, New Jersey.

- Barry J. (2007). Toward a model of green political economy: From ecological modernisation to economic security. *International Journal of Green Economics* 1(3), 446-464. [https://doi.org/10.1108/S2041-806X\(2010\)0000005010](https://doi.org/10.1108/S2041-806X(2010)0000005010)
- Bartelmus P. (1999). Green accounting for a sustainable economy: Policy use and analysis of environmental accounts in the Philippines. *Ecological Economics* 29(21), 155-170. [https://doi.org/10.1016/S0921-8009\(98\)00086-X](https://doi.org/10.1016/S0921-8009(98)00086-X)
- Borel-Saladin, J. M., & Turok I. N. (2013). The impact of the green economy on jobs in South Africa. *South African Journal of Science*, 109(9-10). <https://doi.org/10.1590/sajs.2013/a0033>
- Cai W., Wang, C., Chen, J., & Wang, S. (2011). Green economy and green jobs: Myth or reality? The case of China's power generation sector. *Energy*, 36(10), 5994-6003. <https://doi.org/10.1016/j.energy.2011.08.016>
- Carfi D., & Schiliro, D. (2012). A cooperative model for the green economy. *Economic Modelling* 29(4), 1215-1219. <https://doi.org/10.1016/j.econmod.2012.04.005>
- Chapple K., Kroll, C., Lester, T. W., & S. Montero, S. (2011). Innovation in the Green Economy: An Extension of the Regional Innovation System Model? *Economic Development Quarterly*, 25(1), 5-25. <https://doi.org/10.1177/0891242410386219>
- Ciocirlan, C. E., Yandle, B. (2003). The Political Economy of Green Taxation in OECD Countries. *European Journal of Law and Economics*, 15(2003), 203-218. <https://doi.org/10.1023/A:1023390126187>
- Clapp, J. (2014). Financialization, Distance and Global Food Politics. *The Journal of Peasant Studies* 41(5), 797-814. <http://www.tandfonline.com/doi/abs/10.1080/03066150.2013.875536>.
- Copeland, B. R., & Taylor, M. S. (2004). Trade, Growth, and the Environment. *Journal Of Economic Literature* 42(1), 7-71. <https://doi.org/10.1257/002205104773558047>
- Dechezleprêtre, A., & Sato, M., (2017). The Impacts of Environmental Regulations on Competitiveness. *Review of Environmental Economics and Policy*, 11(2), 183-206. <https://doi.org/10.1093/reep/rev013>
- Dess, G. G., Lumpkin, G. T., & Taylor, M. (2005). *Strategic Management: Creating Competitive Advantages*. 3rd Ed. McGraw-Hill Irwin, New York.
- Diyar, S., Akparova, A., Toktabayev, A., & Tyutunnikova, M. (2014). Green Economy – Innovation Based Development of Kazakhstan. *Procedia - Social and Behavioral Science*, 140, 695-699. <https://doi.org/10.1016/j.sbspro.2014.04.497>
- Fankhauser, S., & Jotzo, F. (2018). Economic growth and development with low-car energy. *Wiley Interdisciplinary Reviews*. WIREs Climate Change. <https://doi.org/10.1002/wcc.495>
- Figuière, C., & Metereau, R. (2021). Écodéveloppement et socio-économie écologique: congruences et complémentarités. *Dans Cahiers d'économie politique* 2021/1 (79), 153-190. <https://www.cairn.info/revue-cahiers-d-economie-politique-2021-1-page-153.htm>
- Gassmann, O., & Keupp, M. M. (2007). The competitive advantage of early and rapidly internationalising SMEs in the biotechnology industry: A knowledge-based view. *Journal of World Business*, 42(3), 350-366. <https://doi.org/10.1016/j.jwb.2007.04.006>

- Hargroves, K., & Smith, M. H. (2005). *The Natural Advantage of Nations Business Opportunities, Innovations and Governance in the 21st Century*. Routledge, Taylor & Francis Group.
- International Chamber of Commerce (2016). *ICC Green Economy Roadmap – a guide for business, policymakers and society (2012)*. Document No 213-18/8. <https://iccwbo.org/news-publications/policies-reports/icc-green-economy-roadmap-a-guide-for-business-policymakers-and-society-2012/>
- Ismail S. (2014). The contribution of the green economy to achieving sustainable development in Algeria during the period 2005-2007. *Journal of Studies in Economy*, 3(2), 149-150.
- Jap, S. (2001). Perspectives on Joint Competitive Advantages in Buyer-Supplier Relationships. *International Journal of Research on Marketing*, 18(1), 19-35. [https://doi.org/10.1016/S0167-8116\(01\)00028-3](https://doi.org/10.1016/S0167-8116(01)00028-3)
- Kasztelan, A. (2017). Green growth, green economy and sustainable development: terminological and relational discourse. *Prague Economic Papers*, 2017(4), 487–499. <https://doi.org/10.18267/j.pep.626>
- Khanfar, A. (2014). Environmental Economics “Green Economy.” *Assiut Journal, Environmental Studies*, 39, 55-57.
- Kutting, G. (2004). *Environmental Justice. Global Environmental Politics*, 4(1), 115-121. https://www.researchgate.net/publication/265840879_Environmental_Justice
- Lavrinenko, O., Ignatjeva, S., Ohotina, A., Rybalkin, O., & Lazdans, D. (2019). The Role of Green Economy in Sustainable Development (Case Study: The EU States). *Entrepreneurship and Sustainability Issues, VSI Entrepreneurship and Sustainability Center*, 6(3), 1113-1126. [https://doi.org/10.9770/jesi.2019.6.3\(4\)](https://doi.org/10.9770/jesi.2019.6.3(4))
- Margolis, Robert M., & Kammen, Daniel M., (1999). Evidence of under-investment in energy R&D in the United States and the impact of Federal policy, *Energy Policy. Elsevier*, 27(10), 575-584. <https://EconPapers.repec.org/RePEc:eee:enepol:v:27:y:1999:i:10:p:575-584>
- Matthews, J. H., & Boltz, F. (2012). The Shifting Boundaries of Sustainability Science: Are We Doomed Yet? *PLoS Biology* 10(6), e1001344.USA.p12. <https://doi.org/10.1371/journal.pbio.1001344>
- De Jong, M., & van Dijk, M. (2015). *Disrupting beliefs: A new approach to business-model innovation*. McKinsey & Company. <https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/disrupting-beliefs-a-new-approach-to-business-model-innovation#/>
- Owen, B. (2005). Antitrust in China: The Problem of Incentive Compatibility. *Journal of Competition Law & Economics*, 1(1),123-148. <https://doi.org/10.1093/joclec/nhi004>
- Pavic, S., Koh, S. C. L., Simpson, M., & Padmore, J. (2007). Could e-business create a competitive advantage in UK SMEs? Benchmarking An International Journal 14(3), 320-35. <https://doi.org/10.1108/14635770710753112>

- Paterson, D. L. et al. (2000). Adherence to protease inhibitor therapy and outcomes in patients with HIV infection. *Annals of Internal Medicine* 133(1), 21-30 <https://doi.org/10.7326/0003-4819-133-1-200007040-00025>
- Perry, B. (2007). The Multi-level Governance of Science Policy in England. *Regional Studies, Taylor & Francis Journals*, 41(8), 1051-1067. <https://doi.org/10.1080/00343400701530881>
- Ray, G., Barney, J. B., & Muhanna, W. A. (2004). *Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view*. *Strategic Management Journal* 25(1), 23-37. <https://doi.org/10.1002/smj.366>.
- Schmitz, J., & Schrader, J. (2015). Corporate Social Responsibility: A Microeconomic Review of The Literature. *Journal of Economic Surveys* 29(1). <https://doi.org/10.1111/joes.12043>
- Schmitz, O. J., Buchkowski, R. W., Burghardt, K. T., & Donihue, C. M. (2015). Functional Traits and Trait-Mediated Interactions: Connecting Community-Level Interactions with Ecosystem Functioning. *Advances in Ecological Research*, 52, 319-343. <https://doi.org/10.1016/bs.aecr.2015.01.003>
- Sultan, S., & Mason, M. (2010). Competitive advantage of SMEs. London School of Economics, London.
- Stanley, A. (2022). *The Global Economy's Turbulent Year in Five Charts*. IMF blog. <https://www.imf.org/en/Blogs/Articles/2022/12/16/the-global-economy-turbulent-year-in-five-charts>
- Teeratansirikool, L., Siengthai, S., Badir, Y., & Charoenngam, C. (2013). Competitive strategies and firm performance: the mediating role of performance measurement. *International Journal of Productivity and Performance Management*, 62(2), 168-184. <https://doi.org/10.1108/17410401311295722>
- van Zanten. A. (2010). Choix de l'école et inégalités scolaires: Le rôle des ressources culturelles et économiques des parents. *Agora débats/jeunesses*, 3(56), 35-47. [ff10.3917/agora.056.0035ff.fhal-01524139f](https://doi.org/10.3917/agora.056.0035ff.fhal-01524139f)

УТИЦАЈ СТАНДАРДА ЗЕЛЕНЕ ЕКОНОМИЈЕ НА КОНКУРЕНТСКУ ПРЕДНОСТ: СЛУЧАЈ РУМУНИЈЕ

1 Хадоуга Хасиба, Универзитет Абделхамид Мери Константин, Константин, Алжир

САЖЕТАК

Студија је имала за циљ да истражи утицај праксе зелене економије у постизању конкурентске предности компанија које послују у Румунији, према величини компанија. Студија је користила дескриптивни каузални приступ. Што се тиче студијске популације, чинили су је сви запослени у

румунским компанијама у одјељењима за обезбјеђење квалитета, контролу квалитета, истраживање и развој и производњу. Упитник је коришћен као главни алат за прикупљање података и информација које су анализирани скупом статистичких средстава, при чему су подаци прикупљани путем интернета, након чега је рађена анализа корелација између појединих варијабли. Примјеном Пирсоновог хи-квадрат теста, подијељено је 355 упитника, а попуњено је само 100. Резултати студије су показали да постоји утицај праксе зелене економије на постизање конкурентске предности, као и утицај праксе управљања укупним квалитетом на постизање конкурентске предности у румунским оперативним компанијама које су анализирани. Није било статистички значајних разлика у просјецима утицаја пракси зелене економије на постизање конкурентске предности. Утврђена је веза између употребе стандарда зелене економије и накнадне перцепције њихове ефикасности.

Кључне ријечи: *зелена економија, конкурентност, конкурентна предност, румунске компаније.*

