West Science Social and Humanities Studies
Vol. 4, No. 05, May 2026, pp. 673-684

Bibliometric Analysis of Research on Career Personalization

Loso Judijanto
IPOSS Jakarta, Indonesia

Article Info

Article history:

Received May, 2026
Revised May, 2026
Accepted May, 2026

Keywords:

Career Personalization
Career Development
Personalized Learning
Employment
Human Resource Management

ABSTRACT

Career personalization has emerged as an important research area in response to evolving workforce expectations, technological advancements, and the growing demand for individualized career development pathways. This study aims to examine the intellectual structure, research trends, and emerging themes within the field of career personalization through a bibliometric analysis of publications indexed in the Scopus database. Bibliographic data were analyzed using VOSviewer to perform co-occurrence, co-authorship, citation, and collaboration network analyses. The results indicate that research on career personalization has developed into an interdisciplinary field encompassing education, human resource management, employment, professional development, and artificial intelligence. Keyword mapping reveals that employment, personalization, learning systems, and professional aspects are the dominant themes, while recent studies increasingly focus on recommendation systems, predictive analytics, large language models, deep learning, and AI-enhanced career decision support. Collaboration analyses demonstrate growing international partnerships among researchers, institutions, and countries, highlighting the global relevance of the topic. Citation analysis further shows that foundational studies have primarily emphasized educational interest, personalized learning, career development, and work individualization, whereas contemporary research is increasingly driven by intelligent and data-driven approaches. The findings suggest a transition from traditional career management frameworks toward technology-enabled and highly personalized career ecosystems. This study contributes to the literature by providing a comprehensive overview of the evolution of career personalization research and identifying promising directions for future investigations.

Corresponding Author:

Name: Loso Judijanto
Institution: IPOSS Jakarta, Indonesia
Email: losojudijantobumn@gmail.com

1. INTRODUCTION

Indeed, the fast-paced change in the labor market throughout the world has had a considerable effect on individual processes of career construction, management, and personalization. The technological progress, the globalization process, modern means of communication, and the appearance of flexible work practices have brought about changes in traditional career paths, which used to be rather linear and strictly managed by organizations [1], [2]. In the current

employment climate, more and more workers are being required to adjust to changing organizational settings, to acquire new skills, and to construct their careers on their own initiative. This explains why the issue of career personalization has received significant academic attention recently since career personalization is associated with the capacity of individuals to design their career paths based on individual values, skills, goals, and personal conditions [1][3].

Career personalization's emerging importance is also connected with changing characteristics of the labor force and the evolving expectations of its employees. Members of younger cohorts joining the labor market prefer to pursue flexible employment, work that is meaningful, the balance between their personal and working lives, and continuous learning, rather than just ensuring their job security [4]. Moreover, more and more companies offer their employees personalized career development services and help them choose training courses, mentors, and career paths depending on their preferences and abilities. Digital technologies, including artificial intelligence and HR software applications, further facilitate personalizing career planning by providing personalized recommendations about skill acquisition and career advancements [5], [6]. Therefore, researchers from various fields, including human resource management, organizational psychology, education, and sociology, studied various aspects of career personalization, ranging from career adaptability to employability, career identity, lifelong learning, and professional resilience [7], [8].

In conjunction with growing academic interest in career personalization, the number of scientific publications related to the topic in question has seen rapid growth during the last two decades. Various scholars have conducted multiple research studies on the topic of career personalization, investigating the determinants, impacts, and applications of the concept across different industries and regions. However, the increasing number of publications offers both opportunities and problems for understanding current research trends in the field. One of these problems concerns identification of prevalent research topics, key contributors, collaborations, emerging trends, and gaps within the field. In such cases, the application of bibliometrics proves to be quite helpful as it enables scholars to assess the dynamics of scientific development within a certain area. Bibliometric analysis refers to various methods that help researchers investigate publication statistics, citation structures, networks of collaboration among scientists, and keywords used within academic literature [9].

A rise in popularity of bibliometric research methods has been observed in management and social sciences due to their usefulness in gaining a holistic overview of scientific production dynamics. In comparison to conventional literature review which depends greatly on subjective analysis, bibliometrics allows an objective approach to assessment of huge literature amounts. With bibliometrics, researchers are able to find out the most important journals, papers, universities and international collaborations in a particular field of study, which influence future research directions. Besides, the use of bibliometric visualization software such as VOSviewer and Biblioshiny makes it easier for researchers to map conceptual links between ideas and contributors, thus giving them more clarity on thematic evolution. Thus, it is particularly relevant to apply a bibliometric approach to researching the theme of career personalization due to its interdisciplinary nature and continuous development. The results will show how the discourse about personalized careers moved from a traditional viewpoint on managing one's career to such concepts as digital careers, telework, autonomy of employees, sustainable employability, among others [10].

In spite of the numerous studies carried out concerning career personalization, little has been done to analyze and assess the intellectual field of study in career personalization using the bibliometric approach. While most studies are inclined to focus on the discussion aspect or even empirical research, not much emphasis is put

on the publication trends and research tendencies in the career personalization field. In other words, little is known about how research themes develop in career personalization, which authors play a significant role in such research, what theories underpin career personalization, and where career personalization research may be headed to in the future. In light of this, a bibliometric study is important because it will provide a detailed analysis of the career personalization research field and provide areas in which further research should be conducted. This study will help enrich the academic discourse by analyzing scientific publications in relation to career personalization.

While much progress has been made regarding the topic of career personalization in the recent years, the current research base is rather diverse as it spreads across various areas, different theoretical viewpoints and different methodologies used. A large number of research papers on career adaptability, personalization of education, career self-management and employee autonomy have already been published, but at the moment there is little awareness of how these studies are interrelated and what stages of development this research domain has gone through. The lack of a systematic bibliometric analysis complicates efforts to determine main research directions, important scientific publications, collaborative research networks and emerging trends in career personalization science. On top of that, the ever-increasing number of scientific publications makes the process of knowledge synthesis even more complicated, as it becomes increasingly difficult to recognize new research gaps for further investigations. Thus, a comprehensive bibliometric analysis is required to identify intellectual structure of career personalization research, and determine its current state, peculiarities and prospects. While much progress has been made regarding the topic of career personalization in the recent years, the current research base is rather diverse as it spreads across various areas, different theoretical viewpoints and different methodologies used.

Despite the substantial progress achieved by the research on career personalization, the literature on this topic appears fragmented and scattered across various fields of study, theoretical approaches, and methodologies. A number of scholarly works have been dedicated to issues related to career adaptability, autonomous employees, personalized learning, and career self-management; however, the interrelatedness between these studies and the historical development of the field in question remain largely understudied. Hence, the absence of a bibliometric analysis impedes the identification of significant tendencies in scientific inquiry, relevant publications, cooperation between researchers, and emerging topics in the field of career personalization. Moreover, the explosive growth of scientific papers complicates the synthesis of information and detection of the possible research gaps to be explored in the future. Consequently, a bibliometric analysis should be conducted to explore the intellectual structure of research on career personalization and to facilitate an understanding of its evolution, features, and prospects. The purpose of this study is to perform a bibliometric analysis of research on career personalization in order to investigate the development and characteristics of scientific publications in the field under examination.

2. METHODS

Despite considerable advances in research of career personalization in recent decades, the current body of literature in the area can be characterized by fragmentation. There are many studies dedicated to the topics such as career adaptability, employee autonomy, personalized learning, career self-management, and others; however, there is limited awareness of how this research can be linked and what the evolution of the field is like. A lack of bibliometric analysis results in an inability to trace research trends, influential publications, collaborative

networks, and new areas of investigation in the realm of career personalization. Furthermore, increasing number of publications complicates knowledge synthesis and identification of potential research gaps which should be explored further. In these conditions, it is necessary to conduct a bibliometric analysis aimed at exploring the development and intellectual structure of scientific literature on career personalization in order to facilitate a better understanding of the field. The present research uses a bibliometric analysis framework to explore the development and intellectual structure of research on career personalization. Bibliometric analysis is a research technique allowing for investigating patterns, trends, and relations between scholarly publications.

Although research into career personalization has seen significant development during the recent past, the current state of affairs lacks coherence in terms of disciplinary scope, theoretical perspectives, and methodology employed. For instance, many scholarly works have been conducted focusing on career adaptability, employee autonomy, personalized learning, and career self-management; nevertheless, the link between these works as well as overall development in the sphere has not been revealed yet. Bibliometric review of this topic is essential because it will help to find the most influential publications, research trends, collaborative networks, and new developments in this research area. At the same time, an increase in the number of scientific works complicates finding common trends and identifying gaps that need to be addressed by researchers. In order to overcome this problem, a comprehensive bibliometric analysis is needed for understanding the intellectual structure of research on career personalization and the evolution of the field. Once the process of document selection is done, collected publications are reviewed according to certain criteria in terms of duplication and relevance to the topic. Bibliographic metadata, including names of authors, years of publication, sources of publications, keywords, references, and affiliations are extracted for further analysis.

While the research on career personalization has been growing for the last few years, the current corpus of the studies is rather scattered across different fields, perspectives, and methods. Numerous studies examine career adaptability, employee autonomy, personalized learning, and career self-management; yet, it is still difficult to see their connections and understand how this field develops over time. The lack of a bibliometric study makes it challenging to define major research trends, key publications, collaboration networks, and emerging themes within the framework of career personalization. Moreover, the fast expansion of scientific publications contributes to the difficulties in the synthesis of accumulated knowledge and identification of research gaps that can be examined further. Hence, there is a need for conducting a systematic bibliometric analysis that would allow seeing the structure of research on career personalization as well as understand its development and future prospects. In order to produce bibliometric maps and visualize the thematic evolution of the selected scientific area, it is possible to use VOSviewer.

3. RESULTS AND DISCUSSION

3.1 Keyword Co-Occurrence Network

As can be seen from the analysis conducted using VOSViewer, career personalization is a very multidisciplinary area, which incorporates views from fields such as education, human resource management, artificial intelligence, learning technologies, and career development. Personalization, employment, learning systems, and professional aspects appear to be the most significant terms within the created network. Therefore, it seems that the study of the concept of career personalization is not limited to the realm of human resources management and that it is also concerned with more general issues of individualized

learning, workforce development, and professional growth.

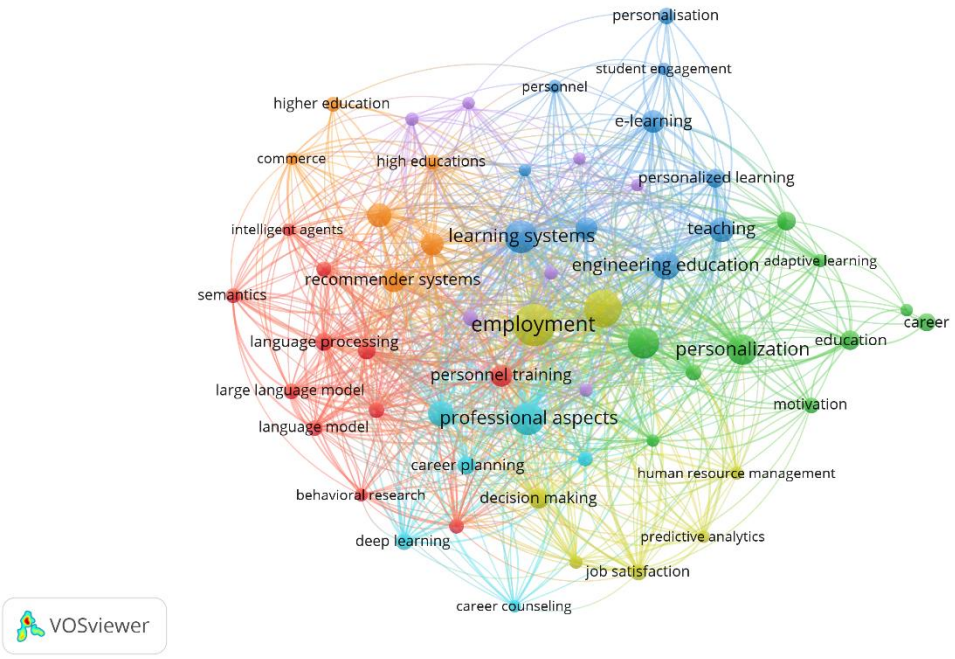

Figure 1. Network Visualization
Source: Data Analysis Result, 2026

The green cluster focuses largely on personalization, education, teaching, adaptive learning, motivation, and career. The green cluster draws attention to the educational basis of career personalization, showing that personalization of learning approaches is done to ensure that the education is aligned with the career. Adaptive learning and motivation show that more and more scholars have come to understand the significance of aligning education to the learner for career success. Personalization and career point to the involvement of educational institutions in the process of career development.

Blue cluster is focused on personalized learning, e-learning, engaging students, people, and engineering education. Blue cluster shows that technology-mediated learning approaches gain more weight in the field of career personalization. Personalized learning and e-learning have appeared among major nodes of the cluster, which means that modern approaches towards developing competency-based and technologically-mediated learning become more widespread and recognized. It allows for customization of learning process according to individual competencies, interests, and career goals of each learner. Engineering education proves the relevance of career personalization in the professional environment.

The orange and red clusters reveal the increasing integration of artificial intelligence and intelligent systems into career personalization research. Keywords such as recommendation systems, intelligent agents, language processing, semantics, deep learning, and large language models indicate that technological innovation is becoming a major driver of personalized career support. Recommendation systems are increasingly utilized to provide customized career guidance, learning recommendations, and professional development opportunities. The appearance of large language models and deep learning suggests a recent shift toward AI-powered career counseling, predictive career planning, and intelligent decision-

support systems, reflecting emerging research trends in the field.

The yellow and turquoise clusters connect career personalization with workplace outcomes and human resource management. Keywords such as employment, job satisfaction, predictive analytics, human resource management, career planning, career counseling, and decision making indicate that researchers are increasingly examining how personalized career strategies influence employee performance, engagement, and long-term career success. The prominence of employment as a central bridging node suggests that career personalization serves as a link between educational preparation and workforce integration.

The overlay map helps us understand how the area of career personalization has evolved from 2022 to 2025. In the given visualization, dark blue-colored nodes are indicative of early research topics, whereas green and yellow-colored nodes denote the emergence of newer topics. From the visualization, it is clear that the early research topics are clustered around career, education, teaching, personalized learning, e-learning, and personalization. This indicates that at the onset, this topic emerged in educational settings. At this stage, the researchers were more interested in exploring the use of personalized education in career development.

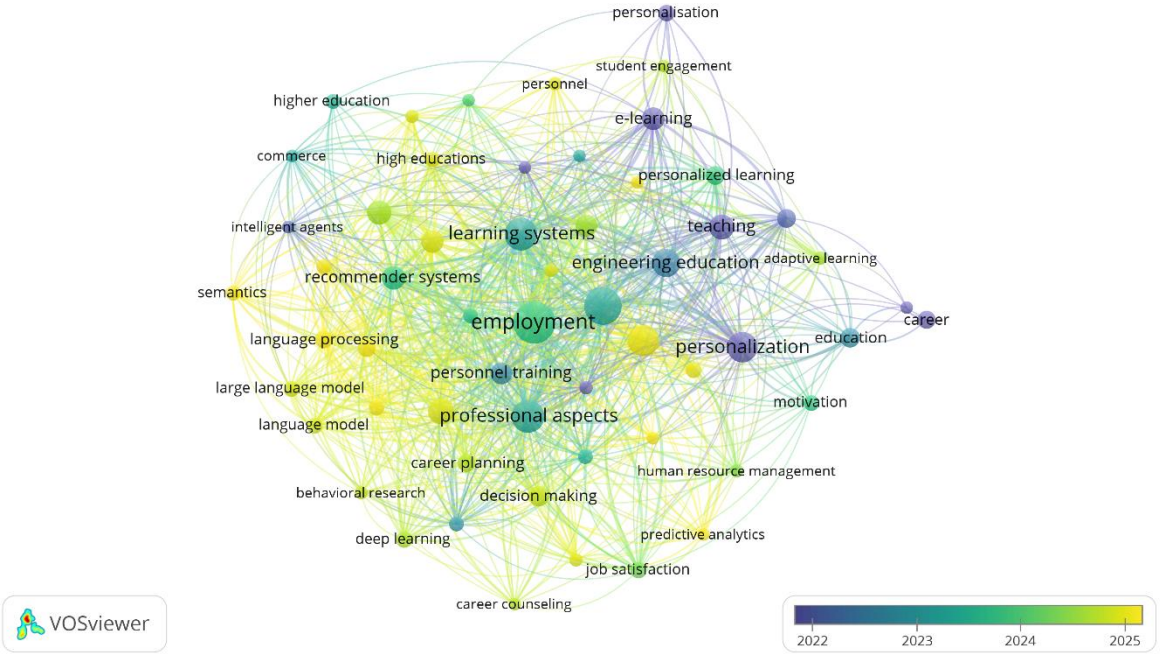

Figure 2. Overlay Visualization
Source: Data Analysis Result, 2026

With time, as the field progressed, studies moved on to other areas in the domain of organizations and workers. The use of terms such as employment, professionalism, personnel training, learning systems, career management, and human resource management can be seen in the green colored intermediate zone. This is an indication that scholars have focused strongly on these topics from 2023 through 2024. This indicates that career personalization goes beyond just education but also incorporates workforce development, personnel training, career management, and human resource management.

Recent trends, as indicated by the nodes colored in yellow, are related to intelligent decision support systems and

advanced digital technology. Some new keywords such as large language model, language model, language processing, recommendation systems, semantics, intelligent agent, predictive analytics, and decision-making are indicative of the fact that future work in this field will shift towards intelligent systems based on artificial intelligence and machine learning. It can thus be expected that future trends in this area would be more inclined towards developing intelligent systems for career advice and planning.

The density analysis indicates those themes which have been most rigorously investigated under the scope of the career personalization discipline. As depicted by the density maps produced by VOSviewer, yellow colors denote those topics that have received a high occurrence and relation density, whereas green and blue colors symbolize average and low research densities. From the map, it is evident that the most vibrant zones are occupied by themes related to employment, personalization, professional factors, and learning systems, which implies that they form the core knowledge base for this area. This implies that career personalization is mainly interested in investigating individual development strategies in terms of employment and professional learning processes.

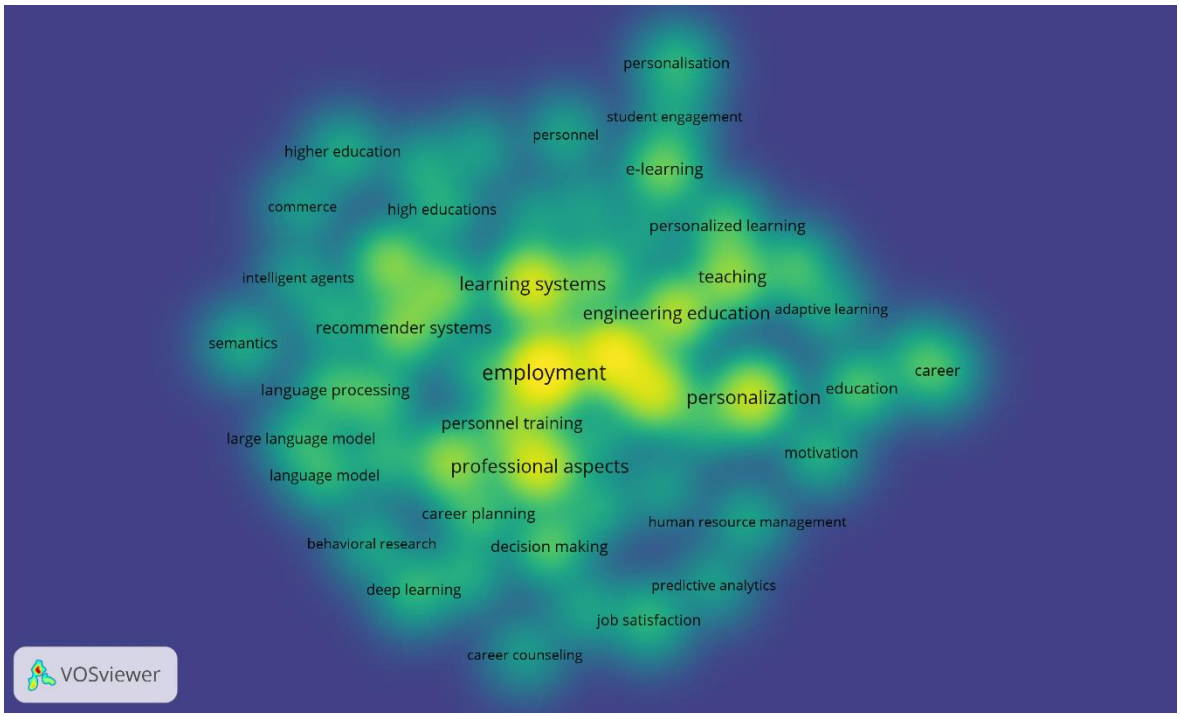

Figure 3. Density Visualization
Source: Data Analysis Result, 2026

Aside from the primary themes, there are other research lines related to the green areas of interest for secondary consideration, which include personalized learning, personalized teaching, engineering education, personnel training, career planning, human resource management, and recommendations systems. New areas involving technology such as large language models, language processing, deep learning, intelligent agents, and predictive analytics exist within the network, although their density is low, thus reflecting their status as emerging research themes and not primary ones. This shows how despite being heavily focused on traditional topics of education and employment, recent research has begun integrating aspects of artificial intelligence and analytics.

3.2 Co-Authorship Analysis

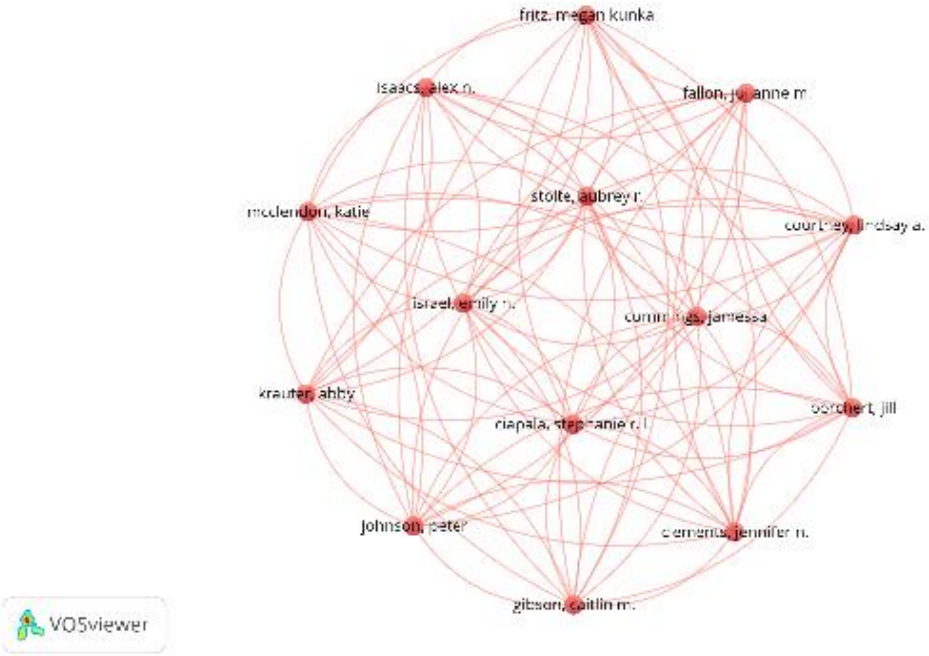

Figure 4. Author Visualization
Source: Data Analysis Result, 2026

Based on the author co-authorship network analysis, it is clear that the career personalization and associated fields have an interdependent group of scholars contributing to its progress. The interconnected nature of scholars highlights the presence of significant academic collaboration where scholars collaborate with each other on several publications instead of being isolated from each other. Some of the prominent scholars such as Capala Shannon K., Stone Debroy A., Cummings James N., Johnson Peter, Clemens Jennifer A., among others, play vital roles in connecting other scholars through collaboration and knowledge sharing. As the graph does not highlight any particular cluster of authors, it shows that there is a unified academic network for researchers in this field who share their knowledge in different fields such as education, human resource management, career development, learning system, and new technologies.

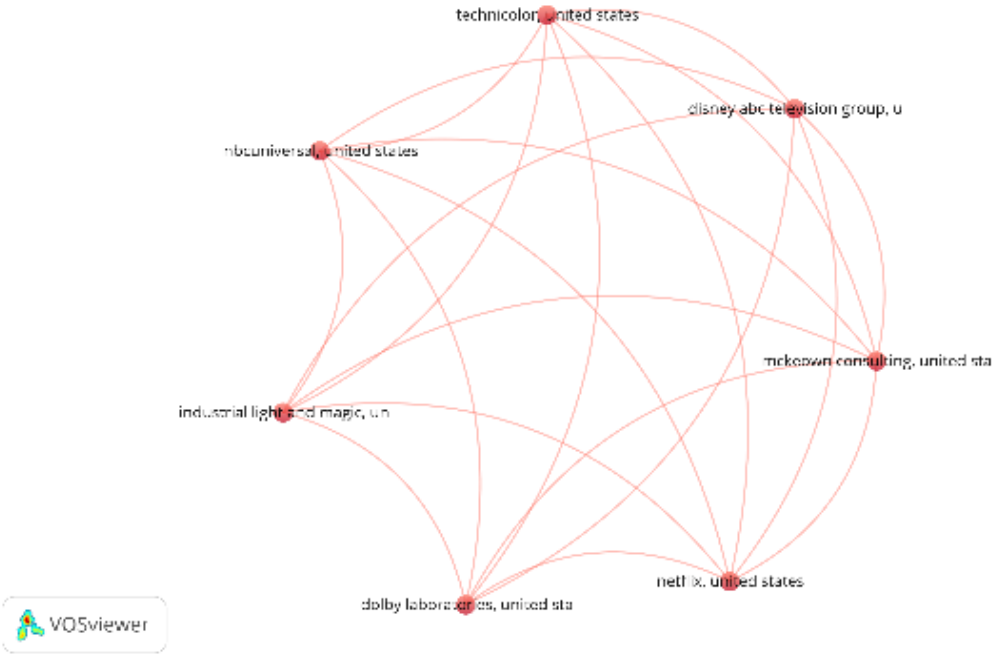

Figure 5. Institution Visualization
Source: Data Analysis Result, 2026

The co-authorship network shows how institutional collaboration exists in the field of career personalization. Several institutions are dominant in the organization-based network and have their headquarters in the United States. These institutions include Technicolor United States, NBCUniversal United States, Disney ABC Television Group, McKeown Consulting, Industrial Light & Magic, Dolby Laboratories, and Netflix Inc. Considering how interconnected the institutions are, it indicates that research and development on career personalization is taking place through collaboration between institutions rather than by institutions working in isolation. This scenario depicts the interdisciplinary approach used in the field to combine technology, media, entertainment, workforce, and digital innovations to solve issues related to career/personal development. The central positions occupied by organizations such as Technicolor United States, Disney ABC Television Group, and McKeown Consulting indicate their significant influence within the collaboration network, acting as important hubs that facilitate knowledge sharing and joint research activities. The participation of major media and technology-oriented organizations such as Netflix, Dolby Laboratories, and Industrial Light & Magic further suggests growing interest in personalized talent development, skills management, and employee career pathways within creative and digital industries.

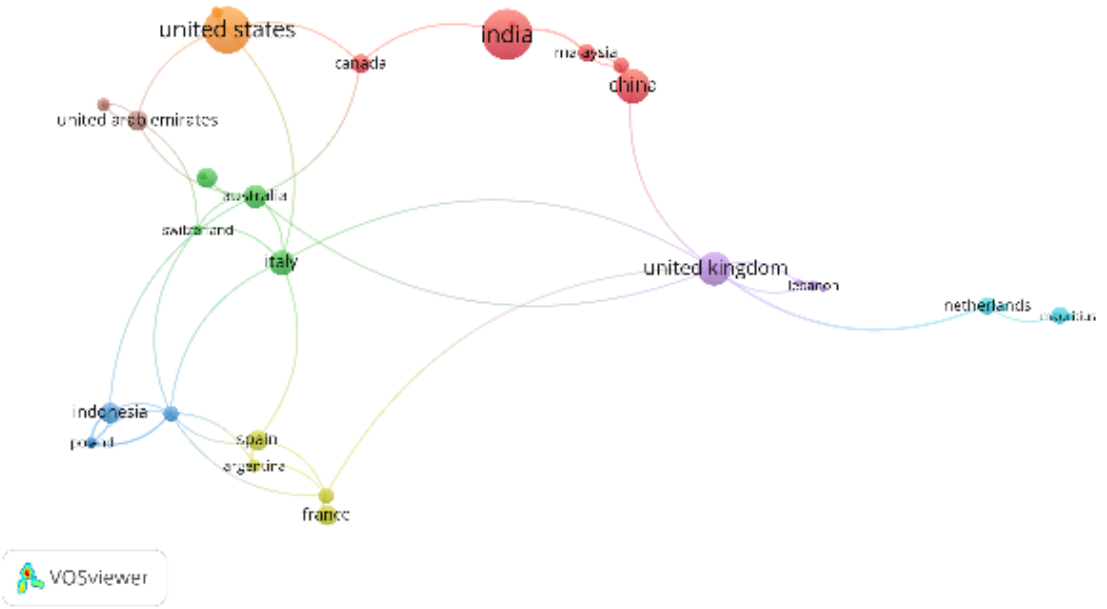

Figure 6. Country Visualization
Source: Data Analysis Result, 2026

Country collaboration network shows that there is an international research community that supports the research conducted on career personalization, even if the nature of collaborations is confined to regional clusters in several parts of the world. India is depicted as a major player in the country collaboration network, displaying strong ties with China and Malaysia, which implies that researchers from Asia contribute immensely to the development of career personalization research. The relative importance of the Indian node signifies its strong research presence and publication output compared to other countries in the analysis. A second group of cooperation centers is based in the United States, where it sustains research links with Canada and the United Arab Emirates, showing that the country continues to play a significant role in the research area. On the other hand, the United Kingdom acts as an intermediary between various regions, linking itself with such countries as Taiwan, Netherlands, and Belarus. Countries of Europe, namely, Italy, Austria, Switzerland, and France, constitute yet another cluster that cooperates with Asian and American nations. The involvement of countries like Indonesia, Pakistan, Brazil, and Argentina indicates an increasingly global scope of the research area.

3.3 Citation Analysis

Table 1. Top Cited Research

Citations	Authors and year	Title
506	[11]	Interest Matters: The Importance of Promoting Interest in Education
257	[12]	Increasing web survey response rates in innovation research: An experimental study of static and dynamic contact design features
78	[13]	The eight essential elements of inclusive STEM high schools
52	[14]	Equality of Learning Opportunity via Individual Fairness in Personalized Recommendations
48	[15]	Learning by doing, High Performance Computing education in the MOOC era

Citations	Authors and year	Title
43	[16]	Artificial Intelligence (AI)-enhanced learning analytics (LA) for supporting Career decisions: advantages and challenges from user perspective
36	[17]	AI Knows You: Deep Learning Model for Prediction of Extroversion Personality Trait
34	[18]	INDIVIDUALIZATION OF WORK ARRANGEMENTS: A contextualized perspective on the rise and use of i-deals
32	[19]	Onboarding new hires: recognising mutual learning opportunities
31	[20]	Big education: Opportunities for Big Data analytics

Source: Scopus, 2026

According to Table 1, career personalization literature continues to be significantly represented by studies in education, STEM learning, work personalization, and data-based learning systems. The most cited paper is [11], with 506 citations, suggesting that interest development in education serves as a basic issue since personalized career pathing is usually associated with personal motivation and interest. Another highly cited article by [12] (257 citations) demonstrates the relevance of survey methodology in innovation studies. [13], [15], [20], demonstrate that the basis for knowledge is connected with STEM education, MOOCs, and big data analysis for personalized learning and career guidance. However, more recent articles by [14], [16], [17] reveal a new trend that can be attributed to the use of recommendation systems, personalized AI-based analysis, and predictive modeling of decisions and personality traits in career pathing.

4. CONCLUSION

Through conducting a bibliometric analysis, this study offers an extensive insight into the development and intellectual framework of career personalization research. It can be noted that the body of knowledge has developed considerably and has emerged as an interdisciplinary area that incorporates education, human resource management, career development, artificial intelligence, and learning technologies. As for the keyword occurrence and density analysis results, the topics of employment, personalization, learning systems, and professionalism can be identified as the key areas of focus for current academic discussions. At the same time, new trends in research on the topic are becoming evident, including the emergence of such areas as large language models, recommendation systems, predictive analytics, and artificial intelligence-supported learning among others. Through collaboration analysis, one can see that an increasing number of researchers become actively engaged in the topic globally with India, the United States, and the United Kingdom contributing significantly to the development of the research field along with many institutional collaborations. Finally, citation analysis suggests that educational motivation, personalized learning, career development, and individualization of work have served as a foundation for the academic field under discussion.

REFERENCES

[1] X. Huang, J. Liu, L. Min, Q. Zeng, J. Zhang, and X. Zhang, "CEO s functional experience and firm performance based on text mining," *PLoS One*, vol. 18, no. 3 March, Mar. 2023, doi: 10.1371/journal.pone.0281866.

[2] E. Inga, J. Inga, J. Cárdenas, and J. Cárdenas, "Planning and strategic management of higher education considering the vision of latin america," *Educ. Sci.*, vol. 11, no. 4, 2021, doi: 10.3390/EDUCSCI11040188.

[3] J. Oliver, "Determining which CEO candidates will lead growth through innovation," *Strateg. Leadersh.*, vol. 51, no. 4, pp. 27–31, Jan. 2023, doi: 10.1108/SL-03-2023-0030.

[4] K. S. McDonald and L. M. Hite, *Career development: A human resource development perspective*. Routledge, 2023.

[5] D. A. Ichdan, "The effect of training, work environment, motivation, job satisfaction, and career satisfaction on employee productivity," *Ann. Manag. Organ. Res.*, vol. 6, no. 1, pp. 57–69, 2024.

[6] D. Susita, A. Saptono, J. Susono, and A. Rahim, "The Effect of Career Development and Work Environment on Employee Loyalty with Work Satisfaction as Intervening Variables," *Int. J. Soc. Sci. World*, vol. 2, no. 2, pp. 20–31, 2020.

[7] C. Van Tran, "What factors shape the intention to use self-service career development planning in Gen Y and Gen Z?" Massey University, 2023.

[8] H. Chen, Y. Wang, and Y. Ding, "Do career demands and career choices always coincide? A matching perspective based on career anchors and job characteristics," *Sustainability*, vol. 13, no. 20, p. 11273, 2021.

[9] N. Donthu, S. Kumar, D. Mukherjee, N. Pandey, and W. M. Lim, "How to conduct a bibliometric analysis: An overview and guidelines," *J. Bus. Res.*, vol. 133, pp. 285–296, 2021.

[10] N. Van Eck and L. Waltman, "Software survey: VOSviewer, a computer program for bibliometric mapping," *Scientometrics*, vol. 84, no. 2, pp. 523–538, 2010.

[11] J. M. Harackiewicz, J. L. Smith, and S. J. Priniski, "Interest matters: The importance of promoting interest in education," *Policy insights from Behav. brain Sci.*, vol. 3, no. 2, pp. 220–227, 2016.

[12] H. Sauermann and M. Roach, "Increasing web survey response rates in innovation research: An experimental study of static and dynamic contact design features," *Res. Policy*, vol. 42, no. 1, pp. 273–286, 2013.

[13] M. LaForce *et al.*, "The eight essential elements of inclusive STEM high schools," *Int. J. STEM Educ.*, vol. 3, no. 1, p. 21, 2016.

[14] M. Marras, L. Boratto, G. Ramos, and G. Fenu, "Equality of learning opportunity via individual fairness in personalized recommendations," *Int. J. Artif. Intell. Educ.*, vol. 32, no. 3, pp. 636–684, 2022.

[15] J. Mullen, C. Byun, V. Gadepally, S. Samsi, A. Reuther, and J. Kepner, "Learning by doing, High Performance Computing education in the MOOC era," *J. Parallel Distrib. Comput.*, vol. 105, pp. 105–115, 2017.

[16] E. Gedrimiene, I. Celik, A. Kaasila, K. Mäkitalo, and H. Muukkonen, "Artificial intelligence (AI)-enhanced learning analytics (LA) for supporting career decisions: Advantages and challenges from user perspective," *Educ. Inf. Technol.*, vol. 29, no. 1, pp. 297–322, 2024.

[17] A. Naz, H. U. Khan, S. Alesawi, O. I. Abouola, A. Daud, and M. Ramzan, "AI knows you: deep learning model for prediction of extroversion personality trait," *IEEE Access*, vol. 12, pp. 159152–159175, 2024.

[18] M. Bal and X. D. Lub, "Individualization of work arrangements: A contextualized perspective on the rise and use of i-deals," in *Idiosyncratic deals between employees and organizations*, Routledge, 2015, pp. 9–23.

[19] D. Jeske and D. Olson, "Onboarding new hires: recognising mutual learning opportunities," *J. Work. Manag.*, vol. 14, no. 1, pp. 63–76, 2022.

[20] L. Cen, D. Ruta, and J. Ng, "Big education: Opportunities for big data analytics," in *2015 IEEE international conference on digital signal processing (DSP)*, IEEE, 2015, pp. 502–506.