“Factors influencing countries on their path to sustainable development: implications for organizations”

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FACTORS INFLUENCING COUNTRIES ON THEIR PATH TO SUSTAINABLE DEVELOPMENT: IMPLICATIONS FOR ORGANIZATIONS

Abstract

Nowadays sustainable development is a central concept for our age. It is both a way ofunderstanding the world and a method for solving global problems. It is currently a crucial concept for the world to understand and to implement. This research study focuses on examining the foundations of achieving sustainable development and main factors influencing this process at a national level. The aim is to characterize those factors which influence this implementation process mainly from the economic point of view. However, other noneconomic factors related to human well-being and organizational development are not omitted. Countries' political and legislative environment are also evaluated since they can have significant implications for development of individual organizations conducting their business activities within countries' borders. The focus of examining the topic of countries' sustainable development is on the cross-country comparison. Values of some important indicators are also provided in terms of comparison among selected countries which enables us to explain the reasons for differences in countries' development, as well as predictions for the future. Historical perspective provides data which enable to evaluate influence of selected factors in terms of countries' path to achieving sustainable development.

Keywords sustainable development, well-being, economic development, cross-country comparison, implications for organizations

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INTRODUCTION

Sustainable development is the most important concept of our age. It is no longer just a domain of governments striving to improve the environment of their countries, but it becomes more and more the duty of enterprises in private sector. Businesses influence the evolvement of sustainability as a concept and soon the responsibility for sustainable progress will shift to organizations and their leaders. Currently, sustainable development has become an important issue for all citizens of this planet, however, it remains a challenge for leaders worldwide to accept and orient their activities on. Practical implementations of sustainable measures are still extremely difficult. Sustainable development as a concept is not just a theoretical approach to view to world and its issues through the new lens, but it is also a set of guidelines to solve various challenges the world faces now, which will only grow and become more difficult to tackle. Therefore, sustainable development is a vital model for the whole mankind to recognize, to pay attention to and furthermore, to put into practice at state leaders' level and at individual enterprises' level.

The future is highly uncertain. Therefore, it is even more important to ensure that the current rate of progress will not overshadow the potential for progress of future generations. The concept of sustainability grows in importance since it provides answers to the questions that arise in the current world. The three dimensions of sustainable development are its main pillars. They include economic and market conditions providing potential for achieving individual competitiveness, environmentally conscious resource consumption and socially oriented issues such as the development of human capital and mankind's quality of life and access to basic social services (Seliger, 2012; Tikhomirova, 2016; Holmberg & Löfstedt, 2016; Rizzo et al., 2016; Leidig et al., 2016; Banani et al., 2016; Wennersten, 2016). Sachs (2014) declares that "sustainable development is a way to understand the world the complex interaction of economic, social, environmental, and political systems. Yet it is also a normative or ethical view of the world, a way to define the objectives of a well-functioning society, one that delivers well-being for its citizens today and in future. The basic point of sustainable development in that normative sense is that it urges us to have a holistic vision of what a good society should be. The easy answer for many people is that a good society is a rich society, where higher incomes are the ultimate purpose of economic and political life. Yet something is clearly too limited with such a view. Suppose that a society was rich on average because one person was super-rich, while the rest were in fact very poor. Most people would not regard that as a very attractive society, one that is bringing well-being to the population. People care not only about the average income, but about the income distribution as well". Those are just a few examples of how sustainable development affects ordinary people who live in their corresponding societies and communities. One of such communities where people belong during their lives are also enterprises where they work. Therefore these organizations affect peoples' lives in a highly significant way (Moro, 2016; Erkul et al., 2015; Kožárová, 2016; Veselovská & Cheung, 2014).

Organizations are social and economic systems where people play the dominant role. No system created by human beings or system formed with people as its basic elements can be entirely sustainable. The organization as a system consists of two main elements:

1. An internal structure as a static aspect of the enterprises, usually represented by an organizational structure.

2. Internal processes as a dynamic aspect of the enterprises in a system (Závadský & Hiadlovský, 2014; Shi et al., 2016; Kelly, 2004; Závadský & Závadská, 2014; França et al., 2016; Donia & Sirsly, 2016; Voegtlin & Greenwood, 2016; Chen et al., 2016; Al Mamun & Hasan, 2017).

Every social system included in an organization is target-oriented. The internal structure and internal processes are ordered for the best fulfilment of the stakeholders' objectives. Recently the set of stakeholders have included a wider range of subjects, which brought various changes (Saha et al., 2017). The influence organization has on its surroundings is clearly becoming an important issue. On the other hand, the influence the environment has on each organization has been studied considerably (Snyder, 2015; Ahlrichs, 2012; Gatarik & Born, 2015; Bulc, 2012; Hafezalkotob, 2017; Quarshie et al., 2016; Daldanise, 2016; Bertacchini & Segre, 2016; Roh et al., 2016). However, these studies offer microeconomic perspective on this issue, since their focus of attention is a individual organization, usually from a private sector. Our study aims to offer a new perspective using the lens of macroeconomic indicators specifically selected for the needs of describing implications for organizations in terms of sustainable development, therefore enabling us to consider a narrower and more targeted set of indicators to measures selected issues.

This current civilization and its surroundings are shifting at an extraordinary speed. Swift manufacturing growth and monetary expansion caused mainly by astounding innovations in knowledge are often sadly taking place at the cost of environment (Rahimifard et al., 2013; Henning & Henning, 2013; Kılkış, 2016; Sudarto et al., 2016; Nyerges, T. et al., 2016; Estapé-Dubreuila et al., 2016; Ait-Kadi, 2016; Wey et al., 2016; Campolo et al., 2016). The current transition toward sustainable lifestyles has brought significant challenges for organization, on the other hand, solutions can also be found, provided that managers demonstrate their

commitment and give focus to issues involved with adopting the concept of sustainability in their organizations. One possibility to engage leaders in the development of innovative sustainable methods and tools is to offer encouragement to these topics from national level. The responsibility of governing boards is to provide support for international cooperation with the aim of slowing down the rapidity of expansion and mainly its undesirable and even destructive consequences. State leaders worldwide deal with these issues in a variety of diverse ways. Nowadays, countries that uphold sustainable goals frequently take up economic incentives and deterrents to influence the implementation of desirable measures of enterprises' leaders and owners. This study explores the possibility of quantitative measurements of factors influencing sustainable development and consequently derives a set of implications for organizations based on achieved results.

Historically the main focus of sustainable development studies was on economic factors influencing countries' ability to transform their business environment and guide it towards its sustainability (Blachfellner, 2012; Veselovská & Cheung, 2014; Shnayder et al., 2016; Lortiea et al., 2016; Anholon et al., 2016). However, more recently other factors have become the focus of various authors (Bardy, et al., 2015; Schneider et al., 2013; Purtik et al., 2016; Hashemi & Ghaffary, 2017; Lukman et al., 2016; Chin & Jacobsson, 2016; Hasan & Langrish, 2016; Nikolayev & Sazonov, 2015; Shambare & Shambare, 2016).

This study aims to describe various implications these factors may have for individual organizations. The main goal of this research is to characterize and compare those factors which influence the implementation process of sustainability at a national level and withdraw implications this process may have on individual organizations. Fifty indicators were selected to represent five main areas of external influence on organization. A methodology was developed in order to combine and calculate the values of selected indicators to enable comparisons.

1. METHODOLOGY

The main aim of this paper is focused on analyzing factors influencing the implementation process of sustainability at a national level. Based on the results of this analysis, implications this process may have on individual organizations can be described.

We used secondary data from the World Bank data sets. Fifty indicators were selected to represent five sets of factors: political, economic, social, technological and ecological factors. Each area of influence consists of 10 indicators which were selected in accordance with the sustainable development goals and needs of this study. The set of indicators used is provided in Table 1. Each indicator was assigned a specific label in order to shorten its application in the formulae.

In order to enable global comparisons, a methodology was developed as shown in Figure 1. Countries were sorted into 5 main regions: Europe, Asia, America, Australia and Africa. An average value of

Formulae (1) – (6) were used for calculations:

$$SDI_P = QPA_i - ETE_i + EED_i + LPE_i - MAE_i - PBW_i - TEC_i - TOL_I - TRP_i - TSB_i, \quad (1)$$

$$SDI_E = ANI_i - CGD_i + GPG_i + GIN_i - IMS_i - LTU_i - NAR_i - UNE_i - ICP_i + FDI_i, \quad (2)$$

$$SDI_S = ASP_i + AEP_i - CDD_i + CHW_i + SPR_i + GET_i + HEP_i + LRY_i - PTR_i + SSW_i, \quad (3)$$

$$SDI_T = AEL_i + COC_i + GVA_i + HTE_i + TCG_i + LPQ_i + MCS_i + RDE_i + RRD_i + SVA_i, \quad (4)$$

$$SDI_G = -SCD_i + ERS_i - MEE_i + REO_i + REC_i + PRA_i - TEL_i - UPG_i + COE_i + ANF_i, \quad (5)$$

$$SDI_r = SDI_P + SDI_E + SDI_S + SDI_T + SDI_G. \quad (6)$$

Table 1. Indicators

No.	Area	Indicator	Label
1	Political	CPIA quality of public administration rating (1 = low to 6 = high)	QPA
2		Emigration rate of tertiary education (% of total tertiary educated population)	ETE
3		Expenditure on education as % of total government expenditure (%)	EED
4		Logistics performance index: efficiency of customs clearance process (1 = low to 5 = high)	LPE
5		Military expenditure (% of GDP)	MAE
6		Procedures to build a warehouse (number)	PBW
7		Time required to enforce a contract (days)	TEC
8		Time required to obtain an operating license (days)	TOL
9		Time required to register property (days)	TRP
10		Time required to start a business (days)	TSB
1	Economic	Adjusted net national income per capita (annual % growth)	ANI
2		Central government debt, total (% of GDP)	CGD
3		GDP per capita growth (annual %)	GPG
4		GINI index (World Bank estimate)	GIN
5		Imports of goods and services (annual % growth)	IMS
6		Long-term unemployment (% of total unemployment)	LTU
7		Net official aid received (constant 2013 US$)	NAR
8		Unemployment, total (% of total labor force) (national estimate)	UNE
9		Inflation, consumer prices (annual %)	ICP
10		Foreign direct investment, net inflows (% of GDP)	FDI
1	Social	Adequacy of social protection and labor programs (% of total welfare of beneficiary households)	ASP
2		Adjusted net enrolment rate, primary, both sexes (%)	AEP
3		Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions (% of total)	CDD
4		Community health workers (per 1,000 people)	CHW
5		CPIA social protection rating (1 = low to 6 = high)	SPR
6		Gross enrolment ratio, tertiary, both sexes (%)	GET
7		Health expenditure, public (% of government expenditure)	HEP
8		Literacy rate, youth (ages 15-24), gender parity index (GPI)	LRY
9		Pupil-teacher ratio in primary education (headcount basis)	PTR
10		Specialist surgical workforce (per 100,000 population)	SSW
1	Technological	Access to electricity (% of population)	AEL
2		Communications, computer, etc. (% of service exports, BoP)	COC
3		Gross value added at factor cost (current US$)	GVA
4		High-technology exports (% of manufactured exports)	HTE
5		Technical cooperation grants (BoP, current US$)	TCG
6		Logistics performance index: competence and quality of logistics services (1 = low to 5 = high)	LPQ
7		Mobile cellular subscriptions (per 100 people)	MCS
8		Research and development expenditure (% of GDP)	RDE
9		Researchers in R&D (per million people)	RRD
10		Services, etc., value added (annual % growth)	SVA
1	Ecological	Adjusted savings: carbon dioxide damage (% of GNI)	SCD
2		Electricity production from renewable sources, excluding hydroelectric (% of total)	ERS
3		Methane emissions in energy sector (thousand metric tons of CO2 equivalent)	MEE
4		Renewable electricity output (% of total electricity output)	REO
5		Renewable energy consumption (% of total final energy consumption)	REC
6		Terrestrial and marine protected areas (% of total territorial area)	PRA
7		Time required to get electricity (days)	TEL
8		Urban population growth (annual %)	UPG
9		CO2 emissions (kg per PPP $ of GDP)	COE
10		Access to non-solid fuel (% of population)	ANF

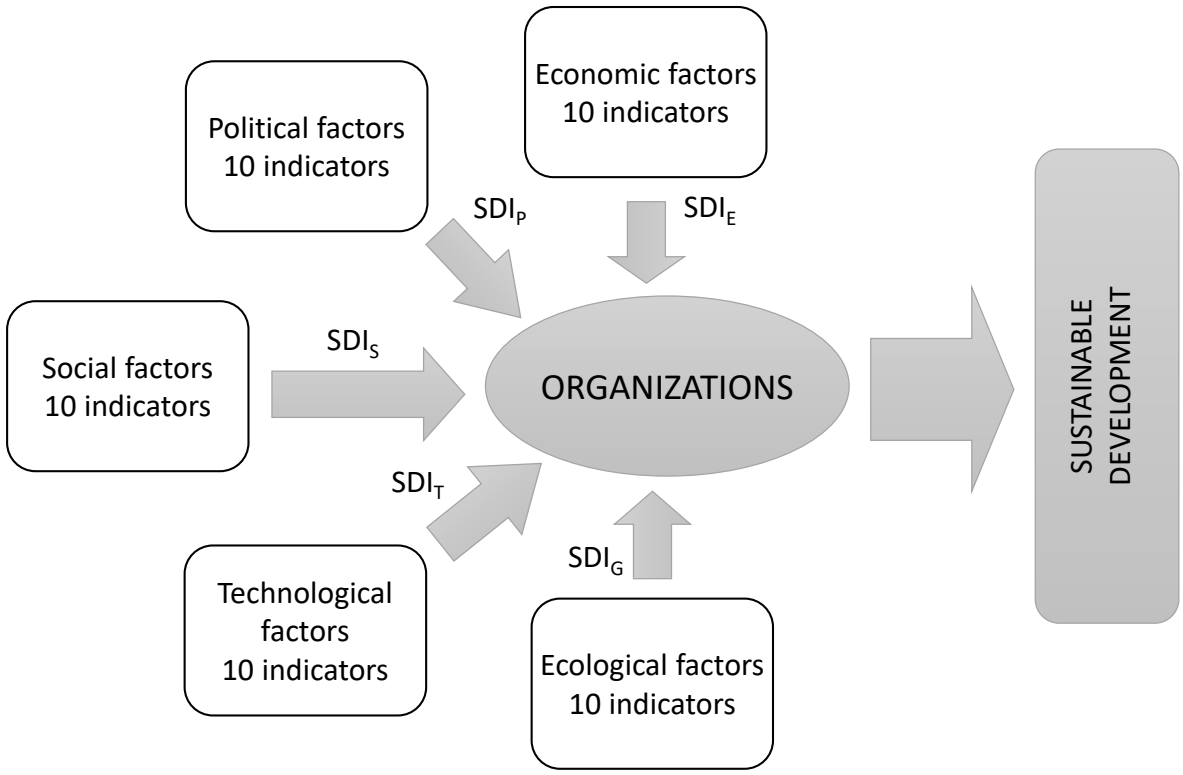

Figure 1. Methodological approach

each indicator was calculated based on regional criterion. Moreover, we calculated with changes in values of indicators. The period between years 2000–2015 was considered.

Missing values of indicators were treated as if no change has occurred; therefore the index for that country was assigned value 1. Consequently, comparisons were performed. Based on these results, various implications for organizations were drawn for each region and area of influence.

2. RESULTS AND DISCUSSION

The main aim of this paper is to characterize and compare those factors which influence the implementation process of sustainability at a national level and withdraw implications this process may have on individual organizations. The results are provided in Table 2.

Sustainable development is a complicated issue and every organization is by itself a complex interconnected set of relations. Moreover, throughout this analysis, we cannot omit its outer interactions in regional economy and even more importantly in the world economy. In order to embrace such complexity, we need to look at various factors which influence the whole countries. Based on the data provided in Table 2, findings can be drawn in terms of implications for organizations operating in each region. Firstly, we focus on drawing comparisons among selected regions in each area of sustainable development. The values of individual

Table 2. SDI partial indicators results

Area	SDI_P	SDI_E	SDI_S	SDI_T	SDI_G
Europe	1.2807	0.6154	1.9117	1.3935	2.5573
Asia	1.0039	–0.2878	–1.7604	1.0307	1.0041
Africa	0.9841	–0.5683	–2.1975	0.6657	1.1926
America	1.1806	0.5529	0.3786	1.1321	0.6567
Australia	1.3916	0.3391	1.9337	1.2699	1.0344

indicators specify the sustainable development progress each region achieved during the time period 2000–2015.

Table 2 provides information about the progress in political area. The highest achievement was marked in Australian region. On the other hand, the most problematic region was Africa. The growing scale of the challenge in African countries is especially problematic in political area.

However, the values of SDI_P indicators vary the least among the regions. The differences in political progress on the path to sustainable development among regions are not so significant in comparison to other areas of sustainable development.

These findings do not represent the progress of individual countries within their designated regions. Indicators consider the region as whole, therefore, enabling drawing conclusions about the state of political environment in that specific region which organizations operating within the borders of that region have to cope with. The political environment can have a significant impact on decisions of entrepreneurs. Essential factor for achieving sustainable development is politics. This area of sustainable development is mostly governments' responsibility. The responsibility of country's management cannot be overstated. Legislative decisions and their execution in practice have both positive and negative consequences for organizations, which can only strive to mitigate the negative effects. However, there can be organizations who can gain advantage even from such challenges. It is the responsibility of governments to perform many essential functions which should enable their countries to become prosperous. They include the provision of important public services both for organizations and individual people such as schooling and healthcare; the provision of means of transportation of goods, services and people; the defence of citizens from criminal activities which can be harmful to their health and property; the support of essential knowledge and innovative technologies; and the execution of policies to care for the environment. However, this set of services is just a brief overview of what organizations and people around the world expect from government of their country. In reality, people have to deal with more negative aspects of governmental activities such as revolts, dishonesty, bribery and absence of much needed public goods and services. Overall, good administration and governance should not only mean countries' high level leaderships, the global enterprises have already become very influential players. Well-being of all members of society is directly influenced by how these global enterprises respect the rules of both legislative and environmental nature. Nowadays, not only governments can influence the lives of their citizens, but also these powerful organizations have direct effects on lives of communities they operate in. Such influence can no longer be ignored, whether it is positive or negative. Business and profits are no longer an excuse for exploiting the people or environment. However, many organizations still seek to find loopholes which they can use to go around or even break the law. The change towards sustainable development in political area will not come until these organizations do not take responsibility in the process.

The values of indicators of economic progress of sustainable development show significant differences among selected regions. Data provided in Table 2 indicate that the highest rate of progress in economic area of sustainable development was in European region. However, American countries followed closely behind. Once again, African region proved to be the most problematic one. However, Asia did not proceed so well either.

The economic area of sustainable development can be considered the most significant for organizations. On the other hand, it can also prove to be the most challenging. The fundamental point of sustainable development in its normative sense is that it urges us to look at what a good society should be like through a new lens. The obvious choice would be that the best country to live in is the wealthiest one, where superior incomes are the essential aim of both public and private organizations. However, based on our data, we can conclude that such opinion is not necessarily the right one. Our calculated SDI_E in economic area also includes the factor of how are such incomes distributed among citizens of states corresponding to this region through the GINI coefficient.

The economic area of sustainable development also includes achievement of economic growth through application of sustainable measures in

organizations. In case of public organizations, the goal is to create and nurture business climate that provides necessary incentives for private organizations to uphold the law and to go even further in their persuasion of sustainability. Special treatment should be offered to those enterprises that are willing to operate in accordance with corporate social responsibility.

The social area of sustainable development can arguably be characterized as the most complex one. There are regions which have made a significant progress such as Europe and Australia; however, there are regions which stagnate such as Asia and

Africa. This indicator SDI_S provides a holistic image of what an excellent society should be like. That does not only include the basic necessities each government is responsible for provided for its people, but moreover, it should mean creating a social responsible society, where the responsibility of community development is not overshadowed by economic growth. However, the situation in a lot of states differs from this ideal. In many regions of the world, the underprivileged people seek basic resources needed for their continued existence with great difficulty. Quite often their access to these essentialities is hindered by many issues which are difficult to overcome. On the other hand, people with higher incomes in more developed countries use technologies to further expand their economic progress and achieve better perceived quality of life. Enterprises often tend to neglect the fact that they operate in environment which includes stakeholders from outside of their organization. Very few of them understand the need and the benefits of being socially responsible. Often the lack of funds is the main excuse for such neglect. These organizations simply focus on the struggle for their position on the globe's rankings of most money-making organizations.

Examining the technological factors of sustainable development progress in a particular region is arguably the most straightforward process. Only small differences among regions occurred, since the majority of regions had the value of this indicator 1.21 in average, with the obvious exception of Africa. In terms of technological progress, governments in all regions create and nurture the environment where technological growth takes place. It is their responsibility to create such conditions that organizations have access to basic infrastructure to run their business operations smoothly. However, this does not only include the material infrastructure, but also even more importantly access to services provided transportation of goods and people, communications and the latest technological inventions. That is not the case of many countries. Therefore, organizations struggle to bring their products to customers at a desired quality.

On the other hand, it is often the organizations themselves that are initiators of significant technological changes which lead to growth of not only those organizations, but also whole industries. Such growth can be both advantageous and harmful for country's economy depending on its secondary effects on other aspects of development.

Currently, global communities and environments are evolving at an extraordinary tempo. Economic progress was the main focus for a very long time. However, as we come to learn more about the biological and physical boundaries of our planet and the consequences of our actions, the rising extent of the challenge we are already facing is becoming more apparent. The highest rate of progress in ecological area of sustainable development was achieved in European region. The difference between this region and all of the others is significant. Surprisingly, the least progress in improving the environmental effects of development was done by American countries. However, extremely important factor of growth which needs to also be considered is the impact which the activities of organizations have on the environment. The continuously increasing utilization of resources, planetary ecological problems and rapidly increasing population should compel countries and enterprises to focus more attention on measure which provide more sustainable solutions targeting environmental aspects of business activities. Enterprises are considerably challenged to change their operations to become more complacent with these recent tendencies because they are the key players in resource consumption and greenhouse gas emission. Values and orientation of profit management have to be changed to accommodate more sustainable activities with less harmful effects on local and international surroundings.

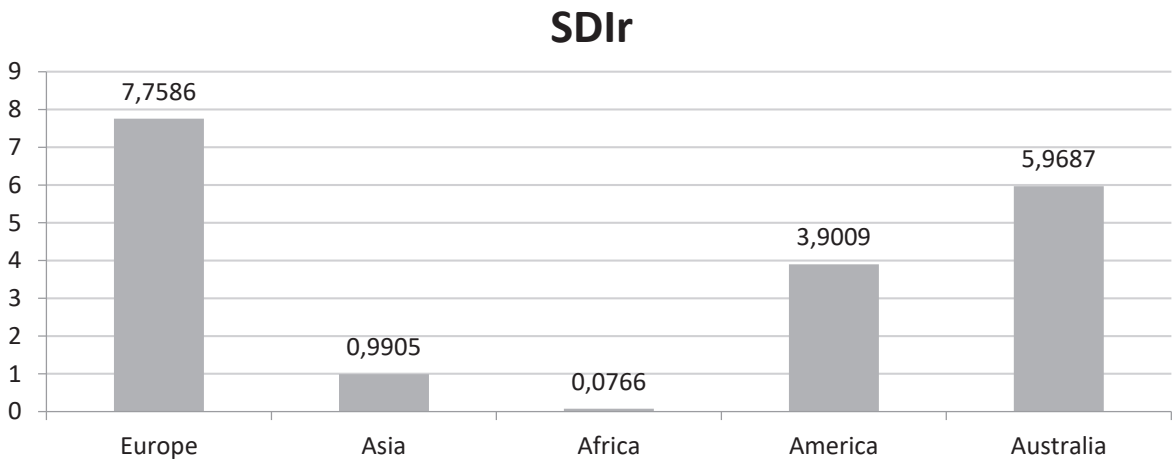

Figure 2. Overall SDI indexes

Moreover, a complex indicator was calculated in order to compare the progress of every region on their path towards the sustainable development. The overall indexes of sustainable development progress for each region are provided in Figure 2. The data provided illustrate the scale of differences among regions. We can observe how well-developed regions such as Europe and Australia have progressed significantly. On the other hand, Asia and Africa struggled.

The progress in the direction of sustainable development and its complement – the corporate social responsibility which should also be implemented by enterprises, has become an important factor in many countries. Recently, more and more attention is diverted to issues such as quality of life and environmental protection. Our results provide evidence to these assumptions. It has become clear that organizations currently have to focus not only on making a profit.

There are other implications which can be drawn from the comparison among values of indicators for each region. For instance, in Europe, the quality of public administration is ranked very high, however, organizations also have to face a high rate of bureaucracy in public institutions. Time required to start a business is still high in many European countries, which hinders the progress and can serve a deterrent for formation of small businesses. Social inclusion is a complicated issue in many European and American countries; therefore, organizations operating in these regions should focus more on selecting employees from marginal groups living in their regions. In American countries, organizations face well-developed and sustainable political and economic environment, however, social area of sustainable development has not yet progressed satisfactory. Health issues are the most serious problem in African region. Moreover, organizations operating in this region face severe problems that they would not have to cope with in other regions. Africa is the most problematic region in terms of sustainable development. The complexity of problems in this region of the world requires a certain complexity of thinking as well. It is a mistake to believe that sustainable development problems can be boiled down to one idea or one solution.

World's most significant asset is its people. It is not just about the size of country's population, but also about its quality. Countries should pay more attention to education and other development of its people, since they are the main source of any change or innovation. Country's potential for sustainable grow lies in its capital, however, it's drivers and deterrents are people who manage it. The same principle applies in terms of organizations. On the other hand, implementation of effective managerial measures and good stewardship of natural environment remains a neglected issue by many organizations and governments.

Nowadays, practical strategies for utilizing different measures in all analyzed areas of sustainable development still remain vague, even in the face

of many proofs regarding the sustainable development and its link with enterprises' business strategies. The implications drawn from this research may provide more accurate evidence in terms of cross-regional comparison. Moreover, the essential advice related to all organizations regardless of location is to focus not only on outcomes, but also on processes which help to achieve them.

One of the most challenging needs that must be integrated into enterprises and their activities in order to secure the sustainability of their growth are requirements of stakeholders. Nowadays, they do not include only achievement of high profits. Opinions and needs of all stakeholders must be taken under close consideration, even those that seem in opposition of organization's objectives especially in social and ecological areas. Achievement of sustainable development in organizations is a continuous process which requires organizations to optimize their actions and to take a more proactive role in their communities, which requires a new way of thinking not only about business, but also society as a whole. The key instruments of these changes are organizations in private sectors. Managers and owners of such organizations have to deal with many difficult challenges not only at economic levels, but also at a human level and conquer them effectively. Globally business organizations are key players in society's responsibility to support and maintain fairness on global markets. With the goal of creating a functioning global economy operating on principal of social responsibility, these enterprises have to develop a business environment respecting and operating on principles of subsidiarity and solidarity. However, such change is not an easy one. It requires a considerable shift in thinking of both the world leaders and leaders of global organization. Benefits of such change will not show themselves immediately, they will become apparent only after a long time period. Such recommendation is a sound advice; however, its realization in practice is and in near future will remain a great challenge.

CONCLUSION

Sustainability in all characterized dimensions has become a guideline for mankind's future existence on this planet. The emphasis can no longer just be on competing based on achieved profits. Other factors have to be taken into account, such as quality of education for all ages, sustainable consumption of resources, good and accessible healthcare for everyone and so on. The global focus should not be only on these individual aspects of sustainable development, but also on their conjunction and cooperation. Such inclusion would create global systems which are able to support themselves and collaborate on joint projects of sustainable development and, therefore, exercise control of real progress should it reach undesirable or even harmful levels.

The main aim of this paper was to characterize and compare those factors which influence the implementation process of sustainability at a national level and withdraw implications this process may have on individual organizations. A methodology was created in order to examine and compare difference among regions. Analyzed factors were divided into 5 areas of influence: political, economic, social, technological and ecological. An overview was provided of the most significant factors shaping country's potential to achieve sustainable development. Our findings do not take into account individual differences among countries within specific region; however, the provided view was focused more on cross-regional comparisons and can serve global organizations that do not concern themselves with environment of just one country, but have to deal with challenges from various countries often within the same region. Furthermore, our findings emphasize significant differences among regions.

Similar results were also achieved by other authors in their studies, however, not on such a large scale. While our studies focus on whole world divided by regions, other studies focus on a specific region/country (Hashemi & Ghaffary, 2017; Guillen-Royo et al., 2017) or the focus of their research is on isolated issues of sustainable development (Zambon et al., 2017; Chang & Finkbeiner, 2016; Pronyk et al., 2012).

One limitation of our study is its scope. Many factors are important since they influence country's growth and its sustainability. Complex and detailed analysis of all factors would be a good idea for a future research whilst this paper can serve as its foundation with the emphasis on approach used to calculate and compare data. Created methodology has various further applications. For instance, it can be used to perform cross-national comparison among specific countries. Another possible application can have its basis in historical approach to comparisons. Based on the availability of raw data, an image of sustainable development of selected country can be created for a long time period. This may enable further explorations into specific government's politics and actions of organizations which influence country's development.

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