Talent Management of Academic In Higher Education: A Bibliometric Analysis

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ABSTRACT

It has been widely proven that any organization, including higher education institutes (HEI), applied talent management (TM) to achieve competitive advantages. This research aims to understand TM's concept, process, and practices in academia through article analysis. The result of this study will be used for the next research on TM in academia, supported by the Ministry of Education, Culture, Research and Technology (MECRT). The analyzed article samples are collected using the software Publish or Perish (PoP) that focuses on article journals that were published from 2008 to 2022, included in Scopus Database, and using the keywords: talent management, higher education. PoP results include 48 articles to be analyzed using bibliometric analysis with the help of the software VOSViewer to learn about the relationships between the TM concept and process for academic staff. Findings that the concept and processes of TM involve a series of typical management activities from workforce planning that includes analyzing talent needs & talent planning; Talent Acquisition which includes employee value proposition, talent attraction, recruitment, selection & staffing; Talent Development which includes boarding, training, talent development, career management, coaching, mentoring, succession planning, talent pool, leadership development; Talent Retention made up of performance management, Compensation, Reward, Retaining Talent; Human Resource Management that includes: managing Talent, managing performance, rewarding Talent. This research also found that item Cultivation has a strong relationship with HEI and a weak relationship with TM. This research offers a process framework to efficiently attract, develop and retain employees in the HEI sector as well as retain talented academic staff.

Keywords: Talent Management, Higher Education, Bibliometric Analysis.

Introduction

Researchers have shown that higher education institutions need to catch up in leveraging talent management. With processes such as attracting, developing, and retaining quality talent, TM is essential for institutional success to drive institutions to achieve competitive advantage (Rudhumbu & Maphosa, 2015). Talent is vital to achieving distinction in any institution, including HEI. Accordingly, selecting and managing Talent are effectively some of the determining factors for HEI's success and enhanced competitiveness (Nasser, 2019). Literature has shown that talent retention in institutions has become a significant challenge faced by several HEIs for the last two decades. TM has become a human resource (HR) management practice that aims to improve employee engagement in "emotional and intellectual connection as well as a competitive weapon" for organizational success, organization growth in an ever-changing environment and maintaining it as long as possible (Daruka & Pádár, 2019; Mellahi & Collings, 2010; Mohamed Mousa & Ayoubi, 2019b). One of the biggest assets an HEI can have is highly qualified academics or lecturers in this context. Therefore, it is essential for HEIs to implement a comprehensive talent management strategy to enhance the quality of their human resources, leading to improved university rankings and the continued reputation of the institution within local and international scientific communities (Nasser, 2019).

Several studies regarding TM can be presented as the following: A study from (Taamneh et al., 2021) reported that TM had garnered significant attention as a primary solution to the grand challenges businesses face. Two key realities within the Higher Education Institution (HEI) environment support this assertion. Firstly, a majority of HEIs globally struggle with talent shortages. Secondly, highly talented academics play a crucial role in enhancing the quality of research and education, bolstering the HEI's reputation, and providing a competitive advantage. It is important to note that other crucial indicators of academic excellence, such as innovative teaching, often require lecturers to possess self-efficacy in student engagement and class management, which are sometimes undervalued (Paisey & Paisey, 2018). Overlooking these qualities when assessing an academic talent can cause biases in talent management and decision-making. Thus, this has led to a growing demand for a more balanced approach to talent management in HEIs.

There has not been a consensus or an agreed definition among TM scientists and practitioners in profitable and nonprofitable organizations. Cappelli & Keller (2014) explained that the core of TM lies in having the right person doing the right job at the right time. ("matching with the job"). The concept of TM in academia varies across subfield disciplines and the country's context. It has led to difficulties in understanding a more direct definition of academic Talent. Nevertheless, the concept of Talent in academia has always been associated with measures such as research quality, number of publications, and number of citations contested in the Western educational communities.

A study from (Nijs et al., 2014) highlights the emergence of talent management (TM) as an important topic in human resources (HR) practices well before it gained attention as an academic subject. It suggests that TM is a field of study influenced by growing phenomena, leading to various implications for future research and theoretical advancements. However, there remains limited consensus on the definition of Talent and TM and the appropriate methodologies to study the TM construct. In another study conducted by Mohamed Mousa & Ayoubi (2019a) on talent management in an Egyptian business school, it was discovered that

the implementation of TM lacked structured procedures and exhibited irresponsibility in areas such as staff placement, empowerment, motivation, evaluation, and talent retention. It is important to note that the findings of this study cannot be generalized. Still, they suggest the need for future research to assess talent management practices in various HEIs with different regulations. Another study (R N Musakuro, 2022) described that academic talents must be managed more effectively and efficiently in HEI. An effective and efficient TM allows academic staff to improve productivity and work satisfaction. Martin et al. (2022) conducted a study highlighting the significance of TM for HEIs in the face of national and international competition, demographic shifts, IT advancements, and external workforces. The study emphasizes the need for HEIs to proactively engage in talent search and intensify their efforts in attracting and developing talents within their education systems to gain a competitive edge. The findings suggest that TM should be understood and implemented in diverse contexts and environments, involving all stakeholders within the TM system and its operations (Collings, 2014).

Problems of the Study

The HEI sector is closely related to changes, especially after the Corona Pandemic, rushed by continuous advancements in information technology and influenced by shifts in worker demographics. These factors will motivate emerging interdisciplinary collaborations (Abu Said et al., 2015; Drucker, 2001) and acknowledge academics as esteemed professionals, recognized as golden workers and talents, given their responsibilities in supervising students, conducting and publishing research, enhancing graduates' skills, providing consultation services, and engaging in commercialization efforts on behalf of their respective affiliated universities, as well as contributing to their affiliated universities' academic ranks. As mentioned by the QS World University ranking, the academic arena has a strategic role in the graduates' quality. It can be seen that the university's score ranking reflects its efforts in working toward sustainable development goals (SDGs). Some criteria include academic reputation reflected in the teaching and research qualities and the reputation of its graduates from the employers. Even more, the academic reputation has a 40% value out of the overall score (L, 2022). Regarding managing talents for academics in HEIs, the TM concept, and definition are strongly needed as the basis of the management practice.

The lack of empirical studies in the TM field causes the concept and definitions of TM to appear inconsistent, and difficult to gain universal agreement because there are no comprehensive systematic literature reviews about TM in HEIs, although talents are not a completely novel concept (McCarthy & Collins, 2014; Meyers & Woerkom, 2014; R N Musakuro, 2022; Rudhumbu & Maphosa, 2015). To ensure the effectiveness of TM practices in HEI, it is essential to possess a comprehensive understanding of the knowledge, concepts, and definitions of TM. This knowledge is crucial for formulating policies and establishing TM strategies that align with the core strategy of the institution, taking into account the cultural context and potential opportunities that may be available (Meyers & Woerkom, 2014; R N Musakuro, 2022). As such, this study is aimed to:

1. Gather information, concepts, knowledge, process, and TM practices in HEI using bibliometric analysis from journal articles published through the Scopus database.
2. Analyze the results of the TM process from the bibliometric analysis through a qualitative approach.

This study is focused on obtaining talent management concepts, processes, and practices in HEI to enrich further discussions under the TM theme. This study is limited by analyzing the bibliometrics of article titles and abstracts of 48 articles collected using the Publish or Perish (PoP) software application. We set the filters to focus on journal articles with titles including the word Talent, keyword Talent Management Higher Education, published in 2008 -2022, exclusively from the Scopus database.

Literature Review

Talent and Talent Management

Understanding of Talent is described as diverse skills, abilities, knowledge, experience, values, intelligence, attitudes, character, competence, commitment, and values that are genetically encoded contributions to organizational goals. D. and S. N. Ulrich (2012) define the context of employee talent in the organization is formulated as:

$$\text{Talent} = \text{Competence} \times \text{Commitment} \times \text{Contribution}$$

Competence refers to the knowledge, skills, and values required for today's and tomorrow's jobs. One company further refined competence as the right skills, place, job, and time.

Competency: A series of individual performance behaviors that can be observed, measured and are important to produce effective individual and corporate performance. The individual characteristics of a person that result in effective and superior performance in a job (Sanghi, 2007)

But without commitment, competence is discounted. Highly competent employees who are not committed are smart but don't work hard. Committed or engaged employees work hard, put in their time, and do what they are asked to do. Contribution occurs when employees feel their personal needs are met through active organizational participation. In this talent equation, the three terms are multiplicative, not additive. If anyone is missing, the other two will not replace it. A low score in competence will not turn into Talent even when the employee is engaged and contributing.

Since the study of talent management by a McKinsey consultant in 1997, talent management has received significant attention in the theory and practice of human resources until now because Talent is proven to be a source of organizational competitive advantage. Nevertheless, until now, the literature and the concept of Talent Management still need to be debated; it seems that defining TM is challenging because there is no universally accepted definition or model of TM (Daruka & Pádár, 2019; Rhodrick N Musakuro & De Klerk, 2021). Part of the study results (Daruka & Pádár, 2019) regarding the TM concept for academics produce a definition and understanding of Talent and the TM process, shown in Table 1.

From Study (Daruka & Pádár, 2019), the consequent literature, when examined, differs significantly in the interpretation of the TM process. However, the article can generally divide into four TM processes: attraction, selection, development, and talent retention. Several articles specifically mention academic Talent and differentiate them into two aspects: their

primary job – teaching versus research versus talent support, and seniority – senior versus junior. Regarding the talent segment, most articles only mention managerial/leadership talent. At the same time, others list high-potential Talent so that the TM model can identify five talent segments related to TM processes.

Table 1: Talent definitions & segments and TM definitions & processes on TM academics

No	Author (s)	Who is Talent ?	Talent segment(s)
1	Badia (2015)	Leadership potential High potentials	Leadership potential High potentials
2	Bradley (2016)	talent pool (pivotal, high value-added, roles in both teaching and research … these roles may not be explicit leadership roles ((Yielder & Codling, 2004) (p. 15))	Teaching and research talents
3	Paisey & Paisey (2018)	Talent has been defined in a variety of ways, for example whether it is innate or alternatively, whether it can be acquired, with different organizations taking different approaches across the full spectrum (Meyers, van Woerkom, and Dries 2013). Other questions raised are whether talent must be manifest at the recruitment stage or whether instead its potential can be recognized, and whether the focus should be on people themselves or on their characteristics, such as their qualifications (Thunnissen, Boselie, and Fruytier 2013b). Underlying conceptualizations variously view talent as capital, individual difference, giftedness, identity, strength, or the perception of talent (Dries 2013). In terms of implications for organizations, Minbaeva and Collings (2013) argue that it may not be necessary to always recruit the 'best' in terms of experience or qualifications, or 'A players' for example; instead it is important to focus on outputs and to consider how talent can best be deployed within an organization. (p. 3) talent was being defined in terms of qualifications rather than other attributes (p. 11)	
4	Thunnissen (2016)	Within their TM definitions authors adopt different terms for "talent," for example "excellent abilities," but also terms like "key employees", "high potentials" or "those individuals with high potential who are of particular value to an organization" are used. The variety of terms used to define talent reflects one of the most central debates in TM, i.e. whether TM is an inclusive approach which focusses on (the talents of) all employees, or an exclusive approach aimed at attracting and retaining a select group of employees (Tansley, 2011). (p. 58-59) talents are recruited and developed with a broad variety of TM practices to direct their behavior in a direction that fits the organizational needs, and, as a result, the individual is happy and motivated, and individual and organizational performance increases (p. 59) talent: a scientist with extraordinary insights, a great mind who realized critical breakthroughs in his or her academic field (p. 62).Senior and junior academic talents, postdoc researchers and lecturers (p. 66).	Senior and junior academic talents, postdoc researchers and lecturers
5	van Balen et al. (2012)	high potentials (p. 314) talent is often defined as a natural ability or capacity, in an academic context it generally refers to the academic quality of someone's past achievements (Thunnissen et al., 2010; Van Arensbergen and Van den Besselaar, 2012), (p. 318) …criteria for talent relate to research performance, teaching skills and motivation. (p.318) …in the US, where tenure depends on explicitly formulated criteria with respect to quality and quantity of research output (p. 318)	High potentials
6	van den Brink et al. (2013)	senior academic talent: full professors; junior academic talent: PhD students, postdocs and assistant professors (p. 184). It was found that performance indicators such as the H-index and citation indices /were widely used in most academic fields, although predominantly for the initial selection between applicants. In the next phase, where seemingly equal applicants were evaluated, the selection process became less transparent and objective. (p. 192)	Senior academic talents, junior academic talents
No	**Author(s)**	**What is TM?**	**TM processes**
1	Barkhuizen, Mogwere, & Schutte (2014)	Talent management can be defined as the implementation of integrated human resource strategies to attract, develop, retain and productively utilize employees with the required skills and abilities to meet current and future business needs (Kontoghiorges & Frangou, 2009). (p. 70)	attract, develop and retain talented employees (p. 69)
		continues	

2	Bradley (2016)	Lewis and Heckman (2006) and Collings and Mellahi (2009) develop frameworks for talent management that define it with explicit connections between talent and strategy and so view talent management as the 'architecture' required to develop and sustain competitive advantage. Specifically, they define talent management as an organizational system (or culture) that: 1. Identifies key positions that differentially contribute (add value) to the organization's competitive advantage; 2. Develops a talent pool of high potential and/or high performing individuals to fill these positions; and 3. Develops human resource systems to facilitate the alignment of talented individuals, key positions and organizational strategy. (p. 14)	Recruitment, development, retainment and reward of academic talent TM's alignment with strategy, metrics, and management
3	Erasmus et al.(2017)	Managing talent within an organization has been identified as the lever capable of facilitating the attraction, development, and retention of the required skills and knowledge within the organization through sound strategy, practices, and interventions (Schiemann, 2014). (p. 84) Al, Cascio, and Paauwe (2014) conceptualize TM as "those activities and processes that enable identification of positions and talent pools that are critical to building and sustaining an organization's competitive advantage" (p. 174) (p. 84) Cappelli and Keller (2014) describe TM as "the process through which organizations anticipate and meet the needs for talent in strategic jobs" (p. 307). (p.85) Stahl et al.'s (2012) claim that "TM specifically involves attracting, selecting, developing and retaining high potential employees" (p. 38) and shou and should not include all employees of any given organization. (p. 85)	attraction (talent sourcing), development, deployment, and retention (p. 94)
4	Paisey & Paisey (2018)	Scullion, Collings, and Caligiuri (2010, 106) define global talent management as including: all organizational activities for the purpose of attracting, selecting, developing, and retaining the best employees in the most strategic roles (those roles necessary to achieve organizational strategic priorities) on a global scale. (p.	Talent management spans the employee lifecycle, from attracting and selecting employees to developing and retaining them (Scullion, Collings, and Caligiuri 2010; Stahl et al. 2012). (p. 1)
5	Singh & Singh (2015)	Also, talent management refers to the sourcing (finding talent); screening (sorting of qualified and unqualified applicants); selection (assessment/testing, interviewing, reference/background checking, etc., of applicants); on-boarding (offer generation/ acceptance, budging/ security, payroll, facilities, etc); retention (measures to keep the talent that contributes to the success of the organization); development (training, growth assignments, etc); deployment (optimal assignment of staff to project, lateral opportunities, promotion, etc) and renewal of the workforce with analysis and planning as the adhesive, over-arching ingredient (Schweyer, 2004; CIPD, 2006; Ehsan et al., 2014). (p. 753). In other words, talent management is what occurs at the nexus of the hiring, development and workforce management process and can be described alternatively as talent optimization. It is managing the entire employee life cycle, leadership development, succession planning and so on (Delong and Trautman, 2010). (p. 753). Thus, talent management is all about formulating successful talent strategies (Sears, 2003). (p. 753).Thus, it is the systematic cycle of planning, execution, and evaluation to manage the flow of talent into, through, and out of the organization to achieve goals and meet needs. (p. 753)	hunting, acquiring, developing and retaining best talent (p. 751) In a nutshell talent management rests on the four pillars; viz. recruitment management, performance management, learning management and compensation management. (p. 753)
6	Thunnissen (2016)	TM is often described as the systematic attraction, identification, development, engagement/retention and deployment of talents (e.g. Scullion et al., 2010) (p. 58)	Selection and recruitment, and Development, performance and promotion practices (p. 65-66)

Source : part of Study Daruka &Padar (2019)

Furthermore, with a process-based TM model with technological developments, globalization, and demographic changes as macro-environmental factors, strategy, HRM role and HRM strategy, organizational structure and culture, leadership attitude, central

areas of activity, location and country and career opportunities as organizational factors, may influence all TM activities. Some researchers from (M Mousa et al., 2021) stated that there are three schools of thought on talent management. The first school of thought considers talent management as an active part of traditional HRM practices focusing on selecting, developing, and retaining employees with superior performance. The second stream states that with an inclusive approach that treats all administrative staff as having Talent and prioritizes a detailed set of competencies for them to understand and practice, this talent management is a rebranding for the concept of HRM. The third has an exclusive approach that narrows the scope of training, support, and organizational learning.

Talent Management of Academic

Academic long-term development contributed to knowledge competence and professional identity. (Martin et al., 2022) consider academics as talented personnel because they have unique competencies and abilities that can be utilized to advance their university and society. In general, TM practice in universities worldwide has been based on a collegial system in which the power of hiring professors rests with academic staff.

In their investigations of TM approaches in Iran, (Moghtadaie & Taji, 2016) found that talent development, attraction, and maintenance have respective ratings within academia that influence culty performances. From Study (R N Musakuro, 2022), there are five key functions related to talent management, explaining the various but interrelated functions of the talent management system, namely:

Planning & Workforce planning

The planning stage includes determining TM strategy, aligning with business strategy, environmental analysis, and talent success profiles to ensure that the right organizational goals are prioritized; workforce planning is a process that involves the development and practical implementation of action plans to have people - competent people in the organization.

Talent Acquiring (TA).

Acquiring in TM includes processes that focus on attracting, recruiting, selecting, and hiring talent Organizations in attracting talent need to use what is called Employee value proposition (EVP), which is a series of traits and rewards so that talented individuals are attracted to remain in the organization (Bussin, 2014). EVP has the potential to augment and strengthen an employer's brand because it reflects the desired state of the organization concerning the desired strategic goals and culture.

Talent Development (TD)

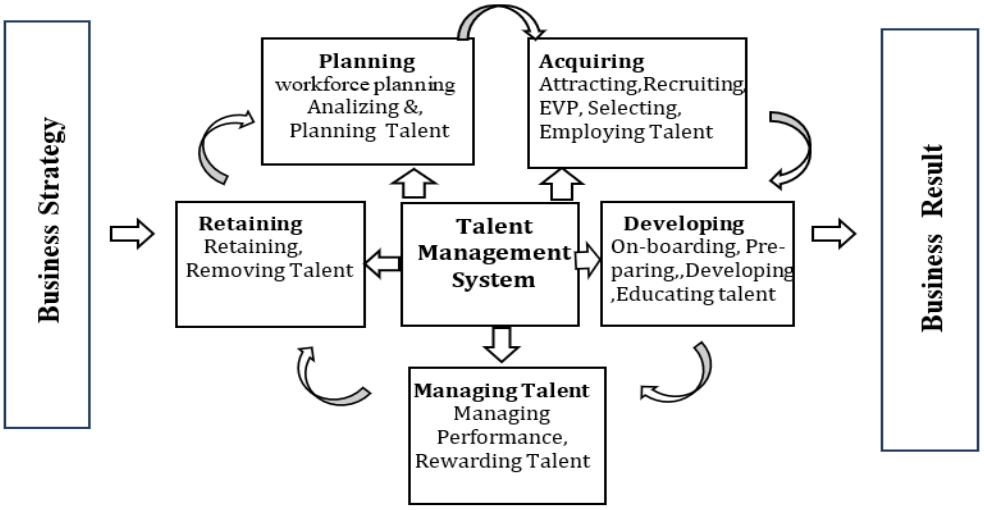
The methods include training, development, career management, coaching, mentoring, and succession planning. This short-term training will improve skills, competencies, and attitudes that will improve organizational performance through their work (Erasmus, BJ, Schenk, HW, 2014). Career management is an important component in developing Talent. Mentoring is also a method of developing employees, especially new staff members. It can be described as the ongoing support a senior employee (mentor) provides to a less experienced employee (mentee). Succession planning is an effort to predict leadership requirements, identify candidate pools, and develop and improve leadership competencies through planned organizational programs.

Managing Talent

Managing Talent within the organization can be used in performance management, compensation, and reward management practices. Its broad definition suggests that it involves aligning organizational strategy and individual goals. Compensation is the real monetary and non-monetary incentives the company provides employees as a reward for their work. On the other hand, extrinsic rewards consist of direct, indirect, and non-financial rewards (Zheng et al., 2009).

Talent Retention (TR)

Talent retention includes several initiatives employers use to retain employees (Bussin, 2014). suggests that to retain key employees, employers need to develop a retention strategy focusing on the following core things: attractive compensation packages, a conducive and enjoyable work environment, and adequate training and development programs to enable employees to grow and develop. In addition, organizations must articulate talent management ideology, accountability aspects, governance issues, and measurement of talent management processes (Bussin, 2014; Meyer, 2016; R N Musakuro, 2022). The author summarizes these five functions related to TM, which can be described as follows:



Bibliometric Analysis

Bibliometrics has focused on the quantitative analysis of citations and citation counts, which are complex. The key concepts in bibliometrics are output and impact, measured through publications and citations. The bibliometric method has been used to map strategic management fields, disciplines, fields, specializations, and the interrelationships of individual papers to one another, enabling researchers to base their findings on bibliographical datasets produced by other scientists working in the field who express their opinions through citations. , collaboration, and writing. Scientific mapping combines classification and visualization (Zupic & Čater, 2015)(Zupic & Čater, 2015). The aim is to represent the structure of the research area by partitioning elements (documents, authors, journals, or) into distinct groups. Visualization is used to create a visual representation of the classification that appears. MB uses easily accessible online databases with citation data (for example, Thomson Reuters Web of Science [WOS], which contains the Social Sciences Citation Index [SSCI] and SCI data) and software for performing analysis, such as BibExcel.

The data set results are analyzed, and insights about field structure, social networks, and topical interests can be proposed. Bibliometric analysis is growing rapidly and will trigger the growth of research and new knowledge. The main use of the bibliometric method is to analyze individual and institutional research & publication performance and map science to reveal the structure and dynamics of scientific fields (Cobo, Lo'pez-Herrera, Herrera-Viedma, & Herrera, 2011a). The bibliometric method works with quantitative rigor in the subjective evaluation of the literature.

The Workflow for scientific mapping has five steps presented in Figure 2: First, it is very important to note that the right bibliometric method depends on the accuracy of the method chosen so that it can answer the research. So in this first step, the researcher must define the research question and choose the right bibliometric method to answer the question. Second, the researcher must establish a bibliometric data database, filter the core document set, and export the data from the selected database. This second process flow sometimes requires creating your database. Third, using bibliometric software for analysis. Researchers can write filtering computer code to complete this step so that these bibliometric results can be further analyzed with statistical software to identify subgroups of documents that represent research specialties. Fourth, the researcher must determine which visualization method to use to answer the research objectives. Fifth is interpretation, explaining, and finding the appropriate purpose of the first step.

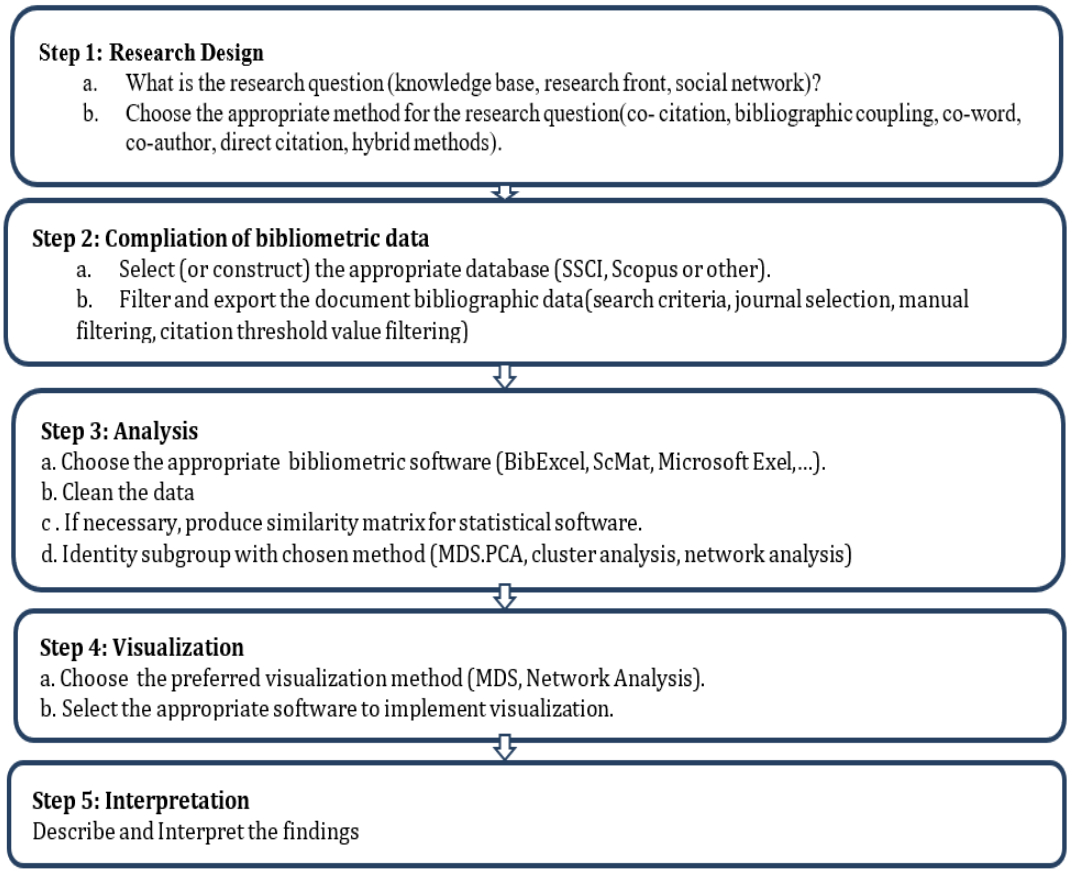


Figure 2: Steps bibliometric analysis (Source: Zupic & Čater, 2015**)**

Methodology

To collect the processes related to TM in this research, the steps are as follows:

1. Collect and organize article databases using Publish or Perish (PoP) software with conditions set in Table 1. The selected articles were published in the Scopus database (Adams, n.d.). The collection resulted in 48 article titles and citations: 481. The results of this search can be seen in Table 1. The results of searching for article titles, authors/'s, citations, and publishers can be seen in Appendix A. The results of article titles are then saved in RIS data and are equipped with an abstract of the article. The article database in RIS is set with the help of Mendeley, which is a reference manager application to help ease further analysis. Table 2 shows the results of analyzing the targeted articles from the Scopus Database using PoP on October 10, 2022**.**

Table 2: Results of the collection of articles using PoP

			Citation metrics
Scopus search		Publication Years	2008-2022
Authors	-	Citation Years	14(2008-2022)
Affiliations	-	Papers	48
Publication name	Journal	Citations	481
Title words	Talent	Cites/Year	34.36
Keyword	Talent Management Higher Education	Cites/paper	10.02
		Authors/paper	1.00

Source : Results from article collections with Publish or Perish V. 8, October 2022

2. Bibliometric analysis. Of the 48 articles consisting of titles, authors/'s, and abstracts, a quantitative bibliometric analysis was carried out with the stages seen in Figure 2. The Bibliometric Analysis used VOSViewer (VV), a computer program to map bibliometric knowledge visually (Van Eck & Waltman, 2017). VOS stands for Visualization of Similarities. VOSViewer supports four basic bibliographic data files: Scopus, Dimension, and Pubmed. In addition, VOSViewer can also read RIS, Endnote, and RefWorks formats. Using the API feature, VOSViewer can also read data from Crosserff, Pubmed, PMC, Semantic Scholar, OCC< COCI, and Wikidata. VOSviewer is a software tool for constructing and visualizing bibliometric networks. This Bibliometric analysis will provide information focused on the relevant items with TM.

Several types of analysis in VosViewer (VV) are:

- **Co-authorship**, analyzing the author's collaboration with other authors. The analysis will visualize results by author name, organization, or country of origin. **Co-occurrence** displays a visualization of the network between keywords—co-citation links references used by others. Bibliographic Coupling connects observed documents based on references. There are two calculation methods used by VV: full and fractional counting. Full counting will count as is, while the number of co-authors influences fractional in a document being tested. If the data you want to read is part of the Title or Abstract, then VV will cut the words in the title/abstract and then visualize the relationship between the pieces of words/terms.
- **VosViewer Visualization** – There are three kinds of visualization views in VV:

Network, overlay, and density visualization. The network will show the network between visualized terms. The network between terms with thick lines means the relationship is getting stronger. The overlay will show traces of research history, while density will show the density/emphasis on the research group. Density can be used to see parts of research that are rarely done. On the right panel, the VV application sets up several visualization features. For example, weight settings can be selected based on links, occurrence, number of documents, etc. Choice of labels using circles or frames, font settings, and max length (to set how many characters will appear in each circle/frame. Figure 3 shows the steps taken in this investigation.

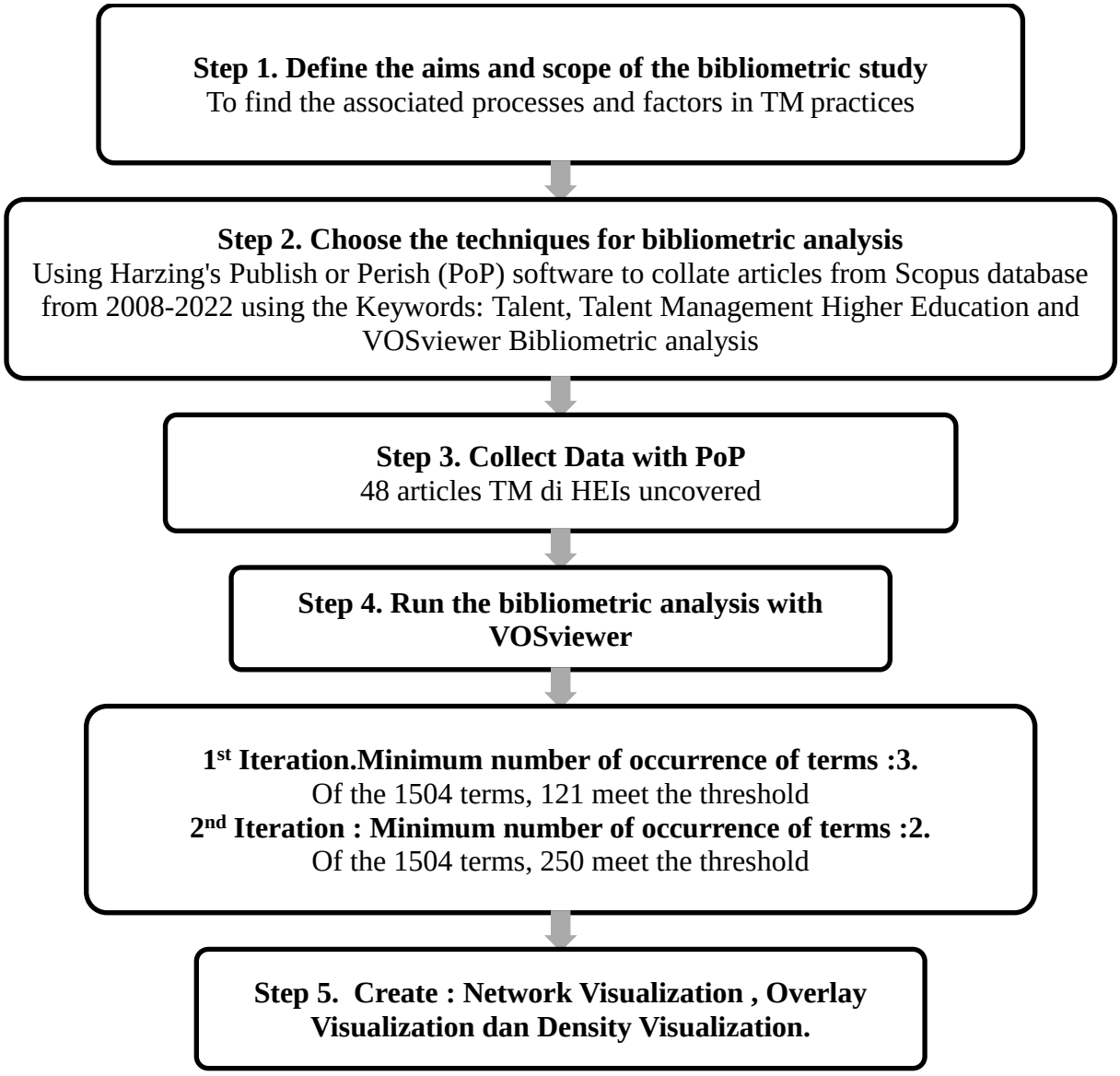


Figure 3: Steps in Bibliometric Analysis using the software *VOSviewer*

As for this research, Figure 3 uses two iterations, namely the first iteration. The minimum number of occurrences of terms: is 3, meaning that VV will issue items that are found to be repeated three times or more. While the second iteration is an item with a minimum number of occurrence of terms: 2, meaning that the VV will issue the items found mentioned two times.

Researchers did this to capture items more related to Talent Management following research objectives, and because the articles collected from 2008-2022, for 14 years, received 48 articles.

While the PoP and VOSViewer results are here, interpretations are given under the paragraph 'Interpretations' to help understand these results. VOSViewer functioned according to the limitations set by the authors, such as iteration 1 was decided to include a minimum number of occurrence of terms: 3. This means that items with a power of three times would appear. The bigger the occurrence indicates that the items frequently appear. Term 3 resulted in 1504 terms, where 121 met the threshold. In this research, iteration was done twice using VV with terms set to 3 and 2. It is to gather more TM-relevant items and ignore the association power, according to this study's aim.

RESULTS OF BIBLIOMETRIC ANALYSIS OF TALENT MANAGEMENT

From the analysis using VosViewer, iteration 1, using three (3) occurrences, means that the terms appear three times more, resulting in three clusters, each producing items related to Talent Management, which can be seen in Table 3.

Table 3: VOSviewer Iteration 1 with three occurrences. Results with three clusters and 73 items from 48 published articles indexed by the Scopus database

3 Cluster, 73 items	**Resulting in keyword items that emerge and having inter-relationships**
Cluster1 (30 items)	addition, article, **China, cultivation, education**, effect, example, experience, **expertise**, factor, future, growth, impact, industry**, knowledge**, law, **leader, Malaysia,** model, part, perspective, **policy,** program, quality, **requirement, role, skill**, student, survey, year.
Cluster 2 (25 items)	**academic talent**, challenge, **compensation**, evidence, hand, **HEI, higher education sector, human resource**, implication, measure, insight, **orientation, South African Higher education, succession planning, talent acquisition, talent management practices, workforce planning,** main finding, hand, **value, selection**, **performance management, leadership development**.
Cluster 3 (18) items)	**Academic staff, Academics**, attribute, author, case study, concept, methodology, empirical study, originality, **value**, perception, practical implication, qualitative study, **talent management process, teaching**, theme, **total value**, view.

Source : output bibliometric with VosViewer

In Table 3, the Talent Management items are bolded. Regarding graphic output VOS Viewer with the occurrence, three can be shown in Network Visualization (Figure 4). It can be seen which items TM processes and TM practices are related to. Bold lines indicate strong associations (Figure 5). Overlay Visualization for Talent Management illustrated the emerging articles based on year (e.g., yellow means 2022) (Figure 6)). Item Density visualization illustrated an overview of the number of relevant research studies for each item. The bright yellow color in Figure 6 indicates a high volume of research on that specific item. Explanations for the following figure are given in Table 4.

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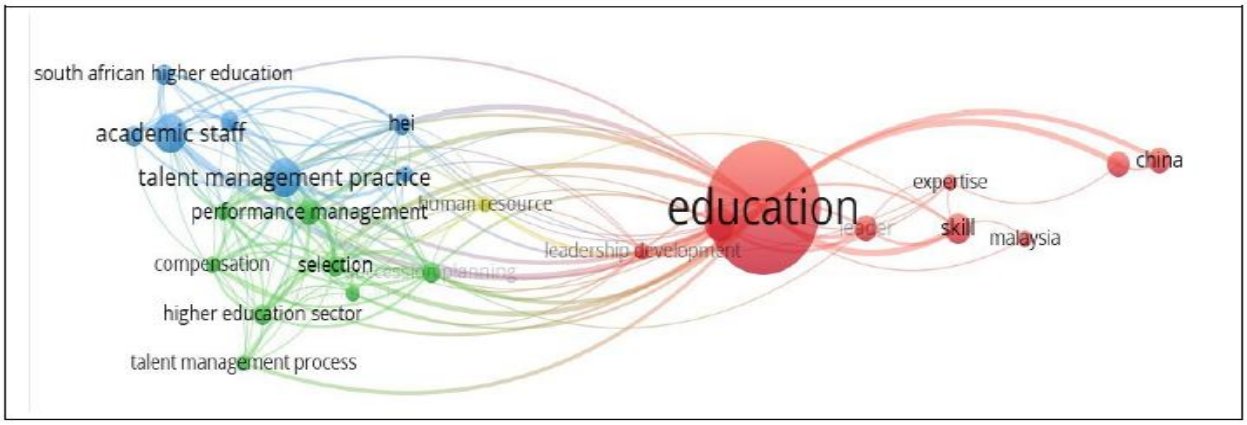


Figure 4: Network Visualization for TM

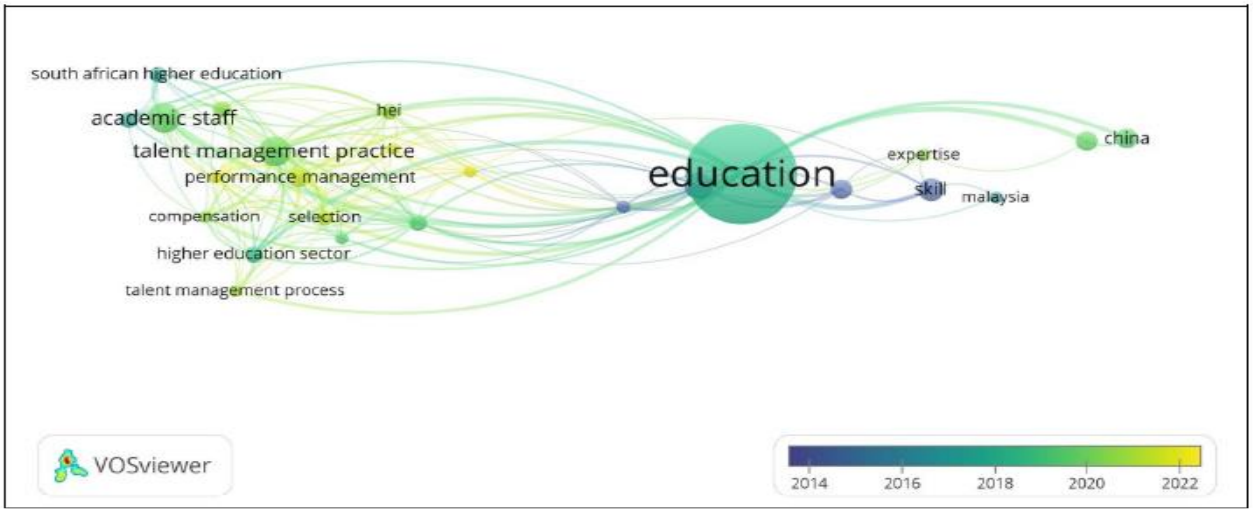


Figure 5: Overlay Visualization for Talent Management

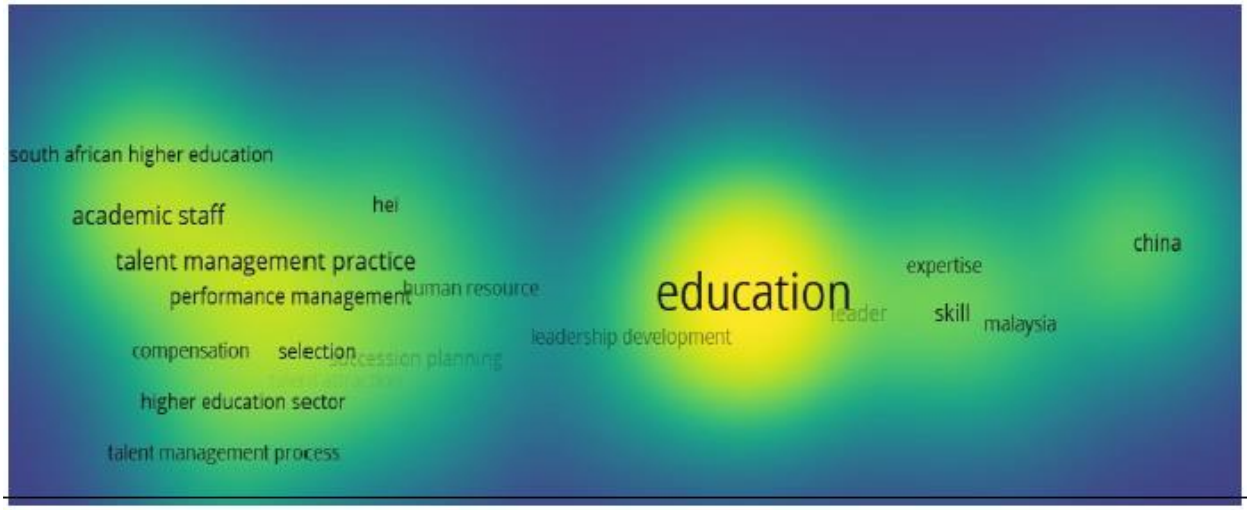


Figure 6: Item Density Visualization for Talent Management

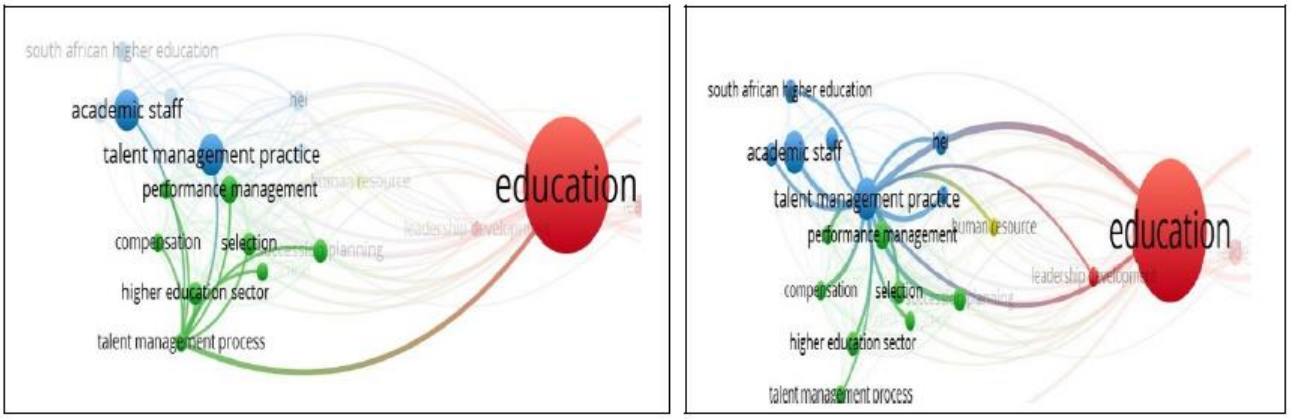


Figure 7: Network Visualization from TM Process and TM practice (iteration 2)

To complete and determine all TM-related items in HEI, we did two iterations to yield two occurrences, i.e., that appear twice in the Abstract and the Title of the article. Two hundred items are found meeting this case.

The results of the Network Visualization are as follows:

Table 4: VOSViewer iterations with two occurrences. Results with 6 clusters and 200 items from 48 published articles indexed by the Scopus database that relate to TM

6 Cluster, 200 items	Results from the Keyword or items related to TM
Cluster1 (56 items)	Ability, cultivation, human resource management, India, Malaysia, management ability, school education, skill, talent pool, talent war.
Cluster 2 (49 items)	academic staff, compensation, hei, higher education institution, higher education management, higher education sector, human capital index, performance management, reward, selection, south african higher education, succession planning, talent management practice, talent retention, workforce planning
Cluster 3 (18) items)	Academic staff, Academics, talent management process
Cluster 4 (24 items)	Leader, leadership, leadership development, talent development
Cluster 5(23 items)	Australian Higher Education, human resource, talent acquisition, talent attraction, talent attraction, talent management process
Cluster 6(18 items)	Academic talent, performance, western country

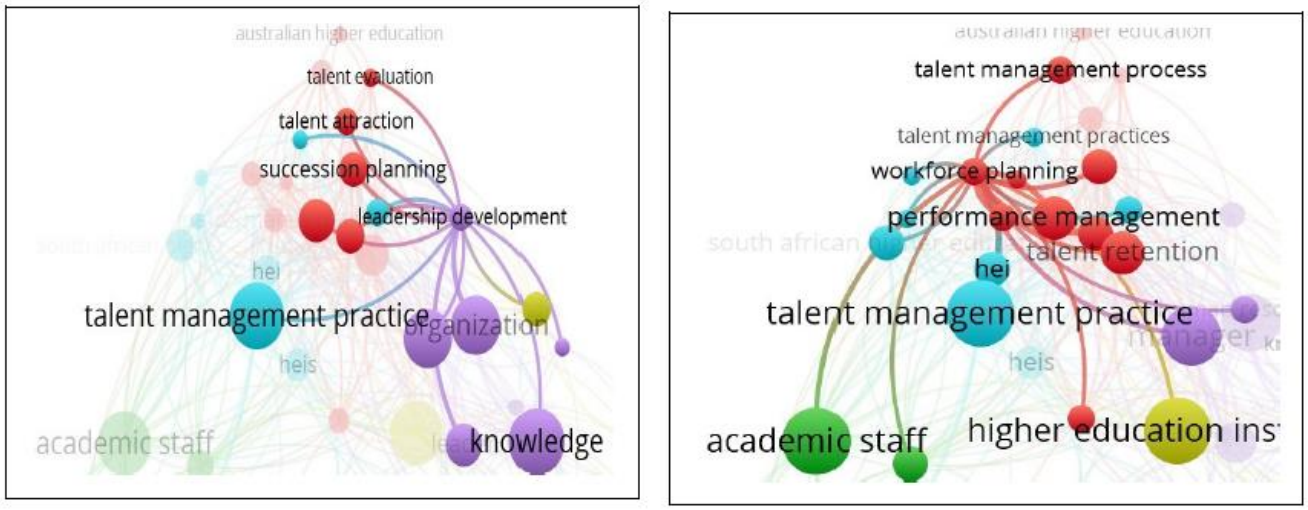


Figure 8: Network Visualization from Leadership Development and workforce planning

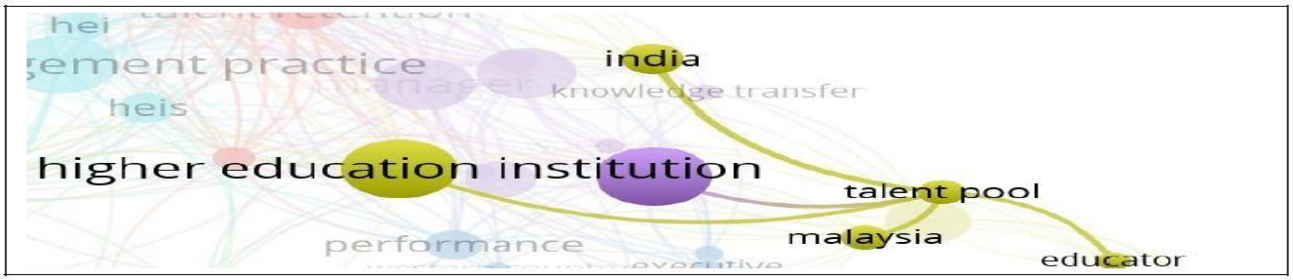
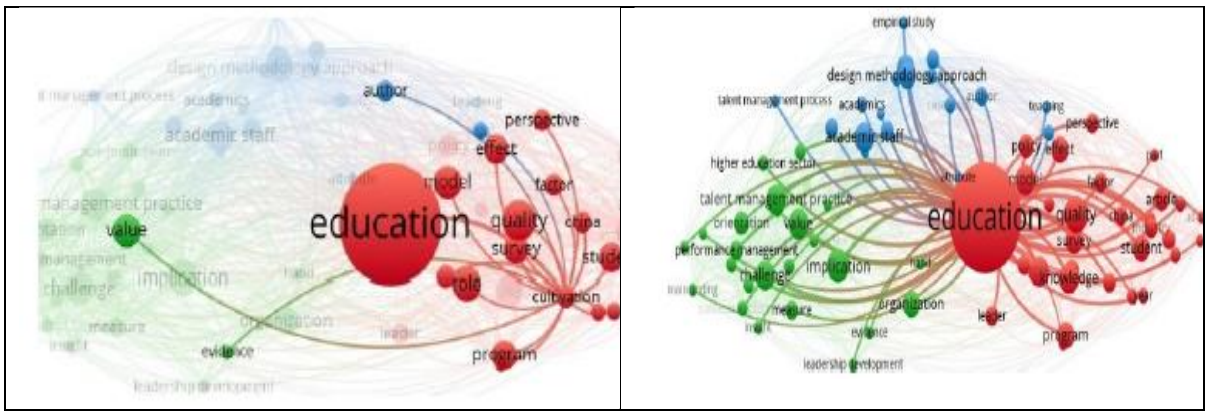


Figure 9: Network Visualization from Talent Pool (iteration 2)



`Figure 10: Network Visualization from Cultivation and Education

The interpretations of the above figures are explained in Table 5 below.

Table 5: Interpretation of Figure 4-10 based on quantitative bibliometric analysis.

Interpretations based on the quantitative bibliometric analysis and scrutiny of the publications from their Titles and Abstracts with iteration 1 and 2
Figure. 4 Network Visualization (NWV) for TM Process
NWV iteration 1 with occurrence 3 shows that TM Process and TM Practice have a network with items performance management, selection, compensation, academic staff, higher education sector dan succession planning, leadership development.
Figure 5: Overlay Visualization for TM Process and TM Practice4
Here, the TM Processes and TM Practices are superimposed to see any particular hitherto unseen characteristics that would not have been able to be observed. Clearly, observing from the Green cluster TM Processes are dominated by the color Yellow. This indicates that in 2020 there are more publications among other items. While the Green color of this cluster show that its publications or research is quantitatively less such as compensation, academic staff, higher education sector, performance management, selection.
Figure 6: Item Density visualization
Currently, TM is less discussed in publications perhaps due to the dearth of research (the color is green) although Talent Development is more often mentioned.
Figure 7 : Network Visualization from TM Process and TM practice
From Talent Management Process having a network with higher education sector, compensation, selection, performance management, academic staff . human resource, succession planning and leadership development South African Higher Education.
Figure 8 : Network Visualization from Leadership Development and workforce planning
From both above items having network with talent management practice, talent management process succession planning, talent attraction, talent evaluation, Australian higher education. Meanwhile, the workforce planning items have a relationship with talent management practice, higher education institutions, talent retention, talent attraction, performance management, talent management process, academics.
Figure 9 : Network Visualization from talent pool
From talent pool having a network with educator, Malaysia, higher education institution, India, performance, Western Country, leadership.
Figure 10: Network Visualization from cultivation dan education
From item cultivation not having any direct relationship with item Talent Management, but having a strong network with education, quality, value. While education having a strong network with leadership development , performance management, higher education sector, academics. Therefore, it can be argued that this items cultivation can be an opportunity for new research to be related to Higher Education dan Talent Management .
The 48 articles, countries involved in the first and second iterations investigated include South Africa, China, Malaysia, India, Egypt, Australia, and some other western countries. Based on the iteration with 2 occurences, succession planning and human capital index have relationships with talent management process, talent attraction, Australian higher education, talent management practice, academic, staff, talent retention, performance management.

From the PoP Database, Total articles and citations per annum are shown as follows:

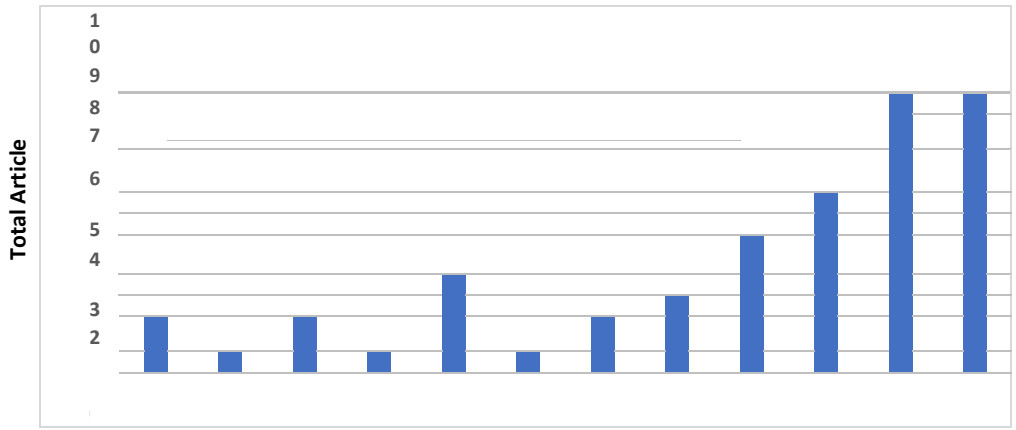


Figure 11: Total Number of Relevant Articles published per annum

Total citations are shown below:

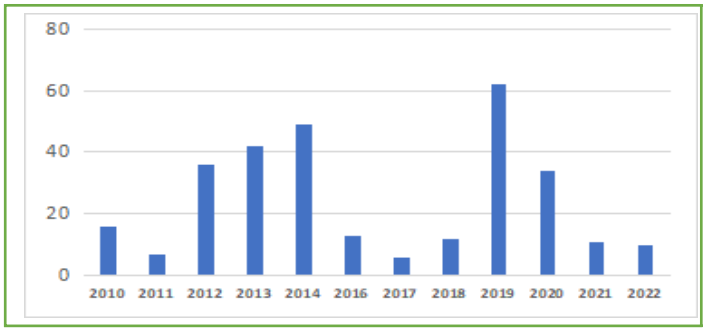


Figure 12: Total Number of Relevant Citations per Year

Following the aim of this study to identify a strong or less strong relationship between the TM process and TM practice from 48 articles, bibliometric analysis results with Vosiewer both occurrences 2 and 3, based on Table 5 and from Figure 2 to Figure 10, the items that related to TM are:

Table 6: From Bibliometric analysis of processes related to TM

Workforce planning	Talent Development	Compensation,
Talent Aquisition	Succession planning	Leadership Development
Talent Attraction	Performance Management	Higher education institution
Reccruitment	Talent Pool	Academics.
Selection	Reward	Human Resource
Talent Evaluation	Cultivation	Value
Talent Retention	Expertise, Skill	Orientation
Human capital index	South Africa	China
Malaysia	India	Egypt
Egypt	Australia	Western countries.

Source : Research data

The number of articles on TM in HE tends to increase, although small, while citations from year to year vary. From Figure 4, the overlay shows a historically increasing number of research on TM in HE, although the absolute number is still small. Figure 5 also shows that the density of items is still sparse, although the bright yellow color well indicates a trend of increase. In qualitative analysis, TM management can be explained in the discussion below.

Discussion

Academics Talent & Talent Management

However, in academia, the concept of Talent is often associated with metric indicators such as quality of research, number of publications, and number of citations, innovative teaching, requiring a teacher to have self-efficacy in areas such as student engagement and classroom management 8.

1) As individuals who can make a difference in organizational performance either through their direct contribution or in the long term by demonstrating the highest level of potential (Barkhuizen, 2014; Mohamed Mousa et al., 2022; Saurombe & Barkhuizen, 2022).
2) As technologically literate, globally astute, and operationally agile (i.e., the best and brightest players in the top 10% to 20% of organizations), these top peoples usually have 10-20% of all employees.
3) Individuals with the skills, knowledge, intelligence, right attitude, character, and drive to learn and grow demonstrate the highest potential to make a difference in organizational performance through their direct or long-term contribution (Fitzgerald, 2014).

From the definitions above of Talent, it can be concluded that Talent contains a series of competencies to produce superior performance so that individuals can make a difference, including individuals as academics in HE. "A competency is an underlying characteristic of an individual that causally related to criterion-referenced effective and/or superior performance in a job or situation (Lyle M. Spencer, Jr, 1993)

Competency Development

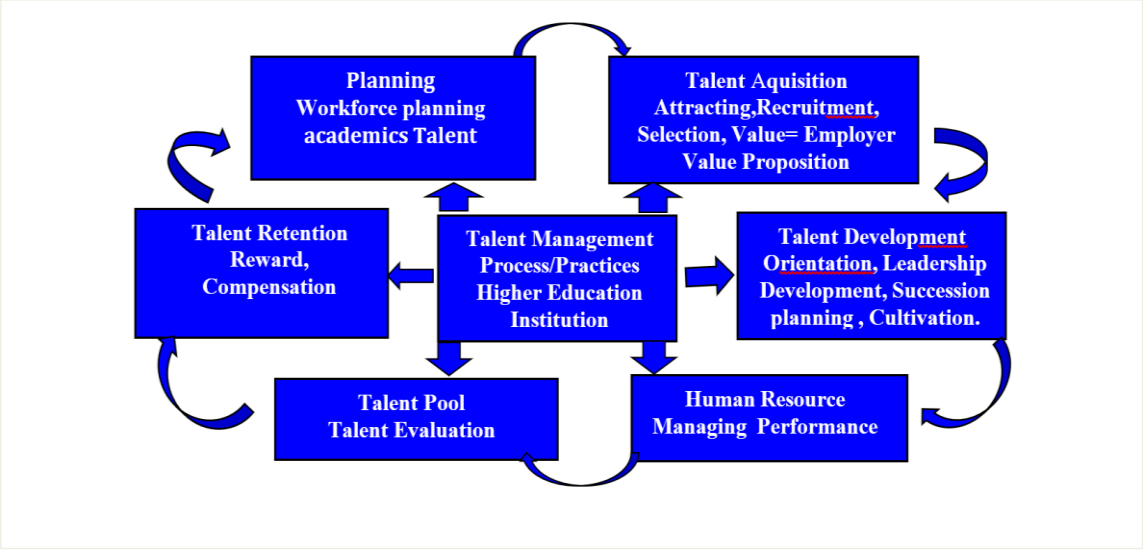


Figure 13: Model Talent Management Process/Practices of Academic in Higher Education Institutions

One of the benefits of competency through a behavioral approach to Talent is that we enter into the realm of human Talent, which can be developed in adulthood. Competency with behavior approach can be used as an instrument in Managing Talent for academics**.** Competencies and intelligence as behavioral manifestations of Talent (Boyatzis & Ratti, 2009). From the results of TM research with bibliometric analysis, based on Table 6, Talent Management for academics in Higher Education can be developed, shown in Figure 13.

The results clearly showed that the following are involved:

Planning -Workforce Planning (WP) involves planning talent actions or, more precisely, creating a talent management strategy, clarifying the roles and competencies needed by the organization, and planning the number of employees or academic needs (R N Musakuro, 2022) This has to be linked to the HEI's Vision, Specificity, and development path.

Talent Acquisition (TA) management must tread carefully to attract, recruit, select, and employ talented people without losing people already in the system. A successful procedure is when recruits and incumbents can strengthen Talent (Bussin, 2014; R N Musakuro, 2022). In attracting HE Talent, it is necessary to have a policy regarding the Employer Value Proposition, which is a series of traits, awards that include intrinsic and extrinsic job satisfaction, values, and ethical culture that can make talented prospective employees or employees interested (Rudhumbu & Maphosa, 2015) and stay in the organization (Bussin, 2014; R N Musakuro, 2022). The TA process is closely related to Workforce planning. Value or affirmed is an Employer Value Proposition. It is a new thing in HEI. The Employee Value Proposition (EVP) in this study is academics. EVP consists of factors that academics receive in return for their work. While it consists of compensation and benefits, it also includes topics such as work-life balance and well-being. Organizations need to offer this value, and a balanced EVP will be able to attract and retain academic Talent.

Talent Development involves identifying staff talent deficiencies and exploring ways to address them. This may include training, upskilling, reskilling, career management, coaching, mentoring, and succession planning, cultivation. It must be said here that training is not only to address current deficiencies but also to prepare academics for the still unknown future needs. Training is filling the competence gap between needs and existing ones to improve performance in their work, even though it is short-term (R N Musakuro, 2022). Succession Planning for academics, Upskilling and Reskilling. Change is inevitable. The world of HEI is changing. Jobs change. Organizations want to think beyond the current job vacancy and plan for the future. This section focuses on identifying and designing academic development opportunities, including their level of advancement, starting from assistant professors, associate professors, and even emeritus who can still work. HEI is an institution that can be referred to as a "Knowledge Enterprise," and academic workers are referred to as " Knowledge workers," so Academics as Knowledge Workers are talented academics (Kusumastuti& Indriani 2020).

Hanover Research Council (2010) considers academics talented because they have the competence to advance their universities and communities and even continue the HEI itself. Drucker (2001) asserts that academics fall into the 'gold workers' category because their jobs are supervising students, researching, publishing, providing consulting services, and contributing to their university's academic ranking. Abu Said et al. (2015) also emphasized that

the work of an academic to increase the number of graduate students supports graduates; providing business consulting when necessary is a sufficient basis for classifying him as a "talented or elite member". Orientation is emphasized as an educational orientation process that requires a long time, so it is more accurately referred to as the Onboarding (OB) process. OBs can last several months, often up to a year, and are known to academics as a lecturer apprenticeship. This includes training and work experience, which helps them gain confidence in doing the job. as an academic.

Talent Retention includes initiatives to retain employees based on performance and recognized through compensation and other rewards. (Bussin, 2014) suggests that institutions must develop a retention strategy consisting of attractive compensation packages, training that makes employees grow, a conducive work environment, and career certainty.

Human Resource & Managing Performance

In general, organizations are familiar with HRM, which includes using performance management, reward management, and alignment of organizational strategy and individual goals with competency instruments as the basis for the process (Bussin, 2014, Musakuro, 2022). Human Resource Management has been recognized as a key consideration for ensuring organizational success. However, new types of employees can present challenges, especially for established organizations with little clue about their desires and personal satisfaction measures (D. Ulrich et al., 2012).

For example, in Talent Management for academics in Indonesia, MECRT has managed performance through the SISTER (Integrated Resource Information System) application system for all lecturer activities in call "Tri Dharma "or Trilogi in Higher Education and SINTA (Science and Technology Index) for publication activities and several citations. Each lecturer has a SINTA Score. And the government provides rewards for achieving this performance.

The new findings from the bibliometric results are related to Talent Cultivation in HEI so that further studies can be carried out. From Study Yuan Xul and Lei Guo (2022), talents are significant for "going global" enterprises in ASEAN countries. HEI is an incubator for talent production. HEI must move forward hand in hand. And a more recent trend is to apply higher education across borders to produce Talent skilled to the company's development skills requirements. Generally, individuals in the middle of cross-border higher education acquire new competencies, such as the language of Talent, not only retaining indigenous peoples' national identity and characteristics but also enhancing international understanding and experience of related cultures. Increasingly international HEI encourages more qualified Talent, e.g., in return, the contribution of human capital increases HEI's development rate across borders.

Implications

The results of this research study contribute to the advancement of theoretical knowledge and practice in Human Resource Management, namely Talent Management at HEI. From the model developed in Figure 13, theoretically, TM Management at HEI follows the concept of three TM schools of thought: First, TM is the dynamics of traditional HRM practices, which focus on the processes of selection, recruitment, development, and retaining. Second, TM is practiced with an inclusive approach that treats all administrative staff as having to rebrand

Talent for the HRM concept. Third, TM with an Exclusive approach that supports organizational learning only for high-performing employees(M Mousa et al., 2021). The next research findings of the TM model are shown in Figure 13, which can be tested for various HEI organizations with different cultural characteristics and HRM department authorities.

Conclusion

This TM study with bibliometric analysis offers a TM model of academics in HEI, with a general TM function linked to Workforce Planning, Talent Acquisition, Talent Development, Human Resource Management /Managing Talent, Talent Pool, and Talent Retention. This function consists of sub-functions shown in Figure 13. TM rarely discusses functions from various TM literature in HEI are sub-functions, such as the Employer Value Proposition, which will impact the engagement of academics in their institutions, Onboarding, Talent Pool, and Cultivation. With an appropriate TM model for HEI, it can be used to develop a TM Strategy that matches the core strategy of the institution and is useful for establishing policies in practicing TM so that there is clarity on the authority of the HRM department at HEI and the authority of academics. Furthermore, with the formation of a Talent Management System and university leadership aware of academic development, a New Generation of Talented Academics will be born who will contribute to university sustainability.

Acknowledgment

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References

APPENDIX 'A'

The result of collecting 48 articles with Publish or Perish

No	Cites.	Authors	Title	Year	Publisher
1	1	K.L. Anders	Fusion of leadership theory and practice: Use of SuperLeadership and talent management by administrator leaders in institutions of higher education	2008	IJ. of Interdisciplinary Sciences
2	182	P. Brown	Education, meritocracy and the global war for talent	2009	Journal of Education I
3	13	M.R. Peet	Generative knowledge interviewing: A method for knowledge transfer and talent management at the University of Michigan	2010	IJ. of Educational Advancement
4	3	R. Gupta	Entrepreneurial opportunities in indian talent pool management-a case of merittrac	2010	Asian Journal of Management Cases
5	7	M. Mpinganjira	Retaining Africa's talent: The role of Africa's higher education	2011	IJ. of Emerging Marke
6	24	Y. Shi	Talent management issues for multinational logistics companies in China: Observations from the field	2012	IJ. of Logistics Resear Applications
7	12	A. Levenson	Talent management: Challenges of building cross-functional capability in high-performance work systems environments	2012	Asia Pacific Journal o Human Resources
8	42	P. Ng	The global war for talent: Responses and challenges in the Singapore higher education system	2013	Journal of Higher Edu Policy and Manageme
9	22	B. Satiani	Talent management and physician leadership training is essential for preparing tomorrow's physician leaders	2014	Journal of Vascular Su
10	16	N. Barkhuizen	Talent management, work engagement and service quality orientation of support staff in a higher education institution	2014	Mediterranean Journal Social Sciences
11	10	N. Barkhuizen	Talent management of academics: Balancing job demands and job resources	2014	Mediterranean Journal Social Sciences
12	1	X. Tian	"Innovation and entrepreneurship" talents cultivation system construction in economic management discipline	2014	BioTechnology: An In Journal
13	13	N. Azman	Managing and mobilizing talent in Malaysia: issues, challenges and policy implications for Malaysian universities	2016	Journal of Higher Edu Policy and Manageme
14	6	S. Purawat	Biomedical Big Data Training Collaborative (BBDTC): An effort to bridge the talent gap in biomedical science and research	2017	Journal of Computatio Science
15	0	S. Maamor	Meeting the demand for global Islamic finance talents: Malaysian initiatives (1999-2014)	2017	IJ.of Economic Resear
16	7	R. Gandy	Talent management in higher education: is turnover relevant?	2018	European Journal of Training and Develop
17	4	D.L. Lesenyeho	Exploring the causal relationship between the antecedents and consequences of talent management for early career academics in South African higher education institutions	2018	SA Journal of Human Resource Managemen
18	1	B.A.M. Kamil	Talent development and retention from the bankers' perspectives: A study at Islamic Banks in Malaysia	2018	Journal of Social Scier Research
19	24	M. Mousa	Inclusive/exclusive talent management, responsible leadership and organizational downsizing: A study of academics in Egyptian public business schools	2019	Journal of Manageme Development
20-	16	M. Mousa	Talent management practices: perceptions of academics in Egyptian public business schools	2019	Journal of Manageme Development
21	13	S. Neri	Talent management in transnational higher education: strategies for managing academic staff at international branch campuses	2019	Journal of Higher Edu Policy and Manageme
22	7	S. Zhong	Inquiry and experiential mixed teaching method is effective way to cultivate high-quality innovative talents	2019	IJ. of Information and Education Technology
23	2	Y.H.H.M. Yusof	Development of multi-criteria tacit knowledge acquisition framework (Mc-tkaf) to support talent development intervention program in a Malaysian comprehensive university	2019	IJ. of Advanced Trend Computer Science and Engineering
24	19	K. Asplund	When profession trumps potential: The moderating role of professional identification in employees' reactions to talent management	2020	International Journal o Resource anagement
25	7	A.A. Mohammed	An examination of talent management processes in Australian higher education	2020	IJ. of Productivity and Performance Manager
26	4	M.D. Saurombe	A talent value proposition framework for academic staff in a South African HEI	2020	Journal of Global Busi and Technology
27	2	Y.H.H.M. Yusof	Multi Criteria Tacit Knowledge Acquisition Framework (MC-TKAF) using Fuzzy Delphi Method for supporting Talent Development Intervention Program in Malaysian Higher Education Institution	2020	Journal of Physics: Conference Series
28	1	S. Chaudhry	Talent management practices in service sector: Evidences from literature review	2020	IJ. of Pharmaceutical Research
29	1	A.A. Mohammed	Proposal of a guide for talent evaluation and management based on a qualitative and three-staged approach: A case of the higher education sector	2020	Journal of Applied Re in Higher Education

30	0	P.Dong	A drill - down approach towards talent supply scenario in sikkim	2020	Prabandhan: Indian Jc Management
31	9	A.M. Taamneh	Talent management and academic context: a comparative study of public and private universities	2021	EuroMed Journal of E
32	1	P. Brown	Higher education, graduate talent and the prospects for social mobility in china's innovation nation	2021	International Journal c Educational Research
33	1	R.N. Musakuro	Academic talent: Perceived challenges to talent management in the south african higher education sector	2021	SA Journal of Human Resource Managemer
34	0	X. Nie	The enlightenment of foreign MD-MPH double degree program to the cultivation of high-level applied public health talents in China	2021	Chinese Journal of Endemiology
35	0	W. Chen	Evaluation of Talent Cultivation Quality of Modern Apprenticeship Based on Context-Input-Process-Product Model	2021	IJ.of Emerging Techn in Learning
36	0	W. Yang	Research on the innovation ways of computer-assisted teaching and student management talent training model	2021	Journal of Physics: Cc Series
37	0	L. Deng	Research on the Application of Computer Network Technology in the Training of Talents in Vocational Education	2021	Journal of Physics: Cc Series
38	0	I.R. Mohamed Jais	Talent management in higher education institutions: Developing leadership competencies	2021	Journal of Education a Learning Research
39	0	Z. Huang	Talent recruitment analysis based on Chinese mainland public colleges and universities in perspective of occupation requirement	2021	Journal of Public Affa
40	5	M. Mousa	Why Him Not ME? Inclusive/Exclusive Talent Identification in Academic Public Context	2022	IJ.of Public Administı
41	2	M.D. Saurombe	Talent management practices and work-related outcomes for South African academic staff	2022	Journal of Psychology Africa
42	2	D. Pandita	Innovation in talent management practices: creating an innovative employer branding strategy to attract generation Z	2022	IJ.of Innovation Scien
43	1	L. Pham	'Value flows' between talent and their networks: a case study of international graduates working in Vietnam's emerging economy	2022	IJ. of Human Resourc Management
44	0	L. Yi	Construction and Index Analysis of Whole Chain Linkage Talent Training System Based on Fuzzy AHP Model	2022	Journal of Sensors
45	0	M. Bartrop-Sackey	Exploring the talent retention strategies of Cape Coast Technical University in Ghana	2022	SA Journal of Human Resource Managemer
46	0	R.N. Musakuro	A framework development for talent management in the higher education sector	2022	SA Journal of Human Resource Managemer
47	0	Z. Xu	Cultivation Path for Innovation Ability of Sci-Tech Talents in the Background of Big Data	2022	IJ.of Emerging Techn in Learning
48	0	T. Gerhardt	Talent management in private universities: the case of a private university in the United Kingdom	2022	IJ. of Educational Management

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