

PROFILING RESEARCH ON A SUSTAINABLE ENTERPRISE AND A SUSTAINABLE ORGANIZATION

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Abstract: The concepts of a sustainable enterprise and a sustainable organization are the examples of attributive organizations which make up one of the key categories among contemporary management concepts. Due to the identified research gap, the aim of the paper is to conduct the general publication profiling analysis in order to contribute to mapping the field of studies on a sustainable enterprise and a sustainable organization. The paper includes the analysis of the scientific productivity in the field, citation frequency analysis, and the profiling of the research output according to the criteria of: a country/territory, an institution, a source title, an author and a subject area.

Keywords: sustainable enterprise, sustainable organization, general research profiling.

PROFILOWANIE BADAŃ NAD KONCEPCJAMI ZRÓWNOWAŻONEGO PRZEDSIĘBIORSTWA I ZRÓWNOWAŻONEJ ORGANIZACJI

Streszczenie: Koncepty zrównoważonego przedsiębiorstwa i zrównoważonej organizacji są przykładami organizacji atrybutowych, które stanowią jedną z kluczowych kategorii wśród współczesnych koncepcji zarządzania. Mając na uwadze zidentyfikowaną lukę badawczą, celem artykułu jest profilowanie badawcze publikacji dotyczących zrównoważonego przedsiębiorstwa i zrównoważonej organizacji ukierunkowane na mapowanie pola badawczego. Artykuł zawiera analizę liczby publikacji i ich cytowalności oraz profilowanie publikacji z uwzględnieniem kryteriów: państwa, afiliowanej instytucji badawczej, czasopisma, autora oraz obszaru badawczego.

Słowa kluczowe: zrównoważone przedsiębiorstwo, zrównoważona organizacja, profilowanie badawcze.

1. Introduction

Among contemporary management concepts, there is observed a trend of developing the concepts of attributive organizations searching ways to respond to emerging management challenges. This category encompasses a variety approaches including e.g. an agile organization, an ambidextrous organization, an intelligent organization, a learning organization etc. Within this trend, the concepts of a sustainable enterprise and a sustainable organization are embedded. They combine the perspectives of strategic management seeking to build up a long term company competitive advantage and corporate social responsibility oriented to implementing the ideas of sustainability and balance between economic, social and environmental interests in accordance with the triple bottom line model¹. The issues related to the concepts of a sustainable enterprise and a sustainable organization attract the growing attention of new ranks of researchers. However, so far, this research field has not been mapped thoroughly. As of 10 December 2017, in the Scopus database, there is not any record including the conjunction of phrases a ‘sustainable enterprise/organization’ and ‘research profiling’ in the titles, abstracts and keywords of indexed publications. Therefore, the aim of the paper is to fulfill this gap and conduct the general publication profiling analysis in order to contribute to mapping the field of studies on a sustainable enterprise and a sustainable organization.

The research profiling methodology² was applied to achieve the aim of the paper. The Scopus database was used as a source of data to conduct the bibliometric analysis. The samples of publications used for general research profiling were made up by the works indexed in the Scopus database including words ‘sustainable enterprise’ (N=267) and ‘sustainable organization’ (N=227) in their titles, abstracts and keywords. The technique of truncation (searching for ‘sustainable organi?ation’) was applied in order to cover both (i.e. British and American) spelling standards of English language.

Due to a limited number of publications included in research samples and fragmentation of the research output, the analysis is limited to general publication profiling including the analysis of the scientific productivity in the field, citation frequency analysis, and the profiling of the research output according to the criteria of: a country/territory, an institution, a source title, an author and a subject area. Due to the aforementioned limitations of the study, remaining components of subject area profiling and topic profiling are excluded from the

¹ Parrish, B.D.: Designing the Sustainable Enterprises. “Futures”, Vol. 39, Issue 7, 2007, pp. 846-860.

² Porter A.L., Kongthon A., Lu J.-C.: Research Profiling: Improving the Literature Review. “Scientometrics”, Vol. 53, Issue 1, 2002, pp. 351-370.

standard model of research profiling methodology³. The works by Martinez and associates, Lis⁴ (2017) and Lis and Cegliński⁵ (2017) are benchmarks to design the structure of the paper.

2. Publication year profiling

As already mentioned, the research sample consists of 494 publications in total (267 related to a ‘sustainable enterprise’ and 227 referring to a ‘sustainable organization’). Figure 1 presents productivity of research on a sustainable enterprise and a sustainable organization, based on the number of publications per year.

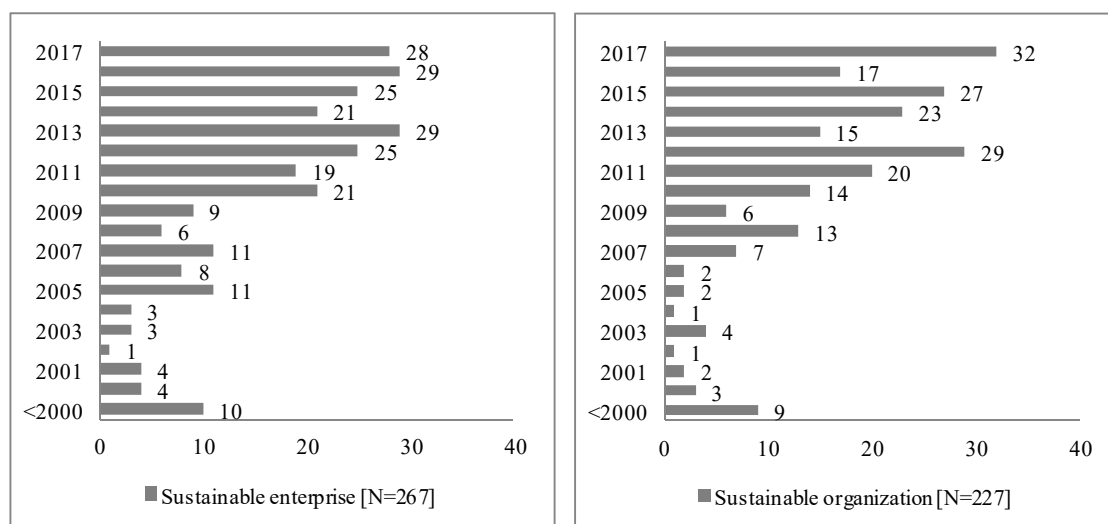


Figure 1. Scientific productivity of research on a sustainable enterprise and a sustainable organization (number of publications). Own study based on data retrieved from Scopus database (accessed 10 December 2017).

The number of published articles has grown from a few per year in the 2000s to 29 in 2013 and 2016 (for a sustainable enterprise) and 32 in 2017 (for a sustainable organization). The data presented in Figure 1 shows a growing interest in the topics of a sustainable enterprise and a sustainable organization, as the scientific productivity in recent years (2015-2017) in the case of issues related to a sustainable enterprise exceeded in seven times the productivity in 2001 and in the case of a sustainable organization even in ten

³ Martinez H., Jaime A., Camacho, J.: Relative Absorptive Capacity: A Research Profiling. “Scientometrics”, Vol. 92, Issue 3, 2012, pp. 657-674.

⁴ Lis A.: General Research Profiling for the Concept of a ‘Learning Organization’, [in:] Nalepka, A., Ujwary-Gil A. (eds.): Business and Non-Profit Organizations Facing Increased Competition and Growing Customers’ Demands. Wyższa Szkoła Biznesu – National Louis University, Nowy Sącz 2017, pp. 75-92.

⁵ Lis A., Cegliński P.: General Research Profiling for the Role of Leadership in Corporate Social Responsibility. “Marketing i Rynek”, No. 11 (CD), 2017, pp. 321-332.

times. We assume that this growing trend observed recently proves an increasing interest of researchers in both concepts. Moreover, we believe that such a trend will continue in coming years due to the fact that nowadays the concern about sustainability issues is seen as fundamental for any entity development and competitiveness.

3. Citations frequency

The trend of researchers' increasing interest in the concepts of a sustainable enterprise and a sustainable organization has been confirmed by the analysis of citation frequency, presented in Figure 2.

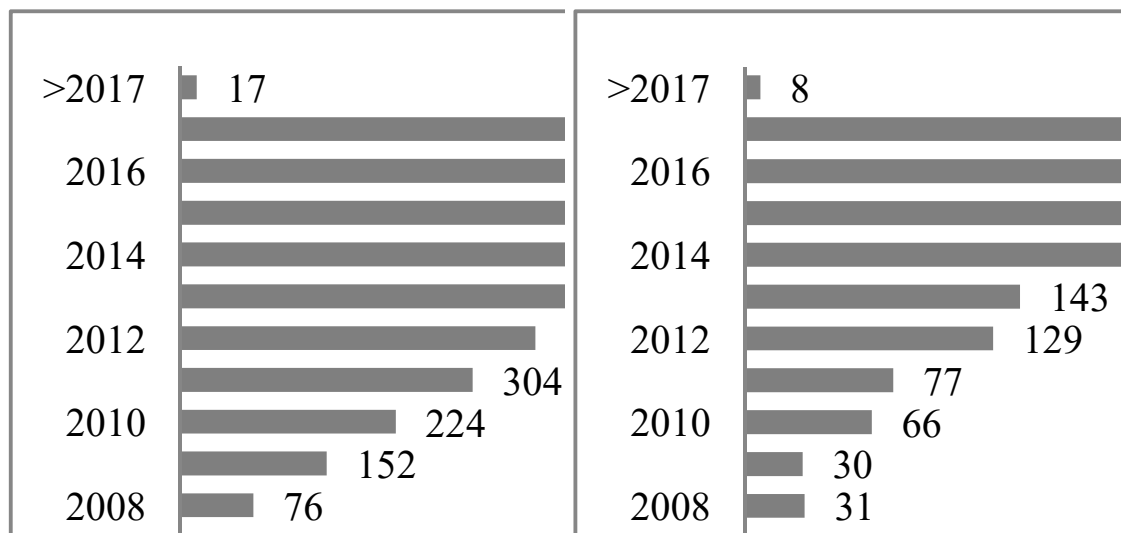


Figure 2. Scientific productivity of research on a sustainable enterprise and a sustainable organization (number of citations). Own study based on data retrieved from Scopus database (accessed 10 December 2017).

As far as the category of a 'sustainable enterprise' is concerned, the 267 of selected articles have received in total 4258 citations. Thus, the average number of citations per publication is 15.95 and the average number of citations per year is 236.55. Taking into account particular sub-periods, the data presented in Figure 2 shows that from 2003 till 2010 rather few citations were observed. The increase of interest in the field began in 2013 and has constantly grown in the following years. In regard to the number of received citations, the dominant position is occupied by the seminal work of Teece⁶ on dynamic capabilities as source of a sustainable (i.e. long-lasting) company performance (2367 citations).

⁶ Teece D.J.: Explicating Dynamic Capabilities: The Nature and Microfoundations of Sustainable Enterprises Performance. "Strategic Management Journal", Vol. 28, Issue 13, 2007, pp. 1319-1350.

While analyzing the citations in the category of a ‘sustainable organization’, the 227 selected articles have received 1677 citations. It means that the average number of citations per year in this case is 7.39 and the average number of citations per year equals 93.17. The most cited paper related to a sustainable organization is the work of Pfeffer⁷ exploring the social aspect of organization’s sustainability (198 citations). In this category, the trend proving the rise of interest in the field starts in 2014 (249 citations) and still grows up. The peak of the number of citations has been reported recently – in 2015 and 2016. We assume that this trend will continue in future.

4. Country profiling

Country profiling provides information about the activity and academic level of the countries in the field⁸. The scientific productivity in research concerning a sustainable enterprise is distributed among 54 countries involved in the 267 publications being analyzed (53 countries for 227 papers on a sustainable organization). Top most productive countries are listed in Table 1.

Table 1.

Top most productive countries/territories in research on a sustainable enterprise and a sustainable organization

Sustainable enterprise			Sustainable organization		
No.	Country/Territory	[N]	No.	Country/Territory	[N]
1.	United States	76	1.	United States	43
2.	United Kingdom	27	2.	United Kingdom	28
3.	Australia	19	3.	Australia	21
4.	Germany	16	4.	Brazil	15
5.	Canada	14	5-6.	Germany	10
6-9.	France	10	5-6.	Italy	10
6-9.	India	10	7-8.	China	8
6-9.	Malaysia	10	7-8.	Portugal	8
6-9.	Romania	10	9-10.	Canada	7
10.	Netherlands	9	9-10.	India	7

Source: Own study based on data retrieved from Scopus database (accessed 10 December 2017).

The analysis of data presented in Table 1 confirms that the United States (with 76 publications) is the country dominating in scientific productivity in research on the issues of a sustainable enterprise. The other region highly represented in the research in the field is Europe. The analysis of geographical distribution proves that the most scientific productive

⁷ Pfeffer J.: Building Sustainable Organizations: The Human Factor. “Academy of Management Perspectives”, Vol. 24, No. 1, 2010, pp. 34-45.

⁸ Arunachalam, S., Jinandra, D. M.: Mapping international collaboration in science in Asia through coauthorship analysis. “Current Science”, Vol. 79, No. 5, 2000, pp. 621–628.

countries in Europe in research on a sustainable enterprise are the United Kingdom, Germany, France, Romania and the Netherlands. The key contributions from other countries/regions include: Australia, Canada, India and Malaysia.

In the category of a sustainable organization, the region with the highest scientific productivity is Europe (56 publications), with the leading country that is United Kingdom (28 papers). However, considering the country level, research scientific productivity in this field is dominated by the United States (43 publications). The data presented in Table 1 confirms also some contributions from some other regions, such as: Australia, Brazil, China, Canada and India.

5. Institution profiling

The most productive institutions in the field are listed in Table 2. In total, the authors representing these institutions published 47 articles that is equivalent of 9.51% of the whole research sample. The leaders in the field are: Aarhus University (Denmark), Erasmus University Rotterdam (the Netherlands) and UNESP – Universidade Estadual Paulista (Brasil). They are followed by: Universite Concordia (Canada), Universiti Kebangsaan Malaysia and Universidade Nova de Lisboa (Portugal) in the sustainable enterprise sample and the University of Technology Sydney (Australia) and Universidade de Sao Paolo (Brazil) in the sustainable organization sample.

Table 2.

Top most productive institutions in research on a sustainable enterprise and a sustainable organization

No.	Organization	Country	[N]
1.	Aarhus Universitet	Denmark	8
2.	Erasmus University Rotterdam	Netherlands	7
3.	Universite Concordia	Canada	6
4.	Universiti Kebangsaan Malaysia	Malaysia	5
5.	Universidade Nova de Lisboa	Portugal	5

No.	Organization	Country	[N]
1.	UNESP – Universidade Estadual Paulista	Brazil	7
2.	University of Technology Sydney	Australia	5
3.	Universidade de Sao Paolo	Brazil	4

Source: Own study based on data retrieved from Scopus database (accessed 10 December 2017).

Aarhus University makes mainly contribution to research on business excellence and assessment in sustainable enterprises. Among the publications affiliated with Erasmus University in Rotterdam, the most visible trend is associated with the studies of sustainable enterprise relationships with other organizations. The scientific output of researchers representing Universidade Estadual Paulista is focused on the issues of implementing the idea

of a sustainable organization in developing countries and the issues of human resources management in the sustainable organization context.

6. Source title profiling

Table 3 shows the top most productive journals in the field. They include at least four articles, however two of them published nine papers (*Business Strategy and the Environment* and *Journal of Cleaner Production*). In total, in the period of 2000-2017, they published 33 papers concerning the issues of a sustainable enterprise and a sustainable organization.

Table 3.

Top source titles in research on a sustainable enterprise and a sustainable organization

Sustainable enterprise			Sustainable organization		
No.	Source title	[N]	No.	Source title	[N]
1.	Business Strategy and the Environment	9	1.	Journal of Cleaner Production	9
2.	Journal of Cleaner Production	6	2.	Sustainability Switzerland	5
3.	Journal of Macromarketing	4			

Source: Own study based on data retrieved from Scopus database (accessed 10 December 2017).

Among the output of *Business Strategy and the Environment* it is difficult to point out any dominant trend related to a sustainable enterprise and organization while there are noticed such issues as: leadership, business excellence, entrepreneurship or stakeholder engagement. In regard to a sustainable enterprise, *Journal of Cleaner Production* is concentrated on the topic of sustainable enterprise resource planning. In regard to a sustainable organization, the papers published in *Journal of Cleaner Production* deal among others with the issues of: developing a sustainable organization and strategic aspects of sustainability.

7. Author profiling

Table 4 presents the most prolific authors in research on a sustainable enterprise and a sustainable organization. Among them there are two leaders: R. Edgeman from the United States (Utah State University) and C.J.C. Jabbor from France (Montpellier Business School). Both aforementioned researchers published nine papers within the studied period. Also both F.A. Goni representing Malaysia (Universiti Kebangsaan Malaysia) and M. McIntosh from Canada (Future Earth) contributed with six papers related to the issues of a sustainable enterprise or a sustainable organization.

Table 4.

Top most prolific authors in research on a sustainable enterprise and a sustainable organization

Sustainable enterprise					Sustainable organization				
No.	Author	Institution	Country	[N]	No.	Author	Institution	Country	[N]
1.	Edgeman, R.	Utah State University	United States	8	1.	Jabbor, C.J.C.	Montpellier Business School	France	9
2.	Goni, F.A.	Universiti Kebangsaan Malaysia	Malaysia	6	2.	Stoll, M.	University of Innsbruck	Austria	5
3.	McIntosh, M.	Griffith University	Australia	6					
4.	Chofreh, A.G.	Islamic Azad University	Iran	5					
5.	Shrivastava, P.	Future Earth	Canada	5					

Source: Own study based on data retrieved from Scopus database (accessed 10 December 2017).

Analyzing the research output of the most prolific authors some interesting trends may be observed. For instance, R. Edgeman from Utah State University focuses his research on sustainable enterprise excellence. F.A. Goni (Universiti Kebangsaan Malaysia) and A.G. Chofreh (Islamic Azad University) in cooperation with J.J. Klemeš (from the Brno University of Technology) deal with sustainable enterprise resource planning. M. McIntosh studies sustainable enterprises in the context of the CSR concept while P. Shrivastava works on the challenges faced by sustainable enterprises and the multidisciplinary study of a sustainable enterprise. Among the most prolific writers on the concept of a sustainable organization, C.J.C. Jabbor explores the issues of human resource management and M. Stoll is interested in the aspects of information and knowledge management.

8. Subject area profiling

The conducted analysis allows to identify ten top subject areas in research on a sustainable enterprise and a sustainable organization, presented in Table 5.

Table 5.

Top subject areas in research on a sustainable enterprise and a sustainable organization

Sustainable enterprise			Sustainable organization		
No.	Subject area	[N]	No.	Subject area	[N]
1.	Business, Management and Accounting	112	1.	Business, Management and Accounting	111
2.	Engineering	65	2.	Social Sciences	74
3.	Social Sciences	63	3.	Environmental Science	41
4.	Environmental Science	53	4.	Engineering	35
5.	Computer Science	47	5-	Computer Science	31

Sustainable enterprise			Sustainable organization		
No.	Subject area	[N]	No.	Subject area	[N]
6.	Economics, Econometrics and Finance	32	5-6.	Economics, Econometrics and Finance	28
7.	Energy	20	7.	Energy	20
8.	Decision Sciences	17	8.	Medicine	15
9-10.	Agricultural and Biological Sciences	10	9.	Decision Sciences	12
9-10.	Medicine	10	10.	Psychology	9
Other		50	Other		39

Source: Own study based on data retrieved from Scopus database (accessed 10 December 2017).

For both a sustainable enterprise and a sustainable organization, Business, Management and Accounting is the top subject area. The running-up areas gathering the highest number of publications are: Engineering, Social Sciences and Environmental Sciences. The diversity of areas presented in Table 5 confirms a multidimensional character of the analyzed issues. Among top subject areas in research on a sustainable enterprise and a sustainable organization we have identified such fields as: Medicine, Energy or Computer Science, Agricultural and Biological Sciences or Psychology. Such a variety of disciplines proves also multidisciplinary of issues regarding a sustainable enterprise and a sustainable organization.

9. Conclusions

Summing up, the analysis of productivity in research on a sustainable enterprise and a sustainable organization as well as the number of citations indicate a growing interest of researchers in the field. The top most productive countries are the United States, the United Kingdom and Australia. Among research institutions the leading contributors are: Aarhus University (Denmark), Erasmus Rotterdam University (the Netherlands) and UNESP – Universidade Estadual Paulista (Brasil). The key source titles are: *Business Strategy and the Environment* and *Journal of Cleaner Production*. The most prolific authors are: R. Edgeman from Utah State University (the United States) and C.J.C. Jabbor from Montpellier Business School (France). Certainly, the highest number of publications is produced within the area of Business, Management and Accounting but the research output in the field is distributed among numerous research areas, which shows a multidimensional character of the analyzed issues of a sustainable enterprise and a sustainable organization.

In order to fully understand the context of the study, limitations and recommendations for further research should be considered. The first limitation results from restricting analyzed data to one database. In consequence, the number of items included into research samples used for bibliometric studies (ca. 200 in each case) and high dispersion of data across

categories used for general research profiling resulted in challenges to conduct advanced quantitative analyses. The bias to English-language publications should be mentioned as another limitation. Among 267 items included in the sustainable enterprise sample there were 259 articles (97%) written in English. For the sustainable organization sample the ratio is 221 to 227 which similarly makes 97%. Finally, a general publication profiling is the first step used to mapping the research field but it should be combined with other research methods in order to ensure the appropriate level of triangulation.

Taking into account the aforesaid limitations, the recommendations for further research can be indicated. Firstly, the study should be replicated with data retrieved from another databases in order to increase the number and diversity of bibliometric records included into the research sample. Secondly, the remaining components of the research profiling methodology (i.e. subject area profiling and topic profiling) should be used to study the enlarged research sample. Thirdly, the research profiling method should be triangulated with another bibliometric methods e.g. citation analysis. Fourthly, the systematic literature review and qualitative analysis of the core references should be conducted to thoroughly explore their contents.

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