

CLASSIFICATION AND EVALUATION OF SOCIAL ENTREPRENEURSHIP DEVELOPMENT INDICATORS

Anna Pereverzieva¹, Viktoriia Gryn², Viktoriia Maltz³

Abstract. The *purpose* of the study is to classify and evaluate indicators of social enterprise development for countries with the most favourable conditions for their functioning. *Methodology.* The study uses indices as an assessment tool. The method of grouping indicators was used, which allowed to identify two components of social entrepreneurship development: economic and social. The basis of the analysis is the use of additive, multiplicative and additive-multiplicative models, which allows comparing the results and determining the most effective model for a particular country. To evaluate the development of social entrepreneurship, the Thomson Reuters Foundation report "The best countries to be a social entrepreneur" was used. *Results.* Studies have shown that the highest value of the social enterprise development index is achieved when using different models depending on the country chosen, i.e., if the highest level is achieved when using an additive model (Singapore, Denmark, Chile), this means that the low level of development of one component is compensated for by a higher level of other components. If the highest value is achieved when using a multiplier model (Canada, Australia, France, Belgium, the Netherlands, Finland, Indonesia), then it is important for the country to take into account all development components simultaneously. The additive-multiplicative model allows countries to vary the components and determine how they want to move forward to achieve the highest level of social entrepreneurship development. *Practical implications.* The classification and evaluation of indicators for countries allows to identify "stimulators" and "disincentives" for the development of a social enterprise, as well as to determine the nature of their impact: economic (through material incentives), non-economic (social). This allows each country to develop its own algorithm for implementing such an innovative form of business to achieve maximum effect, i.e., to solve socio-economic problems and increase the level of development in the future. *Value/originality.* In the context of escalating conflicts at both the global and local levels, the number and complexity of socio-economic problems are increasing, and they need to be addressed through the use of creative and innovative methods, as traditional mechanisms have failed. That is why social enterprises are an effective form of business that will allow not only quantitatively but also qualitatively to ensure the achievement of this mission. This research focuses on the factors that influence the development of social enterprises and can be used by countries to formulate public policies to support this innovative form of business.

Key words: social entrepreneurship, additive model, multiplicative model, additive-multiplicative model, economic component, social component, index, social entrepreneur.

JEL Classification: L31, O11, O15, C13

1. Introduction

Economic development is characterised by significant changes in relations between countries, the struggle for resources, and military conflicts. The above certainly affects the development of countries that are direct participants in the events, and even those that are indirectly involved. Indeed, the modern world is characterised by the interaction and

intertwining of socio-economic development. This not only exacerbates existing social problems, but also creates new ones that require innovative approaches to address, as the state is unable to cover the entire spectrum. That is, social enterprises are change agents that can take on this function and, as an innovative form of management, ensure the effectiveness of solving socio-economic problems.

¹ Zaporizhzhia National University, Ukraine (corresponding author)
E-mail: pereverzeva@ukr.net

² Zaporizhzhia National University, Ukraine
E-mail: viktoriya_grin@ukr.net

³ Zaporizhzhia National University, Ukraine
E-mail: ma.viktorija@ukr.net



The results of the study show that the choice of a model for assessing the development of social entrepreneurship is determined by the characteristics of the country, since for some countries the economic component is crucial, while for others the social component is dominant. Taking into account the use of different models depending on the selected country, it was determined that the highest level of social entrepreneurship development is achieved when using the additive model (Singapore, Denmark, Chile), multiplicative (Canada, Australia, France, Belgium, the Netherlands, Finland, Indonesia) and multiplicative (Canada, Australia, France, Belgium, Finland, Indonesia) models. The additive-multiplicative model allows countries to vary the components and determine how they want to move forward to achieve the highest level of social entrepreneurship development.

The article follows a cogent and coherent structure. The study's methodology is presented, thoroughly tested and validated. The article concludes with an explanation of the findings and suggests possibilities for future research.

2. Theoretical Aspects of the Study of the Concept of "Social Entrepreneurship"

Significant attention to such a form of business as "social entrepreneurship" is justified by the importance and number of social problems that arise in society on a daily basis and cannot be fully resolved by the state alone. The issue of an effective combination of market mechanisms and public policy levers on a new qualitative basis is becoming relevant, which stimulates the emergence of new innovative business models capable of implementing certain initiatives using creative approaches and decision-making methods.

Experts in the field of social entrepreneurship focus on creating an ideal model of social business (Gauthier, Shanahan, Daudigeos, Ranville, Dey, 2020), which would take into account the national characteristics of the business environment and allow the entrepreneur to receive rewards and realise his or her potential. After all, according to most scholars, the success of this form of business depends on the individual entrepreneur.

As mentioned above, the functioning of social enterprises and their effectiveness determine the ability to solve the problem of poverty reduction and meet the priority needs of the population in the country (Farinha, Sebastião, Sampaio, Lopes, 2020, p. 77–78). In addition, according to scholars (Agustina, Budiasih, Ariawan, Gorovoy, 2020, p. 258), social entrepreneurship is important because it forms the basis for economic growth, although it requires significant support from the state (Sahasranamam, Nandakumar, 2020, p. 105).

In the scientific literature, there is a point of view among scholars that social entrepreneurship is limited in function and solves social issues in an innovative way, but does not take into account the impact on self-realisation and self-improvement of social entrepreneurs (Konovalova, Kharynina, 2016, p. 461).

But it all depends on the country. For example, as noted by scholars (Lunkina, Ivanenko, 2019, p. 143), in most EU countries, the state creates an environment to support and implement social entrepreneurship initiatives.

A significant number of scholars (Dahiya, 2019) consider the inability of the state to meet social needs and the imperfection of the market mechanism to be the reasons for the emergence of social entrepreneurship.

In view of the above, there is a widespread opinion in academic circles (Corner, Kearins, 2018, p. 2) that it is necessary to increase the geographical scale of growth and spread of social enterprises' activities, which will increase the volume of social problems solved. In other words, there is a correlation between the number and spread of social enterprises and the number of social issues addressed.

An important issue for social enterprises, which is the focus of attention of theorists and practitioners (Prochazkova, Noskova, 2020), is performance evaluation, plan development, and forecasting, which requires the definition of criteria that differ from the evaluation of traditional business performance (Kozhemyachenko, Solosich, Golub, 2020, p. 140). The difference lies in the fact that the analysis and forecasting of a traditional enterprise is focused on the economic assessment of the result, while for a social enterprise, the focus is on social efficiency (Zulkefly, Ghan, Alquliti, 2019, p. 2).

The issue of the need to spread social entrepreneurship is becoming more relevant, which requires improving the education system (Byungchae, 2020, p. 2; Horishna, 2016, p. 59) to facilitate the training of "innovators" and "managers" rather than the development of skills of an ordinary "worker", which is typical for most countries. According to experts (Roslan, Hamid, Ijab, Bukhari, 2019, p. 39), special training centres with a practical focus are one way to solve this problem.

A critical review of the literature on the theoretical substantiation of the concept of "social entrepreneurship" and the peculiarities of its interpretation and awareness of its significance for today confirms the need to launch and stimulate the development of social enterprises as innovative creative forms of management that are able to solve problems that are difficult for traditional forms of management.

Classification and evaluation of social entrepreneurship development indicators requires

testing certain hypotheses. In the framework of this study, the following have been identified:

H1: The dominance of the economic and social components in the development of social entrepreneurship varies from country to country.

H2: The use of analytical tools for evaluation is determined by the need to take into account all components of social enterprise development or to compensate for low values of indicators at the expense of high-level indicators.

3. Methodology

To conduct the research and assess the level of social entrepreneurship development, the materials of the Thomson Reuters Foundation's report "The best countries to be a social entrepreneur" were used. Data from countries that are among the top ten leaders in terms of social entrepreneurship development are used. The key components of the overall indicator are grouped into economic and social components. Economic support includes: state support – X_1 , social entrepreneurship as a means of generating income and supporting livelihoods – X_4 , accessibility to investment resources – X_6 . The social component is characterised by the following elements: attracting qualified personnel – X_2 , public perception, i.e., public awareness of the purpose of social entrepreneurship and its importance – X_3 , spread of social entrepreneurship – X_5 .

The indicators of social entrepreneurship development that influence it ($X_i, i = \overline{1,6}$) are qualitative variables and are measured in percentage units. For quantitative analysis, the indicators as a fraction of one are transformed into indices (Table 1).

According to the authors, these indicators should be grouped according to the nature of the impact, and distinguished as follows:

Economic:

X_1 – state policy to support social entrepreneurship;

X_4 – a way to "make a living", a source of income;

X_6 – investment accessibility.

Social:

X_2 – attracting qualified personnel;

X_3 – the perception of this form of entrepreneurship in society is characterised by the introduction of the principles of the green economy;

X_5 – the speed of growth and popularisation of this form of business.

Based on theoretical studies of such an innovative form of business as social entrepreneurship, taking into account the peculiarities of its functioning, it is suggested that the structure of development indicators should be considered through a system of integrated components (Figure 1).

The suggested conceptual methodology for evaluating the social entrepreneurship index permits the consideration of the multifaceted nature of the socio-economic model.

It should be emphasised that the interrelationships between the components reflect the main content of the processes of socio-economic development of entrepreneurship.

As a first model, consider the additive model, which involves achieving a balance between indicators by compensating for low values of some indicators with higher levels of others. This model gives the highest result, but does not allow to determine the contribution of each component to the overall development.

To calculate the sub-indices that define the components of social entrepreneurship development based on the additive model, certain mathematical dependencies are used (Formulas 1-2).

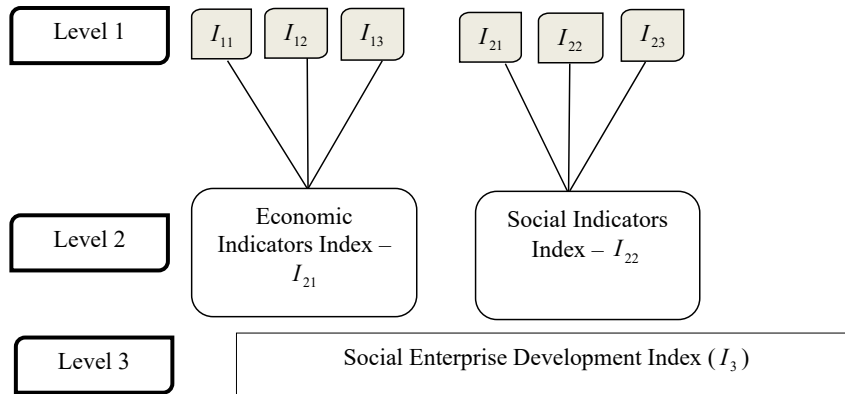
$$I_{soc} = \frac{\sum_{i=1}^n I_i^{soc}}{n}, \tag{1}$$

Table 1

The level of country's favourability for social entrepreneurship development and factors of influence (TOP 10)

Countries by rating	Best countries for social entrepreneurship	State policy supports social entrepreneurs	Attracting qualified staff	Public understanding	Source of income	Growth rate	Access to investment
	Y	X_1	X_2	X_3	X_4	X_5	X_6
Canada	0,7187	0,7292	0,6875	0,5625	0,7708	0,9583	0,6250
Australia	0,6450	0,6818	0,5000	0,5417	0,7708	0,8333	0,5455
France	0,6377	0,7083	0,6458	0,4375	0,6250	0,7917	0,5000
Belgium	0,6170	0,7000	0,4773	0,4773	0,6667	0,8409	0,6136
Singapore	0,5972	0,7708	0,2708	0,5000	0,5208	0,8125	0,5000
Denmark	0,5957	0,5455	0,8182	0,5417	0,4545	0,7708	0,3409
Netherlands	0,5896	0,5625	0,5417	0,3958	0,6250	0,7917	0,4773
Finland	0,5860	0,5833	0,7727	0,4375	0,7708	0,6875	0,3636
Indonesia	0,5758	0,5208	0,4583	0,4167	0,5625	0,9167	0,4091
Chile	0,5712	0,5417	0,5833	0,5833	0,4583	0,7917	0,4792

Source: compiled by the authors (The best countries to be a social entrepreneur)



Note: I_{ij} – i -indicator of the j level.

Figure 1. Hierarchical structure of the social entrepreneurship index

Source: compiled by the authors

$$I_{econ} = \frac{\sum_{i=1}^n I_i^{econ}}{n}, \tag{2}$$

where n is the number of indicators used to assess the indicator I_{soc}, I_{econ} .

As a result, the overall index of social entrepreneurship development according to the additive model will look like this:

$$I_{sed} = \frac{I_{soc} + I_{econ}}{2}, \tag{3}$$

where I_{sed} – sustainable development index.

Building a multiplier model makes it possible to take into account all indicators simultaneously. This model is more "rigid", as it does not allow for the possibility of compensating for low values of indicators at the expense of indicators that demonstrate a higher level. In the authors' opinion, it is advisable to use it when it is necessary to take into account all the elements of social entrepreneurship development.

A logical extension of the definition of the components of social entrepreneurship development based on the multiplicative model is the use of appropriate formulas (Formulas 4-5):

$$I_{soc} = \sqrt[n]{\prod_{i=1}^n I_i^{soc}}, \tag{4}$$

$$I_{econ} = \sqrt[n]{\prod_{i=1}^n I_i^{econ}}, \tag{5}$$

where n – is the number of indicators used to assess the indicator I_{soc}, I_{econ} .

Thus, the overall index of social enterprise development according to the multiplicative model is determined using the formula:

$$I_{sed} = \sqrt{I_{soc} \cdot I_{econ}}, \tag{6}$$

where I_{sed} is a social entrepreneurship development index.

The advantage of using a multiplier model is that it makes it possible to take into account and harmonise low and high values of indicators, and determines the degree of correspondence of the calculated social entrepreneurship development index to real conditions. In turn, the use of the additive model leads to the fact that low values of some indicators are compensated for by high values of others, which is reflected in the overestimated value of the social entrepreneurship development index.

Based on the peculiarities of the construction of these models and their theoretical justification, it can be concluded that the additive and multiplicative models are relatively limited. The additive model is characterised by compensating for low values of indicators with high ones, which reduces the objectivity and representativeness of the results obtained. In turn, the multiplicative model is too "rigid" because it requires all elements to be taken into account simultaneously, which is difficult to implement. This limits the possibilities of using such models, but allows for a comparative analysis when studying the development of social entrepreneurship.

In view of the above, it should be noted that an alternative variant of the model is the additive-multiplicative model, which involves the use of an additive model at the second level of the hierarchical structure of the social entrepreneurship development index, and a multiplicative model at the third level (Figure 2).

The relevance of this approach is explained by the fact that within one component (economic, social), the values of indicators can compensate for each other, as they are interrelated within the same component, while the multiplier model is used to determine the social entrepreneurship development index due to the need to take into account the components that

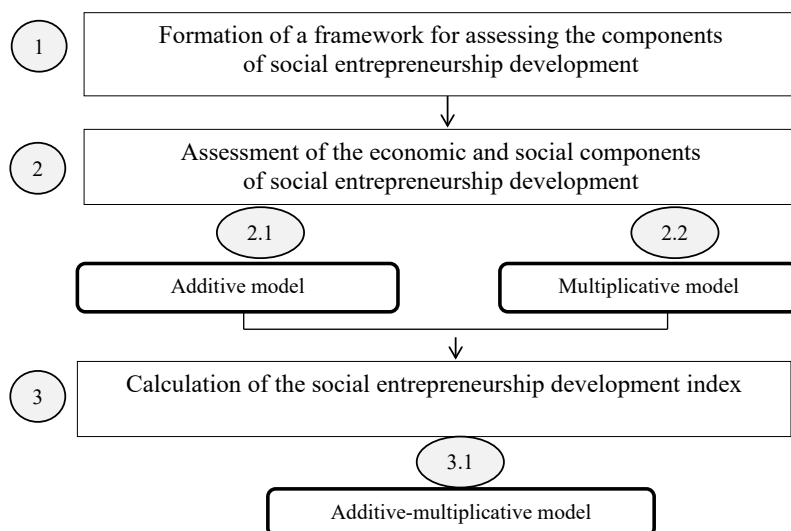


Figure 2. Method of determining the social entrepreneurship development index

Source: compiled by the authors

characterise different aspects of social entrepreneurship development. As a result, the objectivity of development assessment increases.

To build the additive-multiplicative model, a combination of the formulas of the additive and multiplicative models is applied to different hierarchical structures of the social enterprise development index: 1) at the level of determining subindices of development – an additive model (Formulas 1-2); 2) at the level of determining the index of social entrepreneurship development – a multiplicative model (Formula 6).

On the basis of the logical justification and the provided mathematical dependencies, it is possible to provide a scheme for determining the sustainable development index in the form of an algorithm (Figure 2), which includes the following:

Step 1: use of available information to form a basis for assessing the components of social entrepreneurship development;

Step 2: selection of a model for assessing the components of social entrepreneurship development and the assessment process itself;

Step 3: calculation of the social entrepreneurship development index based on the selected model.

The first step of the algorithm for determining the social entrepreneurship development index is to form a basis for assessing its components.

The second step of the proposed algorithm involves assessing the economic and social components of social entrepreneurship development.

At the third step, the social entrepreneurship development index is calculated based on the selected model. For the purpose of comparative analysis, the authors calculated the index of social entrepreneurship development using three models: additive, multiplicative and additive-multiplicative.

The results of the algorithm implementation are presented in tabular form as an assessment of the

Table 2
Estimation of the social enterprise development index for the TOP 10 countries according to the proposed models

Countries by rating	Additive model			Multiplicative model			Additive-multiplicative model		
	I_{soc}	I_{econ}	I_{sed}	I_{soc}	I_{econ}	I_{sed}	I_{soc}	I_{econ}	I_{sed}
Canada	0,7083	0,7361	0,7222	0,7056	0,7978	0,7503	0,7083	0,7361	0,7221
Australia	0,6660	0,6250	0,6455	0,6594	0,6848	0,6720	0,6660	0,6250	0,6452
France	0,6111	0,6250	0,6181	0,6049	0,6837	0,6431	0,6111	0,6250	0,6180
Belgium	0,6601	0,5985	0,6293	0,6591	0,6444	0,6517	0,6601	0,5985	0,6285
Singapore	0,5972	0,5278	0,5625	0,5855	0,4857	0,5333	0,5972	0,5278	0,5614
Denmark	0,4470	0,7102	0,5786	0,4389	0,6593	0,5379	0,4470	0,7102	0,5634
Netherlands	0,5549	0,5764	0,5657	0,5516	0,6448	0,5963	0,5549	0,5764	0,5656
Finland	0,5726	0,6326	0,6026	0,5468	0,7426	0,6372	0,5726	0,6326	0,6018
Indonesia	0,4975	0,5972	0,5474	0,4930	0,6183	0,5521	0,4975	0,5972	0,5451
Chile	0,4931	0,6528	0,5729	0,4918	0,5959	0,5414	0,4931	0,6528	0,5673

Source: compiled by the authors

social entrepreneurship development index and its components (Table 2).

Table 2 demonstrates that the highest value of the social enterprise development index is achieved when using different models depending on the selected country, i.e., if the highest level is achieved when using the additive model (Singapore, Denmark, Chile), this means that the low level of development of one component is compensated for by a higher level of other components. If the highest value is achieved using a multiplier model (Canada, Australia, France, Belgium, the Netherlands, Finland, Indonesia), then it is vital that the country considers all development components at once. The additive-multiplicative model allows countries to vary the components and determine how they want to move forward to achieve the highest level of social entrepreneurship development.

5. Findings

The study uses indices as an assessment tool. The analysis is based on the use of additive, multiplicative and additive-multiplicative models, which allows comparing the results and identifying the most effective model for a particular country. The research and assessment of the level of social entrepreneurship development was based on the Thomson Reuters Foundation's report "The best countries to be a social entrepreneur".

To classify the factors of social entrepreneurship development, the key components of the overall indicator are grouped into economic and social components. Economic support includes: state support – X_1 , social entrepreneurship as a means of generating income and supporting livelihoods – X_4 , accessibility to investment resources – X_6 . The social component is characterised by the following elements: attracting qualified personnel – X_2 , public perception, i.e., public awareness of the purpose of social entrepreneurship and its importance – X_3 , spread of social entrepreneurship – X_5 .

The results of the analysis show that the highest value of the social enterprise development index is achieved by using different models depending on the selected country, i.e., if the highest level is achieved by using an additive model (Singapore, Denmark, Chile), this means that the low level of development of one component is compensated for by a higher level of other components. If the highest value is attained utilising the multiplier model (Canada, Australia, France, Belgium, the Netherlands, Finland, Indonesia), it is crucial that the country considers all development components concurrently. The additive-multiplicative model allows countries to vary the components and determine how they want to move forward to

achieve the highest level of social entrepreneurship development.

For convenience, the results of the hypotheses are summarised in the table below:

Table 3

Summary of findings

Hypotheses:	
H1: The dominance of the economic and social components in the development of social entrepreneurship varies from country to country.	Adopted
H2: The use of analytical tools for evaluation is determined by the need to take into account all components of social enterprise development or to compensate for low values of indicators at the expense of high-level indicators.	Adopted

Source: compiled by the authors

6. Conclusions

The article proposes a classification and a method of assessing the development of social enterprises for countries with the most favourable conditions for their functioning. The study uses indices as an assessment tool. The method of grouping indicators was used, which allowed to identify two components of social entrepreneurship development: economic and social. The basis of the analysis is the use of additive, multiplicative and additive-multiplicative models, which allows comparing the results and determining the most effective model for a particular country. To conduct the study and assess the level of social entrepreneurship development, the materials of the Thomson Reuters Foundation report "The best countries to be a social entrepreneur" were used. The results of the study showed that the highest value of the social enterprise development index is achieved when using different models depending on the selected country, i.e., if the highest level is achieved when using the additive model (Singapore, Denmark, Chile), this means that the low level of development of one component is compensated for by a higher level of other components. If the highest value is achieved using a multiplier model (Canada, Australia, France, Belgium, the Netherlands, Finland, Indonesia), then it is essential for the country to consider all development components simultaneously. The additive-multiplicative model allows countries to vary the components and determine how they want to move forward to achieve the highest level of social entrepreneurship development.

This study considers a limited number of factors that can influence the development of social entrepreneurship. For example, some countries have significant barriers at the legislative level, which is a serious

obstacle. The approach applied here is universal, as it can be used if the number of factors is expanded. After all, in the modern world there are a significant number of challenges that cannot be predicted. The direction of further research is to develop an ideal model for the development of social entrepreneurship and to make a forecast of the prospects for the development of social entrepreneurship, taking into account the most effective assessment model for the country, which will allow taking into account national characteristics and expanding the factors of influence.

7. Acknowledgments

This study is conducted as part of the Erasmus+ project under the Jean Monnet Programme "European practices of social entrepreneurship: sustainability, inclusion and creativity", project number 101085348 – EUROSECRET – ERASMUS-JMO-2022-HEI-TCH-RSCH, at the expense of a grant from the European Commission, which is being implemented at Zaporizhzhia National University from 01.10.2022 to 31.09.2025, as well as as a result of the authors' internship at the Bielefeld University (Bielefeld, Germany, 29.05.2023-01.07.2023).

References:

- Agustina, T., Budiasih, Y., Ariawan, K. E., & Gorovoy, S. A. (2020). Role of social entrepreneurship in business management. *Journal of Critical Reviews*, vol. 7 (1), pp. 257–262.
- Byungchae, J. (2020). The Practical Intelligence of Social Entrepreneurs: Managing the Hybridity of Social Enterprises. *Entrepreneurship Research Journal*, vol. 10 (1), pp. 1–19. DOI: <https://doi.org/10.1515/erj-2018-0007>
- Corner, P. D., & Kearins, K. (2018). Scaling-up social enterprises: The effects of geographic context. *Journal of Management & Organization*, pp. 1–19. DOI: <https://doi.org/10.1017/jmo.2018.38>
- Dahiya, V. S. (2019). Social Entrepreneurship as an Antidote to State and Market Failure. *Economic & Political Weekly*, vol. 54, issue 51. Available at: <https://www.epw.in/engage/article/social-entrepreneurship-antidote-to-state-and-market-failure>
- Farinha, L., Sebastião, J. R., Sampaio, C., & Lopes, J. (2020). Social innovation and social entrepreneurship: discovering origins, exploring current and future trends. *International Review on Public and Nonprofit Marketing*, vol. 17 (1), pp. 77–96.
- Gauthier, C., Shanahan, G., Daudigeos, T., Ranville, A., & Dey, P. (2020). Tackling economic exclusion through social business models: a typology. *International Review of Applied Economics*. DOI: <https://doi.org/10.1080/02692171.2019.1707785>
- Horishna, N. M. (2016). Phenomenon of social entrepreneurship: essence and criteria. *Scientific Bulletin of Uzhhorod University. Series: "Pedagogy. Social Work"*, vol. 2 (39), pp. 58–61.
- Konovalova, M. V., & Kharynina, O. M. (2016). Social enterprise as an innovative way of solving social problems. *Bulletin of the Kamianets-Podilskyi Ivan Ohienko National University. Economic Sciences*, vol. 11, pp. 461–466. Available at: http://nbuv.gov.ua/UJRN/vkpnuen_2016_11_64
- Kozhemyachenko, O. O., Solosich, O. S., & Golub, M. O. (2018). Social entrepreneurship: world experience and aspects of development in Ukraine. *Modern Problems of Economy and Entrepreneurship*, vol. 21, pp. 140–149.
- Lunkina, T. I., & Ivanenko, H. Yu. (2019). Features of the development of social entrepreneurship: foreign experience. *Modern Economics*, vol. 5, pp. 142–147. Available at: <https://modecon.mnau.edu.ua>
- Prochazkova, T., & Noskova, M. (2020). An application of input-output analysis to social enterprises: a case of the Czech Republic. *Journal of Entrepreneurship in Emerging Economies*. Vol. ahead-of-print. No. ahead-of-print. DOI: <https://doi.org/10.1108/JEEE-08-2019-0114>
- Roslan, H., Hamid, M., Ijab, T., & Bukhari, S. (2019). Social Entrepreneurship Learning Model in Higher Education using Social Network Analysis. International Conference Computer Science and Engineering. *Journal of Physics: Conference Series*. 26-27 April. Padang, Indonesia, vol. 1339 (1). DOI: <https://doi.org/10.1088/1742-6596/1339/1/012029>
- Sahasranamam, S., & Nandakumar, M. K. (2020). Individual capital and social entrepreneurship: Role of formal institutions. *Journal of Business Research*, vol. 107, pp. 104–117. DOI: <https://doi.org/10.1016/j.jbusres.2018.09.005>
- The best countries to be a social entrepreneur. Available at: <http://poll2019.trust.org/>
- Zulkefly, N. A., Ghani, N. A., & Alquliti, W. (2019). Identification of Variables in Predicting Trends in Social Entrepreneurship. International Conference Computer Science and Engineering. *Journal of Physics: Conference Series*. 26-27 April. Padang, Indonesia, vol. 1339 (1). DOI: <https://doi.org/10.1088/1742-6596/1339/1/012025>

Received on: 09th of September, 2023

Accepted on: 20th of October, 2023

Published on: 17th of November, 2023