THE INTERDISCIPLINARY CHARACTER OF TALENT MANAGEMENT

INTERDYSCYPLINARNY CHARAKTER ZARZĄDZANIA TALENTAMI

Monika **Sipa**

Poland, Technical University of Czestochowa, Faculty of Management
ORCID: 0000-0002-1634-9368, e-mail: monika.sipa@wz.pcz.pl

Abstract: When looking at changes in the market, one can notice a growing interest in research on talent management. A talent shortage crisis is noticeable in many sectors and regions of world economies, thus it is necessary to focus more on that particular problem. However, talent management is a very complex issue. The main objective of the study was to determine the degree of scientists' interest in "talent management" and to identify the areas where the issue is discussed. To achieve the set objective, the Author using bibliometrics, analysed current research trends in leading scientific publications on talent management. The focus was on publications indexed in the SCOPUS and Web of Science databases.
Keywords: talent, talent management, biblometric, human resources

Streszczenie: Przyglądając się zachodzącym na rynku zmianom widoczne jest rosnące zainteresowanie badaniami z zakresu zarządzania talentami. Kryzys niedoboru talentów zauważalny jest wielu sektorach i regionach gospodarek świata, w związku z czym konieczne jest większe skupienie na tym właśnie problemie. Zarządzanie talentami jest jednak zagadnieniem bardzo złożonym. Podstawowym celem opracowania było określenia stopnia zainteresowania naukowców problematyką "zarządzania talentami" oraz identyfikacja obszarów tematycznych, w ramach których zagadnienie to jest dyskutowane. Aby osiągnąć założony cel, Autorka przy wykorzystaniu bibliometrii, dokonała analizy aktualnych trendów badawczych w wiodących publikacjach naukowych, dotyczących zarządzania talentami. Skupiono się na publikacjach indeksowanych w bazach danych SCOPUS i Web of Science.
Słowa kluczowe: talent, zarządzanie talentami, bibliometria, zasoby ludzkie.

Introduction

In recent years, more and more employers report problems with finding employees with appropriate skills and qualifications. These shortages are caused by, among others, unfavourable demographic changes and maladjustment of supply and demand for specific resources of talented employees, in specific places and time. (ManpowerGroup, 2016, Skibiński, 2017) According to the data for 2018, in a global perspective 45% of employers experience the problem of talent shortage, which is the highest result since 2006. In the case of large organizations, this percentage is even higher - and concerns 67% of entities of this scale. The problem is most severely felt by employers in Japan (89%), where the situation is aggravated by the aging population, low unemployment rate and location - limiting immigration. The next two positions are occupied by Romania (81%) and Taiwan (78%). In Poland, over half of the surveyed entrepreneurs (51%) point out

problems with finding employees with the skills they are looking for (ManpowerGroup, 2018).

Talent Management (TM) is a very complex issue. It covers many aspects, industries and sectors in the economy (Marcysiak, Marcysiak, 2011, Sitek, 2019). Talent management, especially in the last decade, has gained more attention both among companies, institutions (e.g. McKinsey & Co., Chartered Institute of Personnel and Development) (CIPD), Society of Human Resource Management (SHRM), Manpower Group, INSEAD, The Adecco Group and Tata Communications (GTCI)), and researchers. Thus, there are questions about, among others: the degree of interest of researchers in the problem of talent management - over the years; thematic areas dominant in research - undertaken along with the issues of talent management; or determining the geographical distribution of the main scientific units and scientists undertaking research into the problem of talent management.

In connection with the above, the main objective of the study is to determine the degree of scientists' interest in "talent management" and to identify the areas where the issue is discussed. The author has analyzed current research trends in leading scientific publications on talent management, focusing on publications indexed in SCOPUS and Science Direct databases.

Literature Review

Talent management is inherently related to the management of human capital (Dries, 2013, Tylec, 2014), that is knowledge, skills, abilities and other attributes specific to an individual, facilitating the creation of personal, social and economic well-being (OECD, 2001, Smolarek, Dzieńdziora, 2017). Growing competitive requirements, worrying demographic trends, the pursuit of knowledge-based management, changes in the attitudes of people in the labour market, changes in the behaviour of individuals that are just entering the labour market, changes in the approach to modelling their career (Listwan, 2005, Korombel, Ławińska, 2019) or dilemmas associated with satisfying the future demand for specific skills, competences and knowledge, forcing entrepreneurs to change their previous approach to managing employees (Kuraś, 2013), and for the economy to undertake supportive actions at the macroeconomic level (Serban, Andanut, 2014, Lanvin, Evans, Rodriguez-Montemayor, 2017, Gorzeń-Mitka, 2018).

According to McKinsey, talent is … "the sum of a person's abilities… his or her intrinsic gifts, skills, knowledge, experience, intelligence, judgment, attitude, character and drive. It also includes his or her ability to learn and grow" (Michaels, Handfield-Jones, Axelrod, 2001: xii). However, researchers raise the problem of the lack of unification in defining the word "talent". Mazurkiewicz (2016) emphasizes "Every organization should determine on its own how and who to describe as talent." According Dries (2013), talent is unique (difficult to replace), it also has potential to contribute to an organization's core competency and enhance its competitive advantage (is valuable). Talent enables excellent performance in one or more domains of human functioning, showing them as performing better than other people of the same age or with the same experience, or consistently implementing their own personal goals (Nijs, Gallardo-Gallardo, Driesa, Sels, 2014).

Regardless of how the organization defines talent and who is considered talented, the fact is that talent management is necessary because "Talent" is now a critical driver of corporate performance and that a company's ability to attract, develop, and retain talent will be a major competitive advantage far into the future." (Michaels, Handfield-Jones, Axelrod, 2001, Xii). Lack of unambiguity in defining talent, translates into a lack of uniformity in defining talent management. Talent management research is captured both on the micro, meso and macro levels, but the ones that prevail are at the organizational level. Little attention is given to individual research (e.g. King, 2016, Swailes, Blackburn, 2016) or research at the macro level (e.g Khilji, Tarique, Schuler, 2015; Vaiman, Sparrow, Schuler, Collings, 2018). Table 1 illustrates how TM can be implemented at different levels and in different contexts, taking into account individual, organizational, institutional or national, international or sectoral levels. Discrepancies in the interpretation and approach to the problem of talent management, are noted by, among others: Al Arissa, Casciob and Paauwec (2014), Lewis i Heckman (2006) et al.

Table 1. Key levels and contexts that define TM research

Key levels	Specific topics
Individual level	An individual or personal agency, strategy and experience, such as professional life, influencing the development of talents.
Organizational level	Principles and practices applicable throughout the company – both conscious and unconscious – and HRM strategies that shape TM.
Institutional background	The legal and political framework at regional, national and international levels that institutionalize TM in employment, education and other areas both formally and informally.
National / international / sectoral context	TM analyzed in terms of context; recognition of how TM practices may cross (or not) national borders between different industries, networks and organizations.

Source: Al Arissa, A., Casciob, W.F., Paauwec J. (2014). Talent management: Current theories and future research directions, Journal of World Business, Vol. 49 (2), 173-179, https://doi.org/10.1016/j.jwb.2013.11.001.

Lewis and Heckman (2006) distinguish three different perspectives of talent management: the first defines talent management as a set of typical practices, functions and activities in the field of human resources, such as recruitment, selection, development, career management and succession; the second focuses mainly on the concept of the talent pool; and the third perspective focuses on talents - regardless of organizational boundaries or specific positions.

Many authors emphasize that organizations around the world face greater competition for talents, encountering difficulties in attracting, maintaining and developing the employees they need (e.g. Boudreau, Ramstad, 2007, Collings, Mellahi, 2009, Lewis, Heckman, 2006). In addition, the relative stability of the economy and the labour market across Europe has a positive effect on the self-confidence of job seekers, 13% of respondents say they want to leave their current job in the next 12 months. In the case of Poland, it is 16%, and, as is clear from the survey, it is the country with the highest employee turnover. Only 17% of employees plan to stay with their employer for the rest of their careers (ADP, 2018). Entrepreneurs should therefore ensure that they become a destination matching the talent of their employees (ManpowerGroup, 2016).

Methodological information

In order to analyze current research trends among the leading scientific publications related to the problems of talent management, the bibliometric analysis was used, as by many researchers (e.g Carlsson, Noyons, 2009, Zhang X, Estoque, Xie, Murayama, Ranagalage, 2019, Ruas, Pereira, Grosky, 2017). It enables, among other things, defining the current state of knowledge in a given area, indicating gaps in knowledge or predicting future directions of scientific research in a given area; identification of areas characterized by a relatively high saturation of conducted research as well as connections between research areas (Klincewicz, Żemigała, Mijal, 2012).

To obtain a comprehensive review of the literature on "talent management" - the first step was verification of the number of publications available in the SCOPUS and Web of Science (SCIE, SSCI, AHCI) databases. The analysis was based on the term of "talent management", searching for it in the field "Article title, Abstract, Keywords", in the case of the SCOPUS database and "talent management" in the fields "Title" or "Topic" - in the case of WoS. In both databases, despite the previously published publications dealing with the issue of "talent" - the first publications on the subject of talent management were recorded in 2001. In connection with this, the analysis covered the years 2001-2019 (as in: June 2019). Due to the slightly higher number of publications in the SCOPUS database (1401 in comparison to 1039 in WoS), the author focused on the publications indexed in this database in further analysis. The obtained results have been ordered and partially aggregated.

Analysis and discussion

As already mentioned, the first publication dealing with the issues of talent management was recorded in both databases in 2001 and it was a publication by Clarke R.L. entitled "Talent management nurtures future healthcare leaders (Short Survey)". The SCOPUS database records one more item in 2001, that is "Talent management: Admiring America's most admired companies" by Brown V.

Subsequent years bring new studies, however, a significant increase in the number of publications addressing the issue of talent management is visible only in 2006 (SCOPUS) and 2008 (WoS). In the case of the SCOPUS database, it was an increase of 125% compared to the previous year, and in WoS the number of publications increased by 180% compared to 2007. In the following years, there is considerable, variable in the number of indexed publications, interest of researchers in the subject of talent management. From 2014 or 2015 (depending on the database), one can notice an intense increase in the number of scientific studies dealing with this issue (Fig. 1).
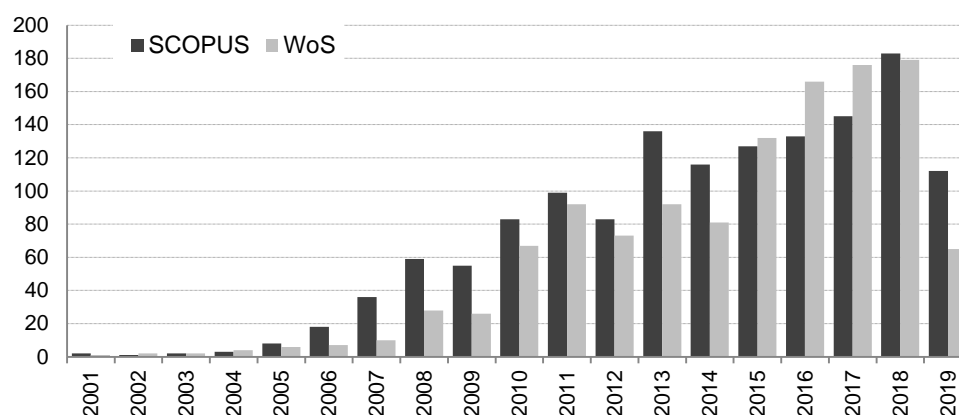
Figure.1. Numbers of publications in databases (2001-2019)
Source:own study based on database SCOPUS & WoS.

Due to the slightly larger number of publications in SCOPUS, further analysis focused on publications indexed in this database. Taking into account the aggregation of data, the publication output was analyzed in relation to the country of origin of authors with the highest number of publications (geographical layout) and scientific centres represented by the most frequently publishing researchers. Publications related to the problem of "talent management" are most often authored by researchers from the National University of Ireland Galway. The next two positions included KU Leuven and Pennsylvania State University. Publishers on this subject mostly come from the United States, Great Britain, India and Ireland. Among all publications on talent management included in the analysed database, there are not many publications by Polish researchers – they constitute only 0.58% of all works. A list of the 10 strongest research centres and countries from which the researchers come is presented in Tables 2 and 3.

Table 2. Spatial distribution of scientific centres affiliated by the authors of publications in the field of TM – Top 10

No	AFFILIATION	Number
1.	National University of Ireland Galway	34
2.	KU Leuven	19
3.	Pennsylvania State University	17
4.	Tilburg University	16
5.	Lancaster University Management School	16
	Management Development Institute, Gurgaon	15
6.	University of Limerick	14
	Edinburgh Napier University	14
7.	Nottingham Trent University	13
	Pace University	13
	DCU Business School	13
8	Universiti Kebangsaan Malaysia	12
	PepsiCo, Inc.	12
	Dublin City University	12
9.	Hanken School of Economics	11
	Universiti Teknologi MARA	11
	Rutgers, The State University of New Jersey	11
10.	Texas A and M University	10
	Saint Petersburg State University	10
	University of Huddersfield	10

Source: own study based on SCOPUS database.

Table 3. Country of authors of publications in the field of TM – Top 10

No	Country	Number
1.	United States	352
2.	United Kingdom	230
3.	India	105
4.	Ireland	65
5.	Australia	62
6.	China	58
7.	Germany	48
8.	Malaysia	43
9.	Netherlands	43
10.	Spain	39

Source: own study based on SCOPUS database.

Similar reports, as part of the bibliometric analysis, were developed for authors who most regularly publish in the field of talent management. The three most intensely publishing, according to SCOPUS, are Scullion, H. and Collings, D.G. representing Irish universities and Dries, N., from KU Leuven, Belgium. Table 4 lists the authors who most often take up the subject of talent management.

By juxtaposing authors, the countries indicated by them, and affiliated academic units, who dominate in terms of publications on talent management, it can be noted that Ireland dominates both in the field of authors and universities. However, looking at the country indicated by the researchers, it appears that the largest amount of publications is affiliated to the USA and the UK.

Table 4. Authors with the largest number of publications on TM – TOP 10

No	Author name	Number of publications
1.	Scullion, H.	31
2.	Collings, D.G.	22
3.	Dries, N.	18
4.	Vaiman, V.	17
5.	Sparrow, P.	14
6.	Tarique, I.	13
7.	Church, A.H.	12
8.	McDonnell, A.	11
9.	Farndale, E.	10
	Jantan, H.	10
10.	Othman, Z.A.	9
	Swailes, S.	9
	Tansley, C.	9

Source: own study based on SCOPUS database.

Talent management is a multidimensional issue, combining, at the same time, various areas of social sciences, but not only these. Referring to the subject areas of the analyzed publications - the dominant share of publications in the areas of Business, Management and Accounting is visible. Next in line are: Social Sciences and Economics; Econometrics and Finance. The top ten also includes: Computer Science, Psychology, Engineering, Decision Science, Arts and Humanities, Medicine, and Energy. The distribution within all subject areas of SCOPUS is presented in Table 5.

Table 5. Documents by subject areas „talent management"

Subject area	%	Subject area	%
Business, Management and Accounting	44.25	Agricultural and Biological Sciences	0.68
Social Sciences	14.34	Chemical Engineering	0.68
Economics, Econometrics and Finance	11.10	Earth and Planetary Sciences	0.59
Computer Science	5.28	Nursing	0.54
Psychology	5.01	Materials Science	0.41
Engineering	4.65	Biochemistry, Genetics and Molecular Biology	0.27
Decision Sciences	2.84	Pharmacology, Toxicology and Pharmaceutics	0.27
Arts and Humanities	2.12	Chemistry	0.23
Medicine	1.85	Multidisciplinary	0.23
Energy	1.80	Health Professions	0.14
Environmental Science	1.44	Physics and Astronomy	0.14
Mathematics	1.13	Immunology and Microbiology	0.05

Source: own study based on SCOPUS database.

The bibliometric data has also been analyzed and presented in the form of a map. Using the VOSviewer programme, the entire text file was imported with records saved from the SCOPUS database. A map was created that visualizes current trends in talent management (Fig. 2). In order to visualize the connections more clearly, the concepts of repeatability in the bibliographic descriptions have been extracted at the level of a minimum of 15, yielding a set of 51 therms. Additionally, the analysis eliminated from the set of concepts such terms as: talent management, China, article, data mining, Indie which resulted in the reduction of the analyzed words to 46.
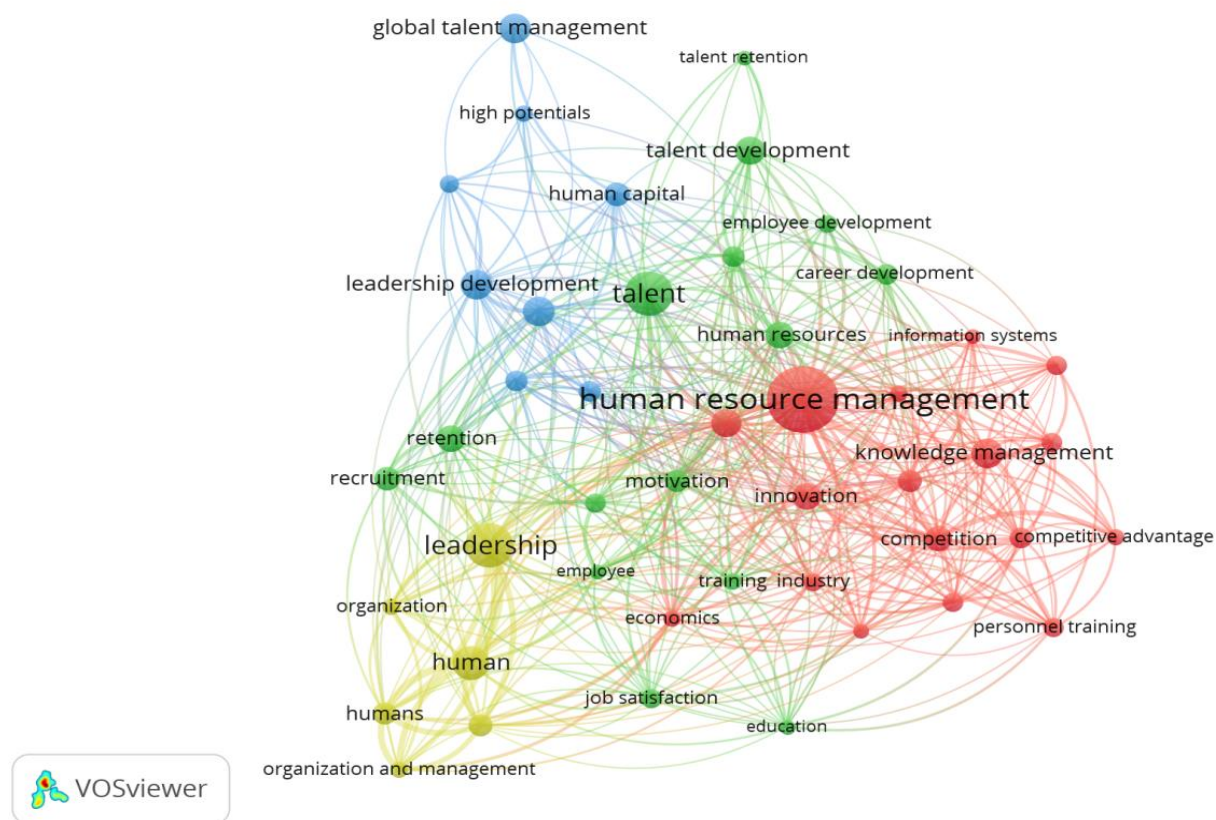

Figure 2. Map of the intensity of connections between terms in publications referring to talent management
Source: own processing via VOSviewer programme, data extracted from SCOPUS database (the terms from title, abstrakt and keywords field).

The occurrences of terms in the titles, summaries and key words as well as their co-occurrence were elements representing the content mentioned in the articles. Analysis of the coexistence of words and the attempt to identify clusters allowed for identification of four research clusters, alluding to the issue of talent management.

Four research sub-areas have been selected (Tab. 6). The first cluster can be defined as a set of publications referring to issues related to the decision-making process, strengthening the competitive position (competition, competitive advantage) of the organization in the area of human resources management. The management of talents / human resources as a key factor of competitiveness is emphasized, among others, by Michaels and Axelrod (2001). This cluster includes publications dealing with issues related to personnel (employment, personnel training), as well as innovation and knowledge management. It also includes information as well as information systems (information management, information systems) which are particularly important in the decision-making process.

The second cluster includes publications related to issues related to the development of the approach to employee management (human resources, employee development), and in particular - talents (talent, talent development). This group of publications focuses on issues related to job satisfaction, career development and also the ability to keep those most valuable for the organization (retention). The object of scientific interests are processes related to recruitment, training, development and motivation of employees (development, motivation, training) as well as

education. It can be said that this is the latest group of publications in terms of the year of publication. The average year of the publication is: 2014.48. For approximation, this average for some concepts in this group was: 2015.05 for job satisfaction; 2016.53 for employee; 2017.73 for talent retention.

The problems - the least numerous cluster - focus on leadership and man. It includes publications on organizing, organization management and personnel management. The average year for all publications for this group is 2012. The issues covered are of a rather general nature. These are: leadership, human/s, personnel management, organization, or organization and management.

Another research sub-area refers to issues related to the management of the organization. It emphasizes the organization's potential of human capital (high potentials), in particular leadership development. The group of these publications includes the process of perfecting managerial skills (management development) and the process of finding the right people and preparing them to take over the responsibilities of leaders who leave or retire (succession planning). The publications in this group also include issues related to performance management and employee engagement, and address global talent management.

Table 6. Research clusters related to the subject of talent management

TERMS	Occurrences	Average publication year*	TERMS	Occurrences	Average publication year
CLASTER 1			**CLASTER 2**		
human resource management	123	2014.07	talent	69	2014.99
knowledge management	40	2012.88	talent development	35	2015.83
management	35	2012.80	human resources	33	2014.33
innovation	33	2014.15	retention	33	2013.82
competition	30	2013.70	recruitment	29	2012.69
information management	27	2015.00	motivation	27	2015.67
societies and institutions	23	2011.04	human resource developme	24	2014.17
employment	22	2013.32	career development	23	2014.13
personnel training	22	2013.14	development	22	2015.73
decision making	21	2012.67	job satisfaction	22	2015.05
managers	21	2013.19	employee development	19	2011.84
industry	20	2011.40	training	18	2012.89
economics	18	2012.00	education	15	2011.87
competitive advantage	16	2014.31	employee	15	2016.53
personnel	16	2012.56	talent retention	15	2017.73
human resources management	15	2013.20	**CLASTER 4**		
information systems	15	2015.27	leadership development	40	2013.33
CLASTER 3			global talent management	39	2014.92
leadership	70	2013.50	succession planning	38	2012.37
human	46	2014.26	human capital	29	2015.00
humans	27	2011.15	performance management	24	2013.17
personnel management	25	2012.28	employee engagement	23	2015.52
organization	18	2013.78	management development	19	2011.42
organization and management	18	2011.28	high potentials	16	2014.00

* The average publication year of the documents in which a keyword or a term occurs or the average publication year of the documents published by a source, an author, an organization, or a country.

Source: processing via VOSviewer programme, data extracted from SCOPUS database.

Conclusion

Changes in human resources, treated as capital, which are more often considered in a global perspective, as well as their effects, are visible on many levels. The entire sectors of activity are transformed, as well as the nature of the work itself, especially within jobs requiring low and medium qualifications and highly qualified employees.

Changes in human resources, treated as capital, which are increasingly analysed within a global perspective, and their effects are visible on many levels. The entire sectors of businesses, as well as the nature of the work itself are being transformed, especially in jobs requiring low and medium qualifications and highly qualified employees. All this makes it necessary for us to focus more on talent management, whose importance and multidimensionality are emphasized by many companies, institutions and scientists. The performed bibliometric analysis pointed to several important issues regarding the state of research in the field of talent management. First of all, the growing number of publications dealing with the talent management problem, especially in the last decade, indicates an increasing interest in this area and the need to explore it on many levels. Secondly, in the field of research, the dominance of European academic units is visible. Three academic centres - leaders in the area of publications on the subject of talent management are located in Ireland, Belgium and in the USA, and the most active researchers are associated with the National University of Ireland, Galway and KU Leuven. Thirdly, the analysis showed that there are some gaps in the research of Polish scientists within this area globally. Unfortunately, the percentage of publications by Polish researchers is negligible - they do not even constitute 1% of all publications in this area. Fourthly, the multidimensionality of this issue can also be noted. Despite the fact that almost 45% of publications, according to the SCOPUS database, are focused on "Business, Management and Accounting", considerations related to talent management are also raised by researchers within related, but other subject areas, such as: Social Sciences ; Economics, Econometrics and Finance, or Psychology. A slightly smaller percentage are publications combining talent management with such areas as: Computer Science, Engineering, Arts and Humanities, Medicine Engineering; Medicine, Energy, Environmental Science, or Mathematics. In total, however, it is over 20% of all publications within this area.

The analysis, although limited to one database, pointed out the main trends and gaps in research directions addressing the problem of talent management. However, it can be a starting point for further research, which should focus on the relationship between other dimensions of this issue.

References

ADP (2018). ADP-Workforce-View-2018-PL.pdf, Downloaded from: https://www.adp.pl/media-1/download-pages/efektywne-metody-angazowania-pracownikow-2018-post/ADP-Workforce-View-2018-PL.pdf.

Al Arissa, A., Casciob, W.F., Paauwec, J. (2014). Talent management: Current theories and future research directions, Journal of World Business, Vol. 49 (2), 173-179, https://doi.org/10.1016/j.jwb.2013.11.001.

Boudreau, J.W., Ramstad, P.M. (2007). Beyond HR: The New Science of Human Capital. Harvard Business School Publishing. Boston: MA.

Carlsson, H., Noyons, E.C.M. (2009). Field delineation using medical subject headings (MeSH) - An alternative way to aggregate data in the web of science. 12th International Conference on Scientometrics and Informetrics. Rio de Janeiro; Brazil; 14-17 July 2009, 914-917.

Collings, D.G., Mellahi, K. (2009). Strategic talent management: A review and research agenda. Human Resource Management Review 19(4), 304-313; https://doi.org/10.1016/j.hrmr.2009.04.001.

Dries, N. (2013). The psychology of talent management: A review and research agenda. *Human Resource Management Review, 23*(4), 272-285. doi: 10.1016/j.hrmr.2013.05.001.

Gorzen-Mitka, I. (2018). Real Estate Markets Assessment in Country Risk Context: EU Baltic Countries Case. Proceedings of the 4th International Conference on European Integration 2018 (ed.) Stanickova M., Melecky L., Kovarova E., Dvorokova K., VSB - Technical University of Ostrava, Ostrava, Czech Republic, 310-318.

Khilji, S.E., Tarique, I., Schuler, R.S. (2015). Incorporating the macro view in global talent management Hum. Resour. Manage. Rev., 25 (3), 236-248.

King, K. (2016). The talent deal and journey: understanding how employees respond to talent identification over time. Employee Relat 38 (1). 94-111.

Klincewicz, K., Żemigała, M., Mijal, M. (2012). *Bibliometria w zarządzaniu technologiami i badaniami naukowymi*. Warszawa: MNiSW.

Korombel, A., Ławińska, O. (2019). Impact of an Enterprise's Company Profile on Social Media on Purchasing Decisions of Representatives of Generation Z. IBIMA Business Review, vol.2019, pages 16. DOI: 10.5171/2019.671964.

Kuraś, P. (2013). Human Resources from the Perspective of the Resource-Based View, in: C.B. Illes, F. Bylok, A. Dunay, L. Cichobłaziński (ed.), People, Knowledge and Modern Technologies in the Management of Contemporary Organizations. Theoretical and Practical Approaches (35-42). Godollo: Szent Istvan Egyetemi Kiado Nonprofit Kft.

Lanvin, B., Evans, P., Rodriguez-Montemayor, E. (2017). The Global Talent Competitiveness Index. Talent and Technology 2017, B., Lanvin, P., Evans (Ed.) INSEAD: The Global Talent Competitiveness Index 2017, Fontainebleau, France.

Lewis, R.E., Heckman, R.J. *(2006). Talent management: A critical review. Human Resource Management Review.* 16 (2), 139-154.

Listwan, T. (2005). Zarządzanie talentami – wyzwanie współczesnych organizacji, in: S. Borkowska (ed.), Zarządzanie talentami. Warszawa: IPiSS.

ManpowerGroup (2016). https://www.manpowergroup.pl/raporty-rynku-pracy/

ManpowerGroup (2018). Solving the Talent Shortage. Build, Buy, Borrow and Bridge 2018. Talent Shortage Survey, https://www.manpowergroup.pl/wp-content/uploads/2018/08/TalentShortage2018_global.pdf, (02.04.2019).

Marcysiak, A., Marcysiak, A. (2011). Influence of the quality characteristics of human capital on the economic performance of farms. Problems of World Agriculture. Wydział, Nauk Ekonomicznych. Uniwersytet Warszawski, vol. 11(26), 129-137.

Mazurkiewicz, A. (2016). Zarządzanie talentami w przedsiębiorstwie w warunkach kryzysu zaufania. Journal of Management and Finance. 2/2, 35-48.

Michaels, E., Handfield-Jones, H., Axelrod, B. (2001). War for talent. Boston MA: Harvard Business Press.

Nijs, S., Gallardo-Gallardo, E., Driesa N., Sels, L. (April 2014). A multidisciplinary review into the definition, operationalization, and measurement of talent, Journal of World Business, Volume 49 (2), 180-191.

OECD (2001). The Well-being of Nations. The Role of Human and Social Capital. http://www.oecd.org/education/innovation-education/1870573.pdf

Ruas, T.L., Pereira, L., Grosky, W.I. (2017). Science, technology and innovation exploration in biophotonics through a scientometric approach. IEEE International Conference on Smart Technologies and Management for Computing, Communication, Controls, Energy and Materials, ICSTM 2017 – Proceedings, 36-43.

Swailes, S., Blackburn, M. (2016). Employee reactions to talent pool membership Employee Relat., 38(1), 94-111.

Serban, A., Andanut, M. (2014). Talent Competitiveness and Competitiveness through Talent. Procedia Economics and Finance, 16, 506-511. doi:10.1016/S2212-5671(14)00831-4.

Sitek, M. (2019). Barriers of Innovation Activity as Risk Factors on the Real Estate Market, IBIMA Business Review, vol. 2019 (2019), 12 pages. DOI: 10.5171/2019.870062.

Skibinski, A. (2017). The changes of the Population Structure and its Consequences in Selected EU Countries - Some Aspects, European Journal of Sustainable Development. Vol. 6 (1), 357-368.

Smolarek, M., Dzieńdziora, J. (2017). The Strategic Human Resources Management in SME Sector. PROCEEDINGS OF THE 13TH INTERNATIONAL CONFERENCE: LIBEREC ECONOMIC FORUM, Kocourek, A. (Ed.), 276-284.

Tylec, A. (2014). Intellectual Capital and Effectiveness of Corporate Management, in Managing Organizations, in Changing Environment. Models - Concepts – Mechanisms, Jaki A., Rojek T. (Eds.). Publishing House: Foundation of the Cracow University of Economics, 427-435.

Vaiman, V., Sparrow, P.R., Schuler, R., Collings, D. (Eds.). (2018). Macro Talent Management: A Global Perspective on Managing Talent in Developed Markets. London: Routledge.

Zhang, X, Estoque, RC, Xie, H, Murayama, Y, Ranagalage, M. (2019). Bibliometric analysis of highly cited articles on ecosystem services. PLoS ONE 14(2): e0210707. Downloaded from: https://doi.org/10.1371/ journal.pone.0210707.