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Exploring the Link Between Cultural Characteristics and Sustainable Development Success

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## Abstract

The primary objective of this paper is to explore the cultural dimensions of sustainable development by investigating the interdependence between selected cultural characteristics and the sustainable development goals index. The central hypothesis posited in this study is that sustainable development tends to achieve higher success rates in countries with specific cultural profiles, particularly those embodying the values commonly associated with Western civilization. To test this hypothesis, the study employed Pearson's correlation analysis to examine the relationship between cultural features and the sustainable development goals index. The cultural characteristics considered in the analysis include power distance, masculinity versus femininity, individualism versus collectivism, uncertainty avoidance, long-term orientation, indulgence, and the syndromes of materialism and postmaterialism. These cultural dimensions were analyzed in the context of their influence on the sustainable development goals index, which measures progress towards achieving sustainable development. The findings of the study reveal a positive correlation between cultural values characteristic of European or Western cultures and higher sustainable development goals index scores. This suggests that certain cultural profiles, particularly those that emphasize individualism, long-term orientation, and lower power distance, may be more conducive to advancing sustainable development objectives. The conclusions drawn from this research highlight the importance of cultural context in shaping the effectiveness of sustainable development strategies. The study provides valuable insights into how cultural values and practices can influence a country's ability to meet sustainable development goals, suggesting that cultural considerations should play a more prominent role in the formulation and implementation of sustainability policies. This paper underscores the interrelationship between culture and sustainable development, offering evidence that cultural profiles aligned with Western values are positively associated with higher levels of sustainable development as measured by the sustainable development goals index. These findings contribute to a deeper understanding of how cultural factors can impact the global pursuit of sustainability.

**Keywords:** Cultural Dimensions, Sustainable Development, Sustainable Development Goals, Cultural Profiles

**JEL Codes:** Q01, Z10, O57

## 1. INTRODUCTION

From the beginning, discussions surrounding the concept of sustainable development have fluctuated between hopeful visions of a sustainable future and criticisms labeling it as utopian. Some have highlighted internal contradictions within the principle itself, while ongoing debates persist about its definition and whether sustainable development is genuinely necessary for humanity. In the context of dwindling resources, global population growth, and increasing demands, many believe the need for sustainable development is self-evident. However, a significant portion of the academic community and public opinion remains convinced that resource issues can be effectively managed through market mechanisms, such as price regulation. Critics also argue that actions aimed at restoring a sustainable balance in development have had little clear, measurable impact. This skepticism is compounded by challenges in defining and quantifying sustainability, as well as the reality that some developing—and even developed—countries are unwilling to sacrifice their economic growth and material prosperity to adhere to sustainability limits. The reluctance to restrict growth complicates global cooperation and commitment to sustainability goals.

To better understand the complexity and ambiguity of the notion of 'sustainable development,' it might be valuable to examine the role of cultural values. These values are shaped by cultural processes and interpreted differently across societies, meaning they are not universally shared or understood. This cultural lens can offer insight into the difficulties in establishing a globally consistent approach to sustainable development, as the interpretation and deployment of such values vary greatly depending on cultural perspectives. At this juncture, it would be worthwhile to provide a definition of sustainable development—a task made challenging by the wide array of perspectives on the topic. Despite numerous detailed, descriptive definitions, the concept of "sustainability," much like virtues such as goodness or honesty, continues to be intuitively interpreted by the individuals and entities whose day-to-day decisions influence the success or failure of implementing sustainable development. A recurring theme in many definitions is the idea of solidarity with future generations, ensuring that their needs can be met while addressing the needs of the present. This is encapsulated in the well-known definition by the United Nations: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations General Assembly, 1987). In addition to concerns about resource management and ecosystem survival, another important focus is ensuring that future generations enjoy a quality of life comparable to today's standards. Corporate Social Responsibility (CSR) contributes to this by fostering

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continuous efforts to improve social and economic conditions: "the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large" (Holme & Watts, 2000). The British Government has articulated sustainable development through four interlinked goals: "(a) social progress that recognizes the needs of everyone, (b) effective protection of the environment, (c) prudent use of natural resources, and (d) maintenance of high and stable levels of economic growth and employment" (DETR, 1999). However, over the past 250 years, the material needs of the global population have grown significantly, presenting a complex challenge. In light of this, managing natural resources conservatively during periods of economic growth seems as paradoxical as the task set for "The Peasant's Clever Daughter" in the Brothers Grimm's fairytale—an endeavor requiring a balance that is both difficult and delicate. The challenge of sustainable development lies in reconciling economic progress with environmental stewardship and social equity, ensuring that present actions do not compromise the well-being of future generations while continuing to enhance current living standards. Defining needs, particularly those linked to natural conditions, the external environment, and individual beliefs, is inherently challenging. Moreover, it is virtually impossible to anticipate the needs of future generations, as higher-order needs are shaped by values that evolve over time (Reigeluth, 2009). The difficulty in defining and interpreting sustainable development also depends on which area—economic, environmental, or social—is perceived as having the most pressing needs. Different researchers may prioritize one sphere over others, leading to varying understandings of sustainable development.

A key reason for this divergence is that different groups often disagree on how to balance the economy, the environment, and societal needs. The chosen perspective greatly influences interpretations. As soon as more than one person is involved, multiple interpretations inevitably arise. What one person might see as sustainable development, another might view as degradation, exploitation, or harm, particularly when it comes to global issues like natural resource extraction. As Dahl (1997) pointed out, these disagreements highlight the tension between development and conservation, with perspectives varying widely depending on individual values and priorities. This complexity underscores the inherent subjectivity in defining sustainable development. It is not a one-size-fits-all concept, and its interpretation is influenced by cultural, social, and environmental contexts. Consequently, sustainable development remains a fluid and evolving notion, constantly reshaped by differing priorities and the changing values of societies across time. The concept of sustainable development is deeply rooted in European cultural values and perspectives. Although the ultimate aim is to achieve sustainability on a global scale, the conditions and standards of sustainability are largely framed from a Western viewpoint. This Western framework may not fully align with the perspectives of other regions and cultures, as attitudes toward environmental concerns and their relationship to economic growth can vary significantly between countries and civilizations.

Figure 1 illustrates the data gathered on how different cultural groups prioritize environmental issues in comparison to purely economic concerns. The data reflects the varying degrees of importance assigned to environmental sustainability across eight distinct cultural groups, showcasing the diversity of opinions regarding the balance between economic development and environmental protection. These differences highlight the complexity of establishing a global consensus on sustainability, as cultural, economic, and social contexts significantly influence how environmental issues are perceived and addressed. This variation in perspectives underlines the challenge of applying a universal approach to sustainable development, as what is considered a priority in one part of the world may not hold the same weight in another. Thus, global sustainability efforts must account for these diverse viewpoints, adapting strategies to fit the unique needs and values of different regions while working toward common environmental and economic goals.

While Figure 1 does not allow for definitive conclusions about the relationship between culture and attitudes toward sustainable development, it is notable that the countries where respondents prioritized environmental issues over economic concerns included all the Latin American countries in the survey. This data, based on self-reported declarations regarding a value important to sustainable development, reflects intentional perspectives rather than actual behavior. Nonetheless, it highlights the existence of differences in how values are hierarchically structured across cultures. These declarations, while not necessarily predictive of concrete actions, reveal significant variation in how different societies weigh environmental sustainability relative to economic growth. Such differences in value hierarchy are critical for understanding global approaches to sustainable development. They suggest that while some regions, like Latin America, may emphasize environmental concerns more heavily, others may prioritize economic advancement, illustrating the challenge of achieving a universal approach to sustainability that aligns with diverse cultural perspectives and value systems.

## 2. METHODOLOGY

The primary objective of this article is to explore the cultural dimensions of sustainable development by investigating the interdependence between selected cultural characteristics and the sustainable development index. The central hypothesis of the study posits that: "Sustainable development tends to achieve higher rates in countries with a specific cultural profile, particularly those embodying the values of Western civilization. To test this hypothesis, the Pearson correlation coefficient was employed. This statistical measure assesses the strength of association between two variables, ranging from -1 to +1. A coefficient of +1 indicates a perfect positive correlation, meaning that as one variable increases, so does the other. Conversely, a value of -1 represents a perfect negative correlation, where one variable decreases as the other increases. A coefficient of zero implies no correlation between the variables. In this study, the sustainability level and the cultural profiles of selected countries were examined. These are represented respectively by the parameters from the sustainable development index and Geert Hofstede's cultural dimensions, along with indicators of materialism and post-materialism. By analyzing these correlations, the article seeks to determine whether specific cultural traits—particularly those aligned

with Western values—are associated with higher levels of sustainable development.

According to Olson et al. (2004), a sustainable development indicator (SDI) is generally understood as a quantitative tool used to assess changes, measuring and communicating progress toward the sustainable use and management of economic, social, institutional, and environmental resources. An indicator serves as a pointer to an issue or condition, with the primary purpose of illustrating how effectively a system is advancing toward its defined goals. The methodology for creating such indicators can follow two main approaches. One method involves summing up the values of various phenomena, thereby offering a snapshot of the current state of affairs at a specific point in time. The other method involves formulating an ideal goal, where the indicator measures the distance between the subject of analysis and the desired state of perfection. As Hametner and Steurer (2007) note, indicators are designed to summarize and capture the complexity of multiple factors. Verbruggen and Kuik (1991) emphasize that this process represents "a compromise between scientific accuracy and the demand for concise information." In other words, indicators must strike a balance between being scientifically rigorous and easily understandable, allowing them to effectively communicate complex phenomena in a clear and accessible way. Traditional measures of economic progress, which focus primarily on production and income levels, overlook several critical aspects such as the value of free goods, externalities, quality of life, and the equitable distribution of wealth. As a result, alternative measures of progress have gained popularity. These modified indicators, such as the Measure of Economic Welfare (MEW) proposed by Nordhaus and Tobin (1972), go beyond Gross Domestic Product (GDP) by incorporating factors like the value of leisure time, unpaid work, and environmental degradation. Similarly, the Index of Sustainable Economic Welfare (ISEW), created by Daly and Cobb, and the Genuine Progress Indicator (GPI) developed from it, both adjust traditional economic metrics by excluding transactions not directly related to human well-being, while also factoring in social and environmental costs and benefits (Lawn, 2003).

Indicators like ISEW and GPI fall into a broader category of multidimensional indexes, which are based on taxonomical methods. These methods set out an ideal model for progress, and the resulting index measures how closely a given system has approached this ideal. One of the most widely recognized measures in this category is the Human Development Index (HDI), developed by the United Nations. The HDI reflects a broader understanding of development, which the UN defines as the process of "enlarging people's choices, most importantly to lead a long and healthy life, to be educated, and to enjoy a decent standard of living" (UNDP, 1990). Building on the HDI, various subsequent measures have been created to focus on specific aspects of social life, such as poverty, gender inequality, and sustainable development. These indices aim to offer a more holistic view of progress by accounting for a wide range of factors that influence human well-being and societal advancement, beyond mere economic output.

### 3. DISCUSSION

Quantifying cultural characteristics poses a significantly greater challenge than measuring economic growth, physical phenomena, or demographic data, as culture involves intangible and subjective elements such as values, attitudes, and behaviors. While it is not an impossible task, cultural indexes inevitably fall short of capturing the full diversity of global cultures due to the complexity and variability of cultural expressions. Nonetheless, economics and management sciences have played a crucial role in advancing the measurement of culture. A notable contribution to this effort was the identification and classification of corporate culture, which became an important focus in business management during the 1970s. During this period, various frameworks for classifying corporate culture began to emerge, with influential models developed by scholars such as Harrison (1972), Handy (1976), Deal and Kennedy (1982), Cameron and Quinn (1999), and McGuire (2003). These frameworks helped in establishing methods for assessing and categorizing organizational cultures, contributing to the broader understanding of how culture influences business practices.

Geert Hofstede is widely credited for expanding the exploration of cultural measurability. Starting in 1965, Hofstede conducted extensive research into cultural differences and cross-cultural communication issues within the IBM Corporation. His studies involved comparing the cultural profiles of 177,000 employees from various countries around the world, allowing him to identify and quantify key dimensions of national cultures. Hofstede's work laid the foundation for understanding how culture can be systematically studied and measured, particularly in the context of international business and management, making a significant contribution to the field of cross-cultural research. Hofstede's initial research within IBM eventually expanded into a larger project, studying cultural dimensions across nearly 80 countries. His work quantified these dimensions into indexes that describe: Power Distance, Individualism vs. Collectivism, Uncertainty Avoidance, Masculinity vs. Femininity, Long-term vs. Short-term Orientation, and Indulgence vs. Restraint. These cultural dimensions provide a framework for understanding how various cultures operate and perceive societal structures.

In addition to Hofstede's model, the World Values Survey (WVS) research program has also played a crucial role in the quantification of culture. Since 1981, the WVS has collected data on the values and attitudes of respondents in nearly 100 countries. This program focuses on understanding how cultural values influence social, political, and economic life across the world. For the purposes of this article, both Hofstede's cultural indexes and selected cultural indexes from the World Values Survey will be considered. The first cultural index under examination is Power Distance, which Hofstede defines as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede, 2010). In other words, Power Distance measures how much individuals in a society identify with and accept hierarchical structures within institutions and organizations. It reflects the degree of comfort or discomfort people feel with unequal power distribution, and it influences behaviors and attitudes toward authority and social inequality in different cultural contexts.

Urbanized and industrialized societies tend to be more individualistic, with the exception of East Asian countries, which

maintain more collectivist cultural traits. Geographic factors, such as latitude, also play a role—countries with moderate or colder climates generally exhibit higher degrees of individualism. Hofstede's research suggests that in regions like Northern and Western Europe, individualism is more prevalent, whereas more collectivist tendencies are observed in societies closer to the equator. In terms of gender roles, Hofstede identifies certain regions as being more "feminine," with Northwestern Europe and parts of South America being notable examples. The historical context has shaped these feminine cultural traits. In Scandinavia and the Netherlands, for example, seafarers and traders formed the elite, and their professions required them to cultivate strong interpersonal relationships and take meticulous care of ships and goods. While men were away on long voyages, women often had to manage these responsibilities, which contributed to the development of more egalitarian and feminine social models. Similarly, countries like Peru and Chile in South America exhibit strong feminine traits, which Hofstede attributes to the influence of less militaristic pre-Columbian cultures, such as the Maya and Inca. In contrast, Mexico, Venezuela, and Ecuador were more influenced by the dominant, warrior-focused Aztec culture. Cultural differences also extend to time orientation. Long-Term Orientation (LTO) refers to a focus on future goals, planning, and perseverance, while Short-Term Orientation places more emphasis on traditions, the past, and present-day social obligations (Hofstede Insights). Another cultural dimension Hofstede identifies is the contrast between Indulgence and Restraint. Societies characterized by indulgence allow for relatively free expression of basic human desires related to enjoying life and having fun. In contrast, restraint-oriented societies impose strict social norms that regulate and suppress the fulfillment of these desires (Hofstede Insights).

These cultural dimensions highlight the diversity in values and practices across different societies and help explain variations in behavior, social structures, and economic models worldwide. Understanding these cultural factors is crucial in cross-cultural interactions, particularly in globalized settings where people from various cultural backgrounds must work and live together. Another important index used to describe the cultural profile of countries is the Post-Materialism Index, a social phenomenon introduced by Ronald Inglehart. Post-materialism, as defined by Inglehart in his 1977 book *The Silent Revolution: Changing Values and Political Styles Among Western Publics*, involves a shift in values, where societies move away from concerns focused on economic and physical security toward a greater emphasis on quality of life, self-expression, and environmental awareness. To analyze the relationship between cultural characteristics and sustainable development, the Pearson linear correlation coefficient was applied, assessing the correlation between the cultural profiles of respondents and the level of sustainable development in 94 countries. These countries represent a broad spectrum of cultural areas and varying levels of sustainable development. On a global scale, significant correlations were found between sustainable development and two cultural indexes. First, a positive correlation was observed between the level of individualism and sustainable development, meaning that countries with higher individualism scores also tended to have higher levels of sustainable development. This suggests that individualistic societies, which prioritize personal freedom, autonomy, and innovation, may be more inclined to adopt sustainable practices.

Conversely, a negative correlation was found with the Power Distance Index, indicating that countries with greater inequality in power distribution tend to have lower levels of sustainable development. Societies with low power distance, where authority is more decentralized and equality is valued, appear to be more successful in fostering sustainable development. It is noteworthy that individualism and low power distance are cultural characteristics commonly found in European and Western civilizations. These traits may explain why these regions tend to lead in sustainable development initiatives, as their cultural values align with principles of equality, environmental stewardship, and long-term social progress. Among highly developed countries, four cultural values were found to significantly correlate with the level of sustainable development (SD). Individualism and post-materialism exhibit positive correlations with sustainable development, indicating that societies emphasizing personal autonomy, self-expression, and quality of life tend to achieve higher levels of sustainability. Conversely, power distance and materialism show negative correlations, suggesting that societies with greater hierarchical inequality and a focus on material wealth are less likely to achieve sustainable development.

For developed countries, an additional correlation was found with the uncertainty avoidance index, which measures the extent to which a society tolerates ambiguity and uncertainty. Meanwhile, in developing countries, a notable correlation was seen with the post-materialism index, reinforcing the idea that societies prioritizing non-materialistic values and long-term quality of life are more likely to adopt sustainable practices. Given that the most significant correlations were observed in highly developed countries, the majority of which are in the West, the next step was to investigate these relationships specifically within a European context. Focusing exclusively on European countries, six out of eight cultural values were found to be significantly correlated with sustainable development. The values showing a positive correlation include individualism, indulgence, and post-materialism. These traits are associated with societies that prioritize personal freedom, the pursuit of enjoyment, and non-materialistic values, all of which align with the goals of sustainability. On the other hand, the values that show a negative correlation with sustainable development include power distance, high uncertainty avoidance, and materialism. These findings suggest that European countries with more egalitarian power structures, greater tolerance for uncertainty, and a lesser focus on material wealth tend to perform better in sustainable development efforts. These results highlight the significant role that cultural values play in shaping a society's approach to sustainability, particularly within the European cultural area.

Based on the relationships observed in the analysis, it is possible to outline a profile of a citizen who actively embraces and supports a model of sustainable development. Such a person would be characterized by several key traits. First, they would likely exhibit a strong sense of individualism, prioritizing their personal autonomy, as well as the well-being of their immediate family, over broader collective goals. Additionally, this citizen would display a high degree of indulgence, which, according to Hofstede, reflects a society that freely gratifies basic human drives for enjoying life and having fun.

Moreover, this individual would subscribe to post-materialist values, focusing less on material wealth and more on factors that enhance quality of life, such as environmental stewardship, social well-being, and personal fulfillment. They would also be averse to strong societal hierarchies, preferring egalitarian structures where power is distributed more equally, and they would demonstrate openness to new ideas and a willingness to accept uncertainty or unfamiliarity without fear. This characterization of a "sustainable development citizen" closely mirrors the cultural profile of people in Northwestern Europe, particularly in countries that rank highly in both individualism and post-materialist values. These societies tend to emphasize personal freedom, innovation, and a more relaxed approach to hierarchy and uncertainty—all traits that align with the mindset conducive to promoting and achieving sustainable development. This model highlights the cultural underpinnings that influence how citizens engage with sustainability efforts and shape broader societal progress towards environmental and social goals.

#### 4. CONCLUSIONS

In light of the analysis, the hypothesis proposed at the outset—that sustainable development tends to achieve higher rates in countries with a specific cultural profile—can be considered verified. Countries with the highest levels of sustainable development are primarily located in Northwestern Europe, a region that shares certain cultural traits which promote sustainability. These countries exhibit characteristics such as strong individualism, a focus on post-materialist values, low power distance, and openness to new ideas, all of which contribute to fostering a sustainable mindset within their societies. The countries leading in sustainable development, according to the SDG Index and Dashboards, include Sweden, Denmark, Norway, Finland, Switzerland, Germany, Austria, the Netherlands, Iceland, and the United Kingdom. These nations are distinguished by their strong commitment to environmental protection, social equity, and economic stability—pillars of sustainable development. Their cultural orientation toward quality of life, rather than material wealth, coupled with a willingness to embrace innovation and egalitarianism, supports their progress in sustainability. This pattern underscores the importance of cultural factors in determining how societies approach and implement sustainable practices. The leadership of these Northwestern European countries in sustainable development highlights the role that cultural context plays in shaping environmental and social outcomes on a national scale.

Sustainable development is closely correlated with the core values guiding the societies of highly developed countries, particularly in Europe. It is also a product of the re-evaluation of social and economic realities, which led to the emergence of the concept of sustainability. European countries, being some of the most economically privileged in the world, have seen the basic needs of their populations met for several generations. This economic security has created the space for the rise of higher-order needs, such as environmental protection, social equity, and long-term sustainability, which are central to the concept of sustainable development. However, the Western understanding of sustainable development may not yet be a universal goal, as the priorities and needs of countries at lower levels of development often differ significantly. In many developing nations, immediate economic and material needs take precedence over long-term sustainability concerns, as basic issues like poverty, infrastructure, and access to resources are still unresolved. Furthermore, the values that underpin sustainable development in Western societies—such as individualism, post-materialism, and environmental stewardship—are not always shared or prioritized in these regions. This divergence suggests that sustainable development, as conceptualized by Western standards, might not fully align with the values and needs of other regions, particularly those that are still focused on economic growth and meeting basic human needs.

As a result, the global pursuit of sustainability may require a more nuanced approach that accounts for differing cultural values and developmental stages across nations. The assertion that socio-economic reality and the ecological environment will achieve a sustainable balance in the Eurocentric sense when the world adopts European values is intentionally provocative. It is not meant to suggest that European values should be imposed on other cultures, nor does it imply that less developed or developing countries must replicate the models of Europe and other highly developed nations to achieve sustainability. Instead, the statement highlights that while European values have played a significant role in shaping the concept of sustainability, the path to achieving global sustainable development is far more complex. The true foundation of sustainable development lies in addressing the unique needs and challenges of individual communities. Achieving a global balance requires localized actions that are tailored to the specific circumstances of each region, recognizing that sustainability looks different in every context. The values that will drive real progress toward sustainability are those that resonate with the local population, acknowledging their developmental stages, cultural heritage, and socio-economic realities. In essence, sustainable development cannot be a one-size-fits-all approach. Instead, it must be rooted in a flexible, context-driven strategy that respects the diversity of values and needs across the globe. Real change can only occur when local actions are informed by local conditions and supported by values that align with the goals of sustainability in each particular setting, rather than being measured against a singular, Eurocentric standard.

#### REFERENCES

- Cameron, K.S., & Quinn, R.E. (1999). *Diagnosing and Changing Organizational Culture*. The Jossey-Bass, Addison-Wesley Publishing Company, San Francisco.
- Dahl, A.L. (1997). The Big Picture: Comprehensive Approaches. In Moldan, B., Billharz, S., & Matravers, R. (Eds.), *Sustainability Indicators: A Report on the Project on Indicators of Sustainable Development*. SCOPE 58. John Wiley and Sons, Chichester.
- Deal, T., & Kennedy, A. (1982). *Corporate Cultures: The Rites and Rituals of Corporate Life*. Addison-Wesley Publishing Company.

- Department of the Environment, Transport and the Regions (DETR). (1999). *A Better Quality of Life: A Strategy for Sustainable Development for the UK*. DETR, London.
- Grimm, J.W. *The Peasant's Clever Daughter*.
- Hametner, M., & Steurer, R. (2007). Objectives and Indicators of Sustainable Development in Europe: A Comparative Analysis of European Coherence. *ESDN Quarterly Report, December*.
- Handy, C.B. (1976). *Understanding Organisation*. Oxford University Press, USA.
- Harrison, R. (1972). Understanding Your Organisation's Character. *Harvard Business Review*.
- Hofstede, G. (1997). *Cultures and Organizations*. McGraw Hill, New York.
- Hofstede, G. (2010). *Cultures and Organizations*. McGraw Hill, New York.
- Holme, R., & Watts, P. (2000). *Corporate Social Responsibility: Making Good Business*. World Business for Sustainable Development.
- Inglehart, R. (2015). *The Silent Revolution: Changing Values and Political Styles Among Western Publics*. Princeton University Press.
- Kubiczek, A. (2014). Jak mierzyć dziś rozwój społeczno-gospodarczy krajów. *Nierówności Społeczne a Rozwój Gospodarczy*, 38(2), 40-56.
- McGuire, S.J.J. (2003). Entrepreneurial Organizational Culture: Construct Definition and Instrument Development and Validation. *George Washington University*.
- Nordhaus, W.D., & Tobin, J. (1972). Is Growth Obsolete? *Economic Research: Retrospect and Prospect, Economic Growth*, Volume 5, 1-80.
- Olsson, J.A., Hilding-Rydevik, T., Aalbu, H., & Bradley, K. (2004). Indicators for Sustainable Development, European Regional Network on Sustainable Development. Paper for Discussion, European Regional Network on Sustainable Development, Cardiff.
- Reigeluth, C.M. (Ed.) (2009). *Instructional-Design Theories and Models. A New Paradigm of Instructional Theory*, Vol. 2. Routledge Taylor and Francis Group, London, New York.
- SDG Index and Dashboards (2016). *A Global Report*.
- United Nations Development Program (UNDP). (1990). *Human Development Report 1990*. Oxford University Press.
- United Nations Development Program. Human Development Reports.
- United Nations General Assembly. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Oslo, Norway: United Nations General Assembly, Development and International Co-operation: Environment.
- Verbruggen, H., & Kuik, O. (1991). Indicators of Sustainable Development. In O. Kuik et al. (Eds.), *In Search of Indicators of Sustainable Development*. Springer-Science+Business Media, Dordrecht.