Competencies of talents: bibliometric analysis

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Abstract

Talent management is a popular approach for human resource management nowadays. However, in the case of talent management the practice is more advanced than the theory. The term "talent" is relatively subjective and the expectations from the talented individuals can vary depending on the context. The principal aim of the research is to distinguish the competences precepted as attributes of talents in the scientific literature. The research is of the exploratory nature and is realized using bibliometric analysis technique, using VOS-viewer software. References were obtained from the Scopus database. The identification and classification of the obtained results regarding competences in the talent management during the research will contribute to a better understanding of the phenomena of talents.

Keywords

talent management, talent, competences, bibliometric analysis, human resource management

Introduction

Companies build human resource strategies in order to gain competitive advantage, because the performance of the employees influences the overall results of the companies' activities. Companies select employees depending on their abilities to perform the job tasks, thus depending on their experience, educational level and other characteristics, people can be related to the group of low-qualified, average or high-qualified specialist. In the business practice, highly-qualified specialists with outstanding abilities are often called "talent". Talent management can be considered as one of the emerging topics in the scientific literature, though it became popular with the researchers in 1990th [Keller, Meaney, 2017], the theoretical framework of the talent management topic is not well-studied yet. Currently in literature different definitions of talents exist, that vary depending on the research context. However,

the majority of researchers agree that talent is an employee performing results that are hard to repeat by other specialists of comparable experience and qualification [Beechler, Woodward, 2009].

Competences can be assumed among the most important attributes of an employee. The topic of competences has deep historical roots in the human resource management [Moczydłowska, Widelska, 2014, p. 169], and it is well elaborated by researchers. Competences are often defined as knowledge, expertise, skills and abilities that people need to carry out job roles [Bohlouli et al., 2017, p. 84]. According to European Commission (2008), competence can be defined as "proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development".

The aspect of talents' competencies is of a high value for understanding the mechanism of employee selection in companies. The main aim of the study is to complement to the current state of knowledge regarding the talent management topic, specifically outline the competences of the mentioned above group of labour force in the scientific publications. To achieve the aim, the bibliometric analysis was applied, using VOS-viewer software. For the references the Scopus database was used. In total, 568 documents were studied from the time period 1938-2019.

The paper is organized as follows: section 1 describes contemporary state of knowledge on the talent management topic and employees' competencies; section 2 describes the methodology; section 3 represents the principle research results, including science mapping, and their analysis. The last section contains discussion of the research's conclusions.

1. Literature review on talent management

The importance of competencies of the human capital for companies has predetermined the popularity of this topic for the scientific researchers. The human capital value is changeable, and it depends on a person or the extent on which it generates value for the firm through specific skills, knowledge, and experience that directly contribute to desired organisational outcomes. In a broad sense, competency can be defined as the combination of observable and measurable knowledge, skills, abilities and personal attributes that contribute to enhanced employee performance and ultimately result in organizational success [Wuim-Pam, 2014]. Based on the literature analysis of publications from France, UK, Germany and USA, European Commission defined competence as a composite definition of cognitive, functional, personal and ethical competences [European Commission, 2008].

Researchers offer a different approaches to classify the competencies'. According to the human capital and transaction theories, general (nonspecific) and specific (idiosyncratic) competencies can be distinguished [Nordhaug 2004, p. 384]. Bohlouli et al [2017, p. 84] recognize general competences, soft skills, business skills and technical competences. One of the classifications, covering a wide range of elements was offered by T. Oleksyn and it includes internal motivation, talents and predispositions, knowledge, education, experience and practical skills, health and condition, other psychophysical traits important in the work processes, attitudes and behaviours expected in the workplace, formal qualifications to act [Moczydłowska, Widelska, 2014, p. 170; Oleksyn 2006]. The components of employee competencies are closely connected and have mutual influence on each other [Moczydłowska, Widelska, 2014, p. 170].

Individuals that posses a set of competencies of a higher level than average employees can be considered as talent. Growing competition on the market cause the growing demand on talents, because they have capabilities that can increase the productivity, efficiency and competitive advantage of organizations in all industries [Sabuncu, Karacay, 2016, p. 443]. The principle difference between talents and highly-qualified specialists is that a "talent" is characterized by intelligence that can affect the job performance and that is complicated to achieve, and the complexity of a "talent's" tasks is "objectively" more cognitively demanding than others, even for experienced workers [Strenze 2013, p. 194]. Therefore, a high qualification can be achieved through the years of experience, hard work and education, while talent has another nature. If to give a brief definition of talent, it consists of the combination of "competence, commitment and contribution" [Beechler, Woodward, 2009]. According to Knap-Stefaniuk & Karna, "Talent is associated with high intellectual level, outstanding abilities, creative thinking, fast learning, readiness for unconventional action, making changes and taking risks. Talented people are often characterized by a large internal discipline, perseverance in pursuing goals, fascination with work, faith in their own abilities".

2. Research method

Bibliometric analysis is a general tool used be researchers from different fields of studies. A bibliometric analysis facilitates the evaluation of developments in knowledge on a specific subject and assesses the scientific influence of research and sources [Uribe-Toril, Ruiz-Real, de Pablo Valenciano, 2018]. There are different approaches used for the performance of this type of study. For the purpose of current paper the works by Gaviria-Marin et al. (2019) and Glińska & Siemieniako (2018)

were adopted. There are two main procedures for the bibliometric analysis: performance analysis and science mapping [Gaviria-Marin et al., 2019, p. 196]. Bibliometric performance analysis covers word frequency and citation analyses, counting publications by country, universities, research group or authors [Gaviria-Marin et al., 2019, p. 196; Thelwall, 2008]. For the purposes of current research, the performance analysis was made on the background of information in the Scopus database.

Science mapping procedure allows to represent the structural and dynamic aspects of the research, displaying the relations of various scientific actors [Gaviria-Marin et al., 2019, p. 197]. For the science mapping can be used numerous contemporary software programs, and for the current research the VOS-viewer was selected. The results are usually presented in the form of a map showing the relationship between the individual elements [Halicka, 2017; Gudanowska, 2015; Siderska, Jadaa, 2018; Szpilko, 2017].

Nowadays researchers have access to the large number of scientific publications' databases, and Scopus database is among the most the most recognized, popular and reliable. The Scopus is frequently used for the bibliometric analysis, because it provides a set of essential metadata, such as abstracts, references, number of citations, lists of authors, institutions, countries.

For the purpose of the research, the keywords "talent" and "competency" were used to refine the research results. In total, 568 publications fit the filters. For the research the keyword co-occurrence option was selected. In total, 2920 keywords were generated. The minimum occurrence was selected equal to 8; as the result, the number of the keywords was limited up to 69. Afterward, the keywords filtration was used to sort the information, obtained in the Scopus database. From the list were excluded the keywords, such as showing the research type, field of studies, etc., that have minor influence on the research topic.

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3. Research results

The retrospective of the thematic scope "talents' competencies" begins from 1938. However, the researchers' interested started growing in early 2000th. As the figure above shows (Fig 1.), in the time period 1938-1995 the number of publications per year fluctuated from 0 to 2. From 1996 to 2003 it varied from 1 to 4; from 2004 to 2006 it has raised from 9 to 11; from 2007 to 2012 it was fluctuating from 19 to 33 publications; from 2013 till 2018 up to 69 publications per year can be detected.

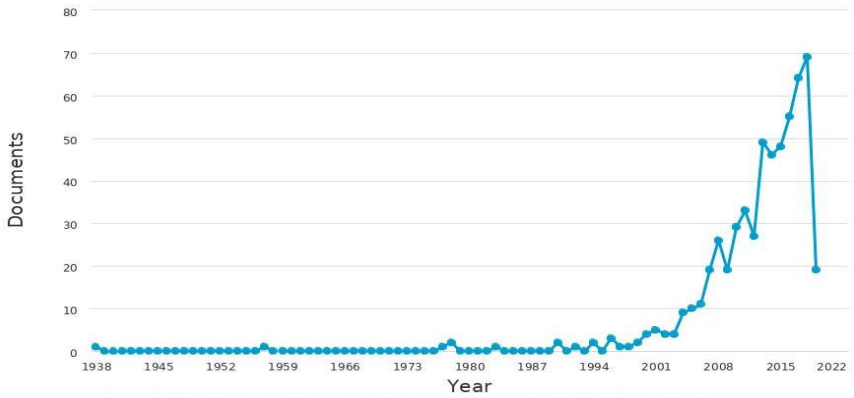


Fig. 1. Distribution of the documents by publication year

Source: Scopus Database.

In total, the Scopus database contains the publications about 62 countries/territories of origin plus undefined in the topic of talents' competencies. According to the figure above (Fig. 2), the largest number of publications is connected with the United States (186 publications), followed by China (66 publications) and India (46 publications). In general, the top-10 countries represent European and Asian countries plus Australia.

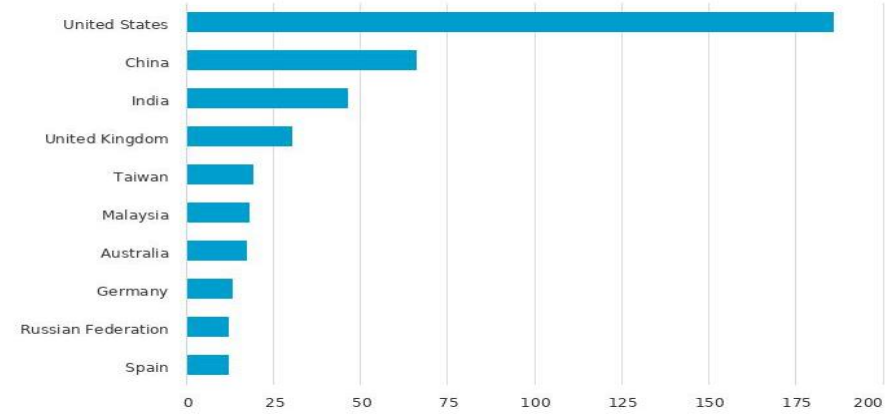


Fig. 2. Distribution of the documents by country of origin

Source: Scopus Database.

As the figure above shows (Fig. 3), the thematic scope of talents' competencies is dominantly located in 10 subject areas plus other. More than the quarter of publications (25.2%) were made in the field of "Business, Management and Accounting", followed by the "Social Sciences" (16.6%). Besides for the subject areas belonging to the cumulative group "Other", the fewest number of publications is in "Arts and Humanities" (1.9%) and "Decision Sciences" (3.6%).

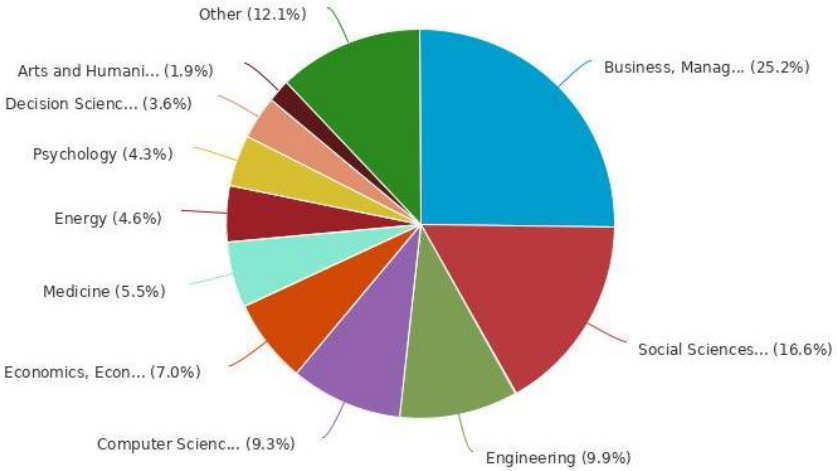
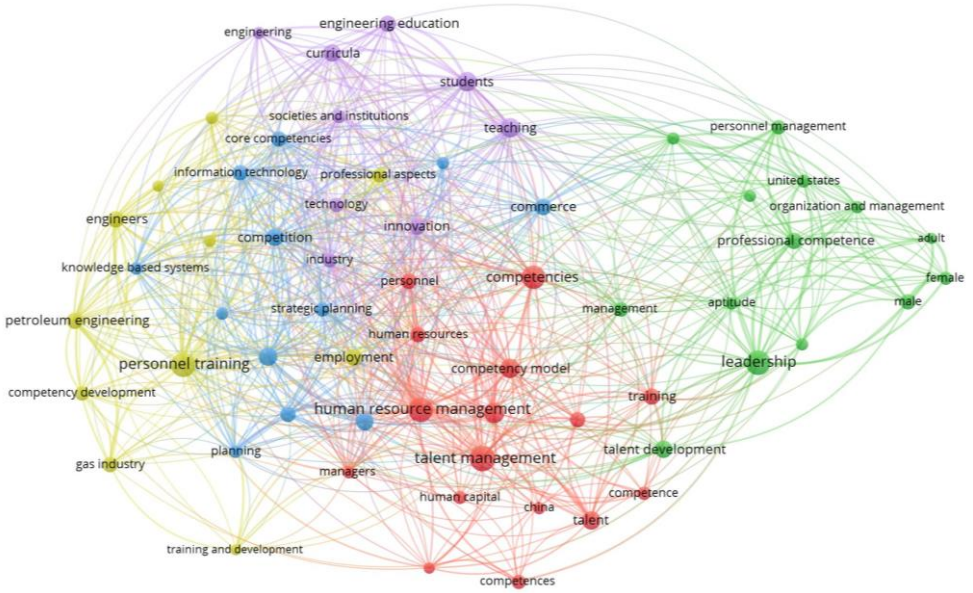


Fig. 3. Distribution of the documents by subject area

Source: Scopus Database.

As the figure above shows (Fig. 4), the most frequently occurred keywords human resource management, talent management, leadership, personnel training. Gender issues (male, female), geographical characteristics (United States, China), age (adult) are of essential importance either. Five clusters were identified, four of them are interconnected more closely, whereas the fifth one is located on distance.



* the larger the circles are, the higher the occurrence frequency is

Fig. 4. Keywords co-occurrence mapping for "talent" and "competency" topic

Source: own elaboration on the base of Scopus, using VOS-viewer software.

The keywords mapping shows that though talents are supposed to be the carriers of specific attributes, in the scientific literature they are rather approached from the general perspective. According to VOS-viewer analysis (Tab. 1), five clusters can be formed with total 62 items. The first cluster contains 16 items, the second – 14 items, the third - 12 items, the fourths - 11 items, the fifth – 9 items.

Tab. 1. Keywords clusters

Cluster Number	Number of items	Keywords
1 (red)	16	China, competence, competences, competencies, competency, competency model, human capital, human resource management, human resources, leadership development, managers, personnel, succession planning, talent, talent management, training
2 (green)	14	Adult, aptitude, clinical competence, female, leadership, male, management, organization and management, personnel management, personnel selection, professional competence, professional development, talent development, United States

3 (blue)	12	Commerce, competition, core competencies, decision making, economics, industrial management, information management, information technology, knowledge based systems, knowledge management, planning, strategic planning
4 (yellow)	11	Career development, competency development, employment, engineers, gas industry, management science, personnel training, petroleum engineering, professional aspects, project management, training and development
5 (purple)	9	Curricula, engineering, engineering education, industry, innovation, societies and institutions, students, teaching, technology

Source: own elaboration based on the Scopus database.

All the clusters have differences and similarities. It can be assumed, that the principle difference of the first cluster is its concentration on human resource management, including talent management. The cluster includes the mentioning of the term "competency" in its different forms. Geographically, the cluster focuses on China. The second cluster displays the thematic mix of keywords – organizational management, age, gender, – and it is hard to define the key vectors, though regionally it is mostly focused on the United States. The third cluster is information and knowledge management oriented. The fourth cluster displays two main vectors: career development and gas/petroleum industry. The fifth cluster is mixed contains engineering, educational-oriented keywords. From the science mapping analysis it can be observed that the researches are focused on the competencies' development (professional development, competency development, training and development, etc.) rather that the competencies a talent should possess (leadership, engineering education, etc.); organizational management and human resource management are the integral parts of the analysis.

Conclusions

The main objective of the research was the presentations of the overview of talent management topic, specifically talent's competencies, using the bibliometric analysis. Though competencies are an essential element of the human resource management, talents' competencies analyses are underrepresented in the scientific literature. One of the key limitations of the research is that using current approach to the bibliometric analysis it is complicated to eliminate irrelevant research results. The outcomes of the Scopus database analysis can differ from the analysis of other databases, because different publications can be available.

The analysis included two methods: performance analysis and science mapping. The performance analysis shows that more than a quarter of publications (25.2%) on the thematic scope of talents' competences were made in the field of "Business, Management and Accounting". Geographically, publications from 62 countries plus undefined were included in the analysis. The top-10 countries represent European and Asian countries plus Australia. The largest number of publications is connected with the United States (186 publications), followed by China (66 publications) and India (46 publications). Though the first publication has appeared in 1938, the topic became popular with researchers after 2013 when the number of publications yearly was exceeding 30.

The bibliometric analysis, conducted for the purposes of current study, shows, that the topic "talent" in the perspective of competencies is comparatively unpopular with researchers. In the Scopus database only 568 results have appeared. According to the science mapping, the most frequently analyzed countries are China and the USA. As the map shows, gender and age can be considered as the attributes of a considerable importance. The publications mostly focus on organizational management and human resource management perspectives. Additionally, it should be mentioned that in the scientific publications the overall focus is rather on the development of talents' competencies than on the competencies a talent possesses.

Literature

1. Beechler S., Woodward I.C. (2009), *The global "war for talent"*, Journal of International Management 15, pp. 273-285. doi: 10.1016/j.intman.2009.01.002
2. Bohlouli M., Mittas N., Kakarontzas G., T Theodosiou T., Angelis L., Fathi M. (2017), *Competence assessment as an expert system for human resource management: A mathematical approach*, Expert Systems With Applications 70, pp. 83-102. doi: 10.1016/j.eswa.2016.10.046
3. European Commission. (2008), *The European qualifications framework for lifelong learning (EQF)*, Office for Official Publications of the European, pp. 1-4. doi: 10.2766/14352
4. Gaviria-Marin M., Merigó J. M., Baier-Fuentes H. (2019), *Knowledge management: A global examination based on bibliometric analysis*, Technological Forecasting & Social Change 140, pp. 194-220. doi: 10.1016/j.techfore.2018.07.006
5. Glińska, E., Siemieniako, D. (2018), *Binge drinking in relation to services – bibliometric analysis of scientific research directions*, Engineering Management in Production and Services. 10/1, pp. 45-54. doi: 10.1515/emj-2018-0004

6. Gudanowska A.E. (2015), *Tworzenie mapy wiedzy opartej na tematyce projektów badawczo – rozwojowych na przykładzie województwa podlaskiego*. Economics and Management 7(1), pp. 257-270. doi: 10.12846/j.em.2015.01.16
7. Halicka K. (2017), *Main concepts of technology analysis in the light of the literature on the subject*, Procedia Engineering 182, pp. 291-298, doi: 10.1016/j.proeng.2017.03.196
8. Keller S., Meaney M. (2017), *Attracting and retaining the right talent.* Retrieved from https://www.mckinsey.com/business-functions/organization/our-insights/attracting-and-retaining-the-right-talent [15.10.2018]
9. Knap-Stefaniuk A, Karna W.J. (2017), *Zarządzanie talentami jako instrument rozwoju zasobów ludzkich we współczesnych organizacjach z uwzględnieniem problemu migracji*. In Imigranci wsparciem dla rynku pracy i rozwoju przedsiębiorstw, pp. 51-68
10. Moczydłowska J.M., Widelska U. (2014), *Professional competencies of candidates for employees in the assessment of employers (based on the example of the entrepreneurs from machine industry)*, Polish Journal of Management Studies 9, pp. 168-178
11. Nordhaug O. (2004), *Contributions to an economic theory of human resource management*, Human Resource Management Review 14, pp. 383-393, doi: 10.1016/j.hrmr.2004.10.002
12. Oleksyn T. (2006), *Zarządzanie kompetencjami. Teoria i praktyka*, Oficyna Ekonomiczna, Kraków
13. Sabuncu K. U., Karacay G. (2016), *Exploring Professional Competencies for Talent Management in Hospitality and Food Sector in Turkey*, Procedia - Social and Behavioral Sciences 235, pp. 443-452, doi: 10.1016/j.sbspro.2016.11.055
14. Siderska J., Jadaa K.S. (2018), *Cloud manufacturing: a service-oriented manufacturing paradigm. A review paper*, Engineering Management in Production and Services 10(1), pp. 22-31. doi: 10.1515/emj-2018-0002
15. Strenze T. (2013), *Allocation of talent in society and its effect on economic development*, Intelligence 41, pp. 193-202. DOI: 10.1016/j.intell.2013.03.002
16. Szpilko, D. (2017), *Tourism Supply Chain – overview of selected literature*, Procedia Engineering 182, 687-693. doi: 10.1016/j.proeng.2017.03.180
17. Thelwall, M. (2008). *Bibliometrics to webometrics*, Journal of Information Science, 34, pp. 605-621. doi: 10.1177/0165551507087238
18. Uribe-Toril J., Ruiz-Real J., de Pablo Valenciano J. (2018), *Gentrification as an Emerging Source of Environmental Research*, Sustainability, 10/12, pp. 48-47; DOI: 10.3390/su10124847
19. Wuim-Pam B. (2014), *Employee Core Competencies for Effective Talent Management*, Human Resource Management Research 4(3), pp. 49-55. doi: 10.5923/j.hrmr. 20140403.01