



Mapping Global Research Trends in Career Adaptability And Career Development: A Bibliometric Synthesis Of Two Decades of Scholarship

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Abstract

This study provides a comprehensive bibliometric analysis of global research trends in career adaptability and career development over the last twenty years. Using peer-reviewed publications indexed in major academic databases, the analysis maps the field's intellectual structure, thematic changes, and geographic distribution. Using performance analysis and science-mapping techniques, the study identifies influential authors, institutions, and journals, as well as the most-cited theories and frameworks. The results show that Western scholars primarily shape the global conversation, while contributions from the Asia-Pacific region remain relatively limited, despite the region's diverse and rapidly changing labor markets. The thematic evolution reveals a shift from fundamental career development theories to current focuses on employability, resilience, and adaptability, driven by technological advances and economic instability. It also highlights emerging research clusters in proactive career behaviors, psychological resources, and lifelong learning. This review highlights the importance of fostering increased cross-cultural and cross-regional collaboration to enhance both theoretical inclusivity and practical relevance. In the Asia-Pacific region, the findings suggest opportunities to adapt career models to align with collectivist values, family influences, and specific labor-market conditions. The study enriches the literature by offering a data-driven overview of the field's development, uncovering knowledge gaps, and suggesting future research paths to create more inclusive, culturally relevant, and globally applicable frameworks for career adapt-ability and development.

Keywords: Career Adaptability; Career Development; Bibliometric Analysis; Asia Pacific.

1. Introduction

The 21st-century workplace is characterized by volatility, complexity, and constant change driven by technological disruption, globalization, automation, and demographic shifts. In this century, the global landscape and labor market are evolving at an unprecedented pace, requiring individuals to remain adaptable and responsive to new circumstances (Zahn et al., 2024). Giwa and Ngepah (2024) have emphasized that automation is rapidly reshaping the workplace and the skills of its employees, requiring new skill sets. According to the World Economic Forum (2023), global labour markets are expected to undergo significant disruption, and China alone is anticipated to create approximately 88 million new jobs. Traditional notions of stable, linear career trajectories have been supplanted by boundaryless, nonlinear career paths, which require individuals not only to adapt but also to reinvent their professional identities throughout their lifespans (Hall et al., 2018; Briscoe et al., 2006). In this context of heightened uncertainty and dynamic change, career adaptability has emerged as a cornerstone psychosocial competency that underpins sustainable career development and psychological well-being.

Grounded in Career Construction Theory (CCT) (Savickas, 2005; 2013), to understand the behavior changes in individual career path development. CCT provides a holistic perspective on memories, experiences, and career planning, clarifying future directions. Career adaptability is explained as an individual's readiness and resources to cope with career-related tasks, transitions, and ever-changing challenges. The foundation of CCT reflects a constructivist perspective, emphasizing that individuals actively shape their own subjective realities (Savickas, 2002) and career paths (Hartung & Taber, 2008). It reflects a constellation of self-regulatory competencies concerning (future orientation and planning), control (agency and decision-making), curiosity (exploration of career possibilities), and confidence (self-efficacy in overcoming obstacles) that empower individuals to navigate the challenges and complexities of the modern work environment (Savickas & Porfeli, 2012; Hirschi, 2009). These adaptive capacities are not merely reactive but are increasingly recognized as proactive enablers of career agency, resilience, and work design.

Over the past two decades, career adaptability has evolved from a theoretical concept into a robust empirical construct, confirmed across diverse populations and cultural settings. Increasing evidence connects career adaptability with key outcomes, including employability,

career satisfaction, organizational commitment, career optimism, vocational identity, and mental well-being (Guan et al., 2013; Tolentino et al., 2014; Zacher, 2014). Its importance spans various fields, including vocational psychology, organizational behavior, human resource development, educational psychology, and higher education. This interdisciplinary focus reflects a broader shift away from employment-focused career planning toward individual-centered, adaptable, and lifelong career growth.

Despite this increase in scholarly interest, the intellectual framework and thematic development of career adaptability research remain relatively unexplored. While narrative reviews and meta-analyses (Rudolph et al., 2017) have provided valuable conceptual summaries, these methods often struggle to systematically capture the dynamic growth, influential networks, and thematic variety of the literature on a large scale. In contrast, bibliometric analysis provides a strong, objective tool for tracking the progress of a research field. By examining publication trends, citation networks, co-authorship patterns, and thematic mappings, bibliometrics allows detailed visualization of the knowledge landscape, highlighting not only what has been studied but also emerging frontiers and underdeveloped research areas (Donthu et al., 2021; Aria & Cuccurullo, 2017).

Bibliometric analysis is often used to synthesize large and fragmented knowledge bases by assessing the publishing trends, influential contributions, and topic structures. It provides a methodical and reproducible analysis of intellectual thoughts and progression of research over time in academic disciplines (Zupic & Cater, 2015; Donthu et al., 2021). In the career adaptability field, which is highly dynamic, bibliometric analysis identifies the most widely accepted approaches to a problem, emerging concerns, and underexplored research areas. This study conducts a comprehensive bibliometric analysis of the global scholarly conversation on career adaptability, systematically charting its development, structure, and intellectual roots. Two research questions drive this investigation.

RQ1: What is the past research trend related to career adaptability based on citation and co-citation analysis?

RQ2: What is the future research trend related to career adaptability based on keyword analysis?

By integrating performance analysis with science mapping techniques, this study offers a novel and rigorous contribution to the field of career development. The insights derived from this bibliometric review will serve as a strategic compass for scholars, educators, policy-makers, and practitioners, enabling informed decisions in designing adaptive career guidance systems, context-sensitive curricula, and evidence-based interventions that align with the realities of a rapidly evolving world of work.

2. Literature Review

Career adaptability has garnered significant interest as a central construct in vocational psychology and career development research, particularly in response to the rapid changes of the twenty-first century (Zahn et al., 2024). Rooted in CCT, career adaptability is defined as the readiness and psychosocial resources individuals employ to cope with career development tasks, role transitions, and work-related challenges across the lifespan (Savickas, 2005; Savickas, 2013). The shift from fixed, organization-bound careers to more flexible and boundaryless trajectories has amplified the importance of self-regulatory competencies that support lifelong career navigation. Within this framework, career adaptability serves as a critical mediator of how individuals manage uncertainty and construct meaning in their career paths.

Savickas and Porfeli (2012) subsequently proposed a four-dimensional operationalization of career adaptability, encompassing concern, control, curiosity, and confidence. These dimensions function collectively as adaptive strategies for career planning and action. Concern refers to the ability to anticipate and prepare for future career demands, while control encompasses the capacity for self-determined and responsible decision-making. Curiosity encourages active exploration of career options and vocational possibilities, and confidence reflects one's belief in the ability to overcome obstacles and achieve career goals. These dimensions have been validated across multiple instruments and settings. They are frequently assessed using the Career Adapt-Abilities Scale (CAAS), which has become the global standard for empirical investigation in this domain (Savickas & Porfeli, 2012).

Over the past two decades, research on career adaptability has evolved from conceptual exploration to large-scale empirical application, particularly in cross-cultural contexts. Early studies primarily focused on Western populations, including those in the United States, Switzerland, and Germany. However, the construct has since been validated in various cultural and socio-economic settings, including East Asia, the Middle East, Africa, and Latin America (Guan et al., 2013; Tolentino et al., 2014; Coetzee & Harry, 2014). The widespread use of the CAAS has enabled robust comparative studies that both confirm the universality of career adaptability's core dimensions and illuminate their cultural variability. For example, studies in collectivist societies have shown stronger correlations between adaptability and community-oriented career motivations. In contrast, individuals in individualist cultures have emphasized the importance of personal agency and autonomy (Rudolph et al., 2017).

Empirical findings consistently demonstrate that career adaptability is positively associated with key career development outcomes, including employability, job satisfaction, career decision-making self-efficacy, and vocational identity. Zacher (2014) provided evidence that adaptability predicts proactive career behaviors, such as goal setting and problem solving, which, in turn, enhance career optimism and subjective well-being. Similarly, research by Hirschi (2011) and Santilli et al. (2017) highlights the role of career adaptability in promoting resilience, particularly during critical transitions such as the transition from school to work or mid-career pivots. In organizational contexts, career adaptability supports continuous learning, leadership development, and career crafting behaviors that are vital for thriving in digitally disrupted and hybrid work environments (Hall et al., 2018; Van der Heijde & Van der Heijden, 2006).

A growing body of research also emphasizes the protective role of career adaptability in the face of external shocks, such as unemployment, job insecurity, and economic downturns. For instance, Akkermans et al. (2018) found that career adaptability mitigates the adverse psychological effects of career instability by fostering a sense of control and purpose. Similarly, Koen et al. (2012) demonstrated that career adaptability serves as a buffer during job search processes, increasing the likelihood of employment and satisfaction among graduates. These findings establish adaptability not only as a developmental asset but also as a resilience-building mechanism in uncertain labor markets.

Despite the conceptual richness and practical utility of career adaptability, several gaps remain in the literature. One major limitation is the fragmentation of research across disciplines, including psychology, education, business, and human resource development. As a result, the field's intellectual structure remains unclear, making it challenging to identify dominant schools of thought, methodological preferences, or theoretical innovations. While meta-analyses and narrative reviews (e.g., Rudolph et al., 2017) have synthesized quantitative findings, they often struggle to map the evolution of research collaborations, influential contributors, and thematic shifts over time. Additionally, the geographic distribution of research remains uneven, with a concentration in high-income countries and relatively sparse contributions from developing contexts.

Furthermore, the literature lacks a comprehensive visualization of how themes in career adaptability research are clustered and connected. On the same note, topics such as career adaptability in gig work, green jobs, entrepreneurship, and post-pandemic career recovery have

begun to emerge but are often studied in isolation. This lack of cohesion presents a challenge for scholars seeking to advance theory or design interventions grounded in a holistic understanding of the field. Finally, without a systematic synthesis of citation patterns, co-authorship networks, and thematic developments, future research efforts may risk redundancy or fail to build on the most impactful studies. Existing reviews on career adaptability mainly use conceptual or narrative methodologies, emphasising construct building, measurement, and individual outcomes. While these works have made significant contributions to theoretical understanding, they provide scant insight into the field's structural growth. Not much discussion is provided on intellectual clustering, interdisciplinary convergence, and thematic evolution over time. A recent study emphasises the value of systematic mapping approaches in organising career adaptation studies and identifying prospective topics for future academic concentration (Aria & Cuccurullo, 2017; Donthu et al., 2021). This gap highlights the importance of a bibliometric approach to enhance current reviews and deepen comprehension beyond just descriptive synthesis.

While traditional narrative reviews and meta-analyses provide valuable conceptual summaries, they often face limitations in systematically capturing the dynamic growth, influential networks, and thematic variety of academic literature on a large scale (Donthu et al., 2021; Öztürk et al., 2024). The bibliometric analysis conducted in this study extends and challenges these prior methods by offering a systematic, objective, and detailed visualization of the research landscape.

Despite the global validation of career adaptability's core dimensions, the Asia-Pacific context presents specific challenges and opportunities that necessitate a departure from purely Western-centric models. The article explicitly highlights that:

- 1) **Cultural and Socioeconomic Differences:** Unlike Western cultures that often emphasize individual autonomy, Asian employees are significantly influenced by collectivist beliefs, household responsibilities, and hierarchical work structures (Coetzee et al., 2023). This means that talent development strategies, and indeed the very understanding of career adaptability, must be tailored to these cultural norms.
- 2) **CCT Interventions and Workforce Agility:** The application of Career Construction Theory interventions is highly relevant to the Asian business environment, linking career development to workforce agility and employability (Leung, 2022). This is particularly crucial in advanced economies like Singapore, Japan, and South Korea, as well as emerging economies such as Vietnam, India, and Malaysia, which are pivotal in shaping the future of work in Asia.
- 3) **Facilitating Transitions:** CCT is vital in facilitating smooth transitions from education to employment, especially in the face of technological disruption like Industry 4.0 (Wang & Li, 2024). By applying CCT principles to areas such as employee onboarding, graduate development programs, and upskilling initiatives, companies can address skill mismatches, strengthen digital resilience, foster agility, and promote a culture of lifelong learning (Caroline et al., 2025; Coetzee et al., 2023; Kumi et al., 2024).
- 4) **Psychological Well-being and Resilience:** The psychological dimension of career adaptability is paramount in the Asia-Pacific, given the prevalence of workplace stress and mental health issues (Maggiore et al., 2013). Integrating psychological programs for adaptability into employee well-being initiatives is crucial to foster resilience, reduce psychological distress, and ensure workforce sustainability and readiness for the future (Hirschi, 2009; Urbanavičiūtė et al., 2018).

In essence, while the theoretical underpinnings of career adaptability largely originate from Western research, their effective implementation and development in the Asia-Pacific require significant cultural adaptation and a focus on unique regional dynamics, including collectivist values, family influences, and the rapid pace of digitalization.

2.1. Extensions offered by bibliometric findings

Systematic Capture of Dynamic Growth and Thematic Variety: Bibliometric analysis provides a robust tool for tracking the evolution of a research field by examining publication trends, citation networks, co-authorship patterns, and thematic mappings (Donthu et al., 2021; Passas, 2024). This method allows for a detailed visualization of the knowledge landscape, revealing not only what has been studied but also identifying emerging frontiers and underdeveloped research areas (Öztürk et al., 2024). Unlike narrative reviews, which often present subjective interpretations, bibliometrics quantifies these aspects, offering an objective perspective (Sánchez-García et al., 2024).

Unveiling Objective Intellectual Structure: Co-citation analysis, a core bibliometric technique, systematically reveals intellectual connections and shared theoretical foundations among foundational works. This shows how seminal contributions shape subsequent research and how intellectual emphases have shifted (Župič & Čater, 2014). This contrasts with narrative reviews that, while identifying key theories, may not as rigorously map these intricate interconnections and their historical evolution (Hulland, 2024).

Comprehensive Thematic Mapping: Keyword co-occurrence analysis identifies conceptual structures and thematic patterns by examining the frequency and co-occurrence of specific terms (Sánchez-García et al., 2024). This method objectively maps how the field's focus has evolved, indicating shifts in research attention and the emergence of new directions aligned with global workforce transformations (Balloo et al., 2024). This level of detail in thematic evolution is difficult to achieve through qualitative narrative syntheses.

Identification of Research Gaps and Biases: Bibliometric analysis can expose the geographic distribution of research, revealing concentrations in high-income countries and sparse contributions from developing contexts. It also highlights the fragmentation of research across disciplines (Balloo et al., 2024). Narrative reviews might implicitly reflect these biases but often lack the quantitative framework to explicitly identify and quantify such gaps or the lack of contextual sensitivity in previous studies (Linnenluecke et al., 2019).

Reproducible and Objective Analysis: As a quantitative, systematic, and reproducible method, bibliometric analysis minimizes the intrinsic subjectivity often present in conventional reviews (Mobin et al., 2021). It provides objective data, such as citation counts and keyword occurrences, to conclude, thereby enhancing analytical rigor (Bakır & Sak, 2025). Narrative reviews, conversely, may be prone to author bias in study selection and interpretation, making them less reproducible (Brignardello-Petersen et al., 2024; Pae, 2015).

2.2. Challenges to prior narrative reviews

Narrative reviews, while offering deep insights into a narrow set of papers, may overlook significant field-related papers, especially when dealing with large volumes of bibliographic data (Öztürk et al., 2024). Their focus often remains on broader issues rather than specific, well-defined questions, limiting their utility for precise evidence synthesis (Green et al., 2006; Misra & Agarwal, 2018). The current study highlights that existing narrative reviews provide "scant insight" into the field's structural growth, intellectual clustering, interdisciplinary convergence, and thematic evolution over time. Bibliometric methods directly address this by visualizing knowledge development across time and contexts, offering a comprehensive view of the field's development and organization (Mobin et al., 2021; Öztürk et al., 2024). It has a lack of reproducibility. Narrative reviews can suffer from methodological shortcomings due to the absence of objective and systematic selection criteria, leading to author bias in interpretation and conclusions (Campbell et al., 2020; Pae, 2015). Unlike bibliometric analysis, they do not typically follow a specific methodology, making them less reproducible (Brignardello-Petersen et al., 2024). In conclusion, bibliometric findings provide a powerful, objective, and systematic complement to narrative reviews by offering quantifiable evidence of

research trends, intellectual structures, and thematic evolution, thereby enriching and challenging previous understandings of a research field.

3. Methodology

This study uses a bibliometric analysis to systematically examine the intellectual structure, thematic evolution, and global research trends related to career adaptability and its connection with career development. As a quantitative, reproducible method, bibliometric analysis enables scholars to synthesize large bodies of academic literature by analyzing citation patterns, co-authorship networks, and conceptual connections among publications (Donthu et al., 2021). This approach is particularly suitable for fields such as career adaptability, which remain somewhat fragmented across journals, institutions, and disciplines. By visualizing knowledge development over time and across contexts, bibliometric analysis is a powerful tool for identifying influential works, mapping research clusters, and uncovering emerging scholarly themes (Boyack & Klavans, 2014). To ensure methodological rigor, this study follows the established scientometric protocols outlined by Aria and Cuccurullo (2017) and Fauzi (2022). The study combines performance analysis and scientific mapping approaches in accordance with accepted bibliometric practice, enabling a systematic examination of publication patterns as well as the intellectual and thematic structure of the subject (Zupic & Cater, 2015).

The analysis uses three interconnected techniques: citation analysis, co-citation analysis, and keyword co-occurrence analysis. Each technique adds a unique perspective to the investigation. Citation analysis measures scholarly impact by examining the frequency and location of citations within documents, among authors, journals, and institutions. Co-citation analysis examines the frequency with which pairs of documents are cited together, revealing intellectual connections and shared theoretical foundations. Keyword co-occurrence analysis identifies conceptual structures and thematic patterns by examining the frequency with which specific terms co-occur in author-defined metadata. Combined, these methods offer both performance metrics and science mapping, providing a complete view of the field's development and organization.

The bibliographic data for this study were exclusively gathered from the Scopus Core Collection. Scopus was selected for its extensive coverage of peer-reviewed literature across various fields, including the social sciences, psychology, education, and business, as well as its compatibility with popular bibliometric tools such as VOSviewer and Bibliometrix (Gonzalez-Serrano et al., 2019). The search was performed on July 20, 2025, using a Boolean search string applied to the title, abstract, and keyword fields: “career adaptability” OR “career adapt-abilities” AND “career development.” To ensure relevance, the search was limited to documents published between 2003 and 2024, written in English, and relevant to education, the social sciences, psychology, and business. The dataset included peer-reviewed journal articles, reviews, book chapters, and conference papers. After an initial retrieval, duplicates and irrelevant entries were removed to maintain quality. The final dataset comprised 1,043 documents, predominantly journal articles (78.7%), along with book chapters (9.3%), conference papers (7.6%), and a small number of reviews and other scholarly works. The publication timeline showed a sharp rise starting around 2003, peaking in 2024 (Figure 1). This growth indicates increasing academic interest in career adaptability, likely spurred by changing labor market demands, technological advances, and shifting educational priorities. Citation metrics showed these documents collectively received 28,434 citations, with an h-index of 84, highlighting the field's academic impact. Notably, McArdle et al. (2007) made significant contributions to the development of career adaptability through both theoretical and empirical work.

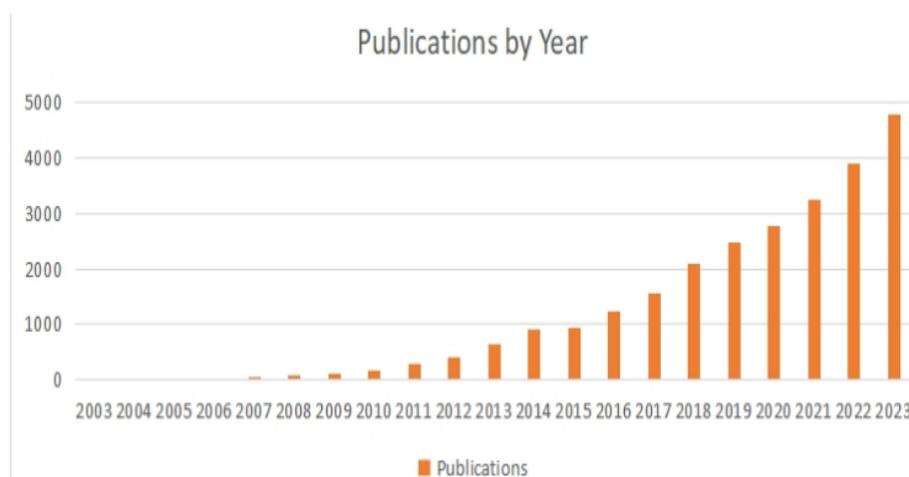


Fig. 1: The Temporal Distribution of Publications from 2003 to 2024.

The bibliographic data were exported in CSV and RIS formats to ensure compatibility with VOSviewer and Bibliometrix. Key metadata fields included document titles, abstracts, author names and affiliations, keywords, citation counts, and complete reference lists. A thorough data cleaning process was performed to ensure accuracy and minimize analytical noise. This involved standardizing synonymous terms (such as “career adaptability” and “career adapt-abilities”), unifying variations in author names and journal titles, and correcting formatting inconsistencies. This reprocessing step was crucial for improving the quality of co-occurrence analyses and clarifying network visualizations. The analysis was conducted using VOSviewer, a widely used bibliometric mapping software recognized for its robust visualizations and clustering algorithms (Van Eck & Waltman, 2014). VOSviewer was used to build co-authorship networks, co-citation maps, and keyword co-occurrence diagrams. These visual tools enabled the identification of major research communities, frequently co-cited works, and recurring conceptual themes. The software’s similarity-based clustering method, which relies on metrics such as cosine similarity, facilitated grouping related documents and keywords in a multidimensional space, highlighting key subfields within the career adaptability literature.

The citation analysis phase focused on identifying the most-cited authors, documents, and journals. Citation frequency served as a measure of scholarly impact, while trends in annual publication rates offered insights into the field's historical progress and momentum. The co-citation analysis uncovered intellectual connections among foundational works, with clusters representing key thematic areas, including career construction theory, decision-making during career transitions, and intervention frameworks in educational and workforce settings.

A citation threshold (e.g., a minimum of 10 citations) was used to include only highly influential works in the analysis. Keyword co-occurrence analysis was then employed to examine conceptual trends and emerging ideas in the research literature. Keywords extracted from author metadata were analysed using full counting methods, with a minimum co-occurrence threshold of five to ensure analytical significance. The resulting clusters revealed dominant topics, including “career construction theory,” “employability,” “resilience,” “psychological capital,” “vocational identity,” and the “future of work.” These conceptual maps illuminated how the field’s focus has evolved, indicating shifts in research attention and the emergence of new directions aligned with global workforce transformations.

This study adhered to ethical standards throughout the research process. Since no human participants or personal data were involved, institutional ethical approval was not necessary. All data were obtained from the publicly available Scopus database and analyzed in accordance with its terms of use. Proper citation and scholarly acknowledgment were maintained in all reporting of results. However, the study recognizes several methodological limitations. Using only Scopus, despite ensuring consistency and tool compatibility, may have excluded relevant studies indexed in other databases, such as Web of Science, ERIC, or Google Scholar. Additionally, citation-based analyses can inherently favor older publications due to longer citation windows, and citation behaviors vary across disciplines. Keyword co-occurrence analysis also relies on the quality and consistency of the author-provided keywords, which can vary in spelling, specificity, and conceptual framing. To address these limitations, a thorough data-cleaning process was implemented, and the findings were interpreted within these constraints. Employing multiple software tools and combining performance metrics with science mapping strategies aimed to improve the reliability, depth, and interpretive strength of the analysis. Figure 2 illustrates the process used to complete the bibliometric analysis in this study.

This section provides a citation analysis of highly cited publications in the fields of career adaptability and career development. Table 1 shows the ten most cited articles in this research area. Among these publications, four main themes emerge: theoretical foundations and scale development (3 articles), employability and adaptability during transitions (3 articles), life designing and career construction (2 articles), and developmental and educational perspectives on career adaptability (2 articles). The most cited publication is “Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries” by Savickas and Porfeli (2012), which has 1442 citations. This foundational work introduces the Career Adapt-Abilities Scale (CAAS), which has significantly influenced global cross-cultural assessments of adaptability. Another influential work is “Employability: A psycho-social construct, its dimensions, and applications” by Fugate et al. (2004), which has been cited 1368 times, framing employability as a multidimensional construct shaped by adaptability, career identity, and personal capital. The concept of life designing was notably advanced by Savickas et al. (2009) in “Life designing: A paradigm for career construction in the 21st century,” which has been cited 1232 times. This work redefines career development frameworks to align with the evolving nature of work and the growing autonomy of individuals.

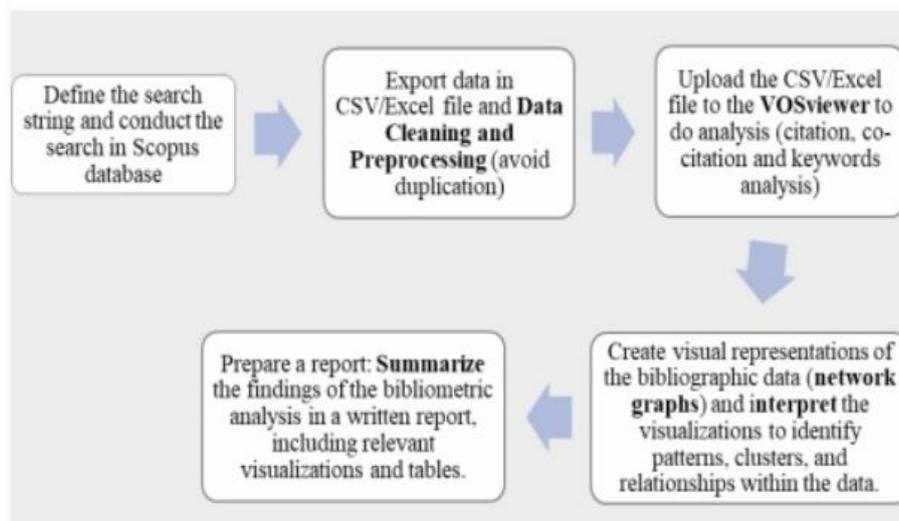


Fig. 2: Process in the Bibliometric Analysis.

The role of meta-analytic evidence is illustrated by Rudolph et al. (2017), who examined the connections between career adaptability and its outcomes, offering statistical support for its significance in professional transitions. Other contributions include studies on employability during periods of unemployment (McArdle et al., 2007), training for school-to-work transitions (Koen et al., 2012), and the development of adaptability in adolescents (Hirschi, 2009). Historical perspectives and additional concepts are provided by Hartung et al. (2005), while Hirschi et al. (2015) offer a dual theoretical and empirical analysis of adaptability as a dynamic developmental process. Collectively, these works reflect a comprehensive understanding of career adaptability, connecting psychological traits, contextual challenges, and intervention strategies. They demonstrate that career adaptability is not only a personal resource but also a socially shaped construct that evolves and plays a vital role in employability, life design, and developmental transitions.

Table 1: The Ten Most Cited Articles in this Research Area

Authors	Title	Year	Cited by
Savickas, Mark, Porfeli, & Erik	Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries	2012	1442
Fugate, Kinicki, & Ashforth	Employability: A psycho-social construct, its dimensions, and applications	2004	1368
Savickas, Nota, Rossier, Dauwalder, Duarte, Guichard, Soresi, van Esbroeck, van Vianen	Life designing: A paradigm for career construction in the 21st century	2009	1232
Rudolph, Lavigne, & Zacher	Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and adaptation results	2017	511
McArdle, Waters, Briscoe, & Hall	Employability during unemployment: Adaptability, career identity, and human and social capital	2007	410

Koen, Klehe, van Vianen	Training career adaptability to facilitate a successful school-to-work transition	2012	362
Hirschi	Career adaptability development in adolescence: Multiple predictors and effect on sense of power and life satisfaction	2009	348
Hartung, Porfeli, & Vondracek	Child vocational development: A review and reconsideration	2005	329
Krschi, Herrmann, & Keller.	Career adaptivity, adaptability, and adapting: A conceptual and empirical investigation	2015	290

4. Data findings and Discussion

RQ1: What is the past research trend related to career adaptability based on citation and co-citation analysis?

Co-citation threshold analysis was performed to uncover the intellectual structure of the career adaptability and career development field. The threshold value was set to include only frequently co-cited works in the network analysis. Based on the data obtained, a network visualization of co-cited references was created. Figure 3 displays the co-citation network. The analysis revealed five main clusters, each representing a thematic area within the literature. These clusters highlight the foundational ideas and evolving trends in career adaptability research. Co-citation analysis helps identify themes, key cited works, and methodological preferences, thereby exposing the field's cognitive framework (Kraus et al., 2012).

- Cluster 1 (red): core constructs of career adaptability

This cluster comprises publications that lay the theoretical and empirical foundation for the concept of career adaptability. Central to this cluster are works by Savickas and Porfeli (2012), particularly the validation of the CAAS, which has become the benchmark instrument in measuring adaptability resources globally. These publications focus on the core dimensions of adaptability, concern, control, curiosity, and confidence, and their role in vocational behavior and career construction.

- Cluster 2 (green): career success and emerging adulthood

The second group focuses on concepts related to career success, boundaryless careers, and the psychological development of individuals in early adulthood. Key works by Bandura (2009) are highlighted, particularly regarding self-efficacy and career changes. This literature examines how internal and external resources, such as adaptability, motivation, and agency, shape how people navigate career paths in shifting labor markets.

- Cluster 3 (blue): life design, resilience, and counseling

This cluster emphasizes the application of life-design principles and resilience strategies in career counseling. The publications here highlight longitudinal studies on adult career paths, career shocks, and the psychological flexibility needed to manage these changes. The literature reveals a growing emphasis on adaptive counseling practices and on integrating life design theory to support lifelong career development.

- Cluster 4 (yellow): quantitative methodologies in career research

The fourth cluster is methodological, centering on best practices in career-related research, including the use of structural equation modeling (SEM), goodness-of-fit indices, and advanced psychometric techniques. This cluster supports the empirical rigor of studies found in the other clusters, ensuring reliability and validity in career adaptability measurement.

- Cluster 5 (purple): comprehensive career theories and applications

This cluster features influential career development frameworks and integrative theoretical contributions. It includes widely referenced books and guides that provide broad conceptual models for understanding career behavior across the lifespan. The works in this cluster often bridge theory and practice, offering educators, counselors, and policy-makers actionable insights derived from comprehensive research.

Together, these clusters define a well-structured and multidisciplinary research landscape in the field of career adaptability. The dominance of psychological theory, measurement tools such as CAAS, and emerging themes in adult development highlight the field's progression from foundational theory to applied interventions and methodological sophistication.

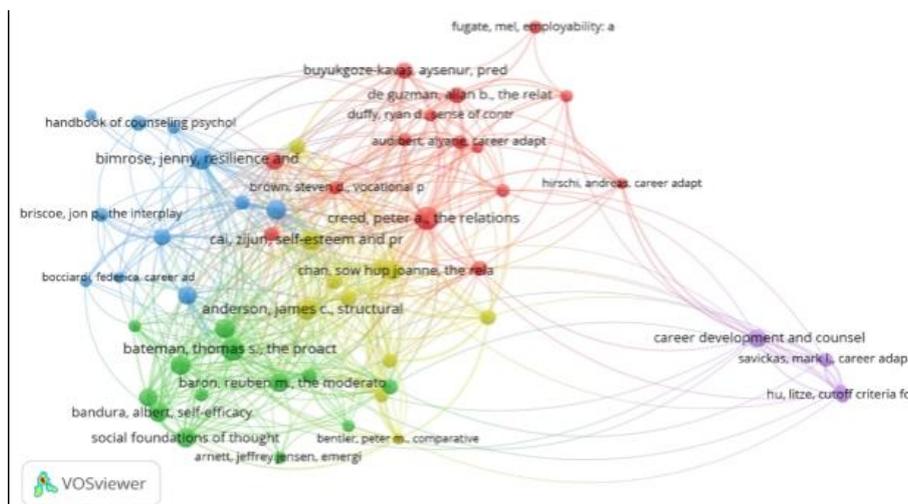


Fig. 3: Co-Citation Network.

Citation and co-citation analyses show the conceptual framework of career adaptability research by identifying initial works and defining coherent clusters of scholarly activity. Co-citation patterns indicate shared theoretical orientations and methodological similarities among influential studies, thereby highlighting dominant research streams within the field (Zupic & Cater, 2015). Rather than serving as descriptive statistics alone, these results show how seminal contributions shape subsequent research and how intellectual emphases have shifted in response to changing labour market conditions.

RQ2: What is the future research trend related to career adaptability based on keyword analysis?

individual agency. This nuance is often overlooked in standardized instruments, such as the CAAS. Despite these constraints, empirical findings consistently demonstrate the positive association between career adaptability and key career outcomes, including employability, job satisfaction, decision-making self-efficacy, and vocational identity (Zacher, 2014; Hirschi, 2011; Cardoso et al., 2022; Santilli et al., 2017). These outcomes are particularly pronounced during transitional periods, such as the transition from school to work, job loss, or mid-career changes. Koen et al. (2012) and Akkermans et al. (2018) provide compelling evidence that adaptability not only facilitates successful job searches but also acts as a buffer against the negative psychological consequences of career instability and unemployment.

Moreover, the results underscore a shift in how adaptability is perceived not only as a personal trait but as a developmental resource shaped by social and economic conditions. In this view, adaptability serves as a mediator that supports continuous learning, proactive goal setting, and identity formation in response to external challenges, such as technological disruptions or labor market volatility (Hall et al., 2018; Van der Heijde & Van der Heijden, 2006). Nevertheless, the field continues to lack a cohesive understanding of how structural variables such as economic inequality, policy environments, and educational systems affect the development and deployment of adaptability resources. In summary, past research has established a strong theoretical and empirical foundation for career adaptability as a central construct in vocational psychology. However, greater interdisciplinary integration, contextual sensitivity, and methodological diversification are necessary to capture the complexities of adaptability in contemporary career development fully.

The keyword co-occurrence analysis reveals significant emerging thematic directions in the field, reflecting a shift toward more holistic, inclusive, and context-aware conceptions of career adaptability. While foundational keywords such as career adaptability, career construction, and career development remain dominant, newer co-keywords, including sustainability, life satisfaction, optimism, and the psychology of work, indicate an expanding scholarly interest in well-being, equity, and purpose-driven careers. A major future trend lies in integrating career adaptability with positive psychology constructs, particularly life satisfaction and optimism. Santilli et al. (2017) have demonstrated that adaptability fosters psychological resilience, enabling individuals to remain hopeful and goal-directed even in the face of adversity. This represents a conceptual shift from adaptability as a reactive coping mechanism to a proactive, future-oriented personal resource that contributes to overall life flourishing.

At the same time, the appearance of terms such as work volition, sustainability, and inclusive career development in recent literature suggests a growing awareness of the structural and systemic constraints on career choice and mobility. As highlighted by Rudolph et al. (2017) and Akkermans et al. (2018), adaptability must be considered alongside broader societal factors, including access to education, labor-market regulation, and social justice issues. For instance, in low-resource contexts, fostering adaptability may require not only individual-level interventions but also institutional reforms and public policies that reduce barriers to meaningful work. Moreover, contemporary disruptions such as the COVID-19 pandemic, the rise of gig and remote work, and the increasing automation of jobs have redefined what it means to be adaptable. As Hall et al. (2018) argue, thriving in today's hybrid and technology-driven workplaces requires new forms of adaptability, including digital fluency, emotional intelligence, and career crafting. This evolution necessitates expanding adaptability frameworks to encompass techno-social competencies and lifelong learning behaviors essential to employability in dynamic labor markets. Notably, the future of career adaptability research must also involve more inclusive methodologies, including longitudinal and intersectional analyses that capture the experiences of marginalized populations. To date, few studies have fully explored how adaptability interacts with factors such as race, gender, disability, or socioeconomic status. Such analyses are crucial for advancing inclusive career development models that recognize diverse lived experiences. Lastly, there is a pressing need to evaluate adaptability-building interventions through evidence-based designs such as randomized controlled trials or longitudinal action research. While the theoretical value of adaptability is well-established, practical strategies for cultivating it, especially in educational and organizational settings, remain underdeveloped.

4.1. Practical implications for the Asia Pacific region

The study's findings present several practical implications for firms in the Asia Pacific context. The analysis revealed several essential patterns that are highly relevant to organisational practice. First, the findings demonstrate that CCT interventions apply to the current Asian business environment and that the career intervention is linked to workforce agility and employability. The uncertainty of the global economy, coupled with the accelerating shift toward digitalization, has positioned advanced economies, such as Singapore, Japan, and South Korea, alongside emerging economies, including Vietnam, India, and Malaysia, as key players in shaping the future of work in Asia. CCT-based activities can help HR practitioners enhance their adaptability resources (concern, control, curiosity, and confidence), which, in turn, strengthen employability, organizational commitment, and long-term career sustainability.

This highlights the necessity of tailoring talent development strategies to the unique Asian cultural and socioeconomic context, leveraging CCT to facilitate smooth transitions from education to employment, particularly amid technological changes like Industry 4.0, which collectively enhance human capital and labour-market efficiency (Hirschi, 2009). Furthermore, the psychological dimension of career adaptability is paramount, addressing workplace stress and mental health concerns by integrating psychological programs for adaptability into employee well-being initiatives to foster resilience and ensure workforce sustainability and readiness for the future (Hirschi, 2009).

Second, the findings highlight the importance of tailoring current talent development strategies to the Asian cultural and socioeconomic context. Unlike in Western cultures, where individual autonomy is often emphasized, Asian employees are influenced by collectivist beliefs, household responsibilities, and hierarchical work structures. Integrating CCT into organisational processes enables companies to design development programs that respect cultural norms while also encouraging individual adaptation and institutional change. For example, the CCT has a high impact on career development, counseling, mentoring, and leadership activities can be tailored to highlight both personal and organisational performance.

Third, the study highlights the importance of CCT in facilitating transitions from education to employment, particularly amid technological disruption. Many Asian companies have made acquiring, developing, and retaining young talent a strategic priority, particularly in labour markets marked by graduate oversupply and skill mismatches. Applying CCT to employee onboarding, graduate development programs, and structured upskilling initiatives can help close the techno gap and industry expectations. Firms can reduce turnover intentions, promote role clarity, and enhance long-term employability by refining their adaptation strategies. Furthermore, in the face of technological change, particularly the adoption of artificial intelligence, automation, and digital platforms, businesses can apply CCT principles to strengthen digital resilience, foster agility, and promote a culture of lifelong learning.

Fourth, the psychological dimension of career adaptability is highly mapped in the analysis, which clearly shows the seriousness of the prevalence of stress and mental health issues in the workplace. Moreover, this frequency is shared by scholars (Santilli et al., 2017; Hall et al., 2018; Cardoso et al., 2022) to emphasize individual well-being, reduce psychological distress, and foster resilience in uncertain environments. In the Asian business context, where employees often suggest striking a balance between work and social integration, it is impossible to achieve. Therefore, organisations in Asian countries should embed a psychological program for career adaptability in their employees' well-being.

Ultimately, the current analysis has demonstrated the need for broader policy development and workforce implications in the Asian context. Government and organisations can work together to incorporate intervention policy into global human capital development. It will increase graduate employability, career opportunities, mobility, and workforce readiness for Industry 4.0 and beyond. Moreover, the Asian HR policy road map will strengthen the talent pipeline in the Asian market. Overall, the bibliometric study has addressed the critical role of CCT in shaping current resources and future leaders in Asian business contexts. The analysis has bridged past insights with future directions, reminding practitioners to focus on employee coping strategies, talent development, and psychological well-being as central to workforce sustainability.

5. Conclusion

This study makes a meaningful contribution to the literature by offering the first bibliometric synthesis that not only traces the evolution of career adaptability research but also highlights intellectual gaps and emerging priorities. Through a triangulation of citation patterns, co-authorship linkages, and keyword trends, this research provides a strategic overview of how the field has matured and where it is heading. For scholars and researchers, the findings highlight the need to expand theoretical frameworks, examine understudied populations, and use methodologically rigorous approaches that can capture the longitudinal and contextual dynamics of adaptability. The increasing importance of adaptability emphasises the need to incorporate adaptability-enhancing strategies into higher education curriculum design, organisational training and coaching programs, and workforce development to improve workforce resilience for practitioners, career counsellors, educators, and human resource professionals. For policymakers and employers, these findings highlight the importance of recognising career adaptability as a 21st-century competency that is essential for national employability strategies and educational reform, as well as the importance of encouraging flexible skill sets to support sustainable economic participation in environments marked by digitalisation and structural change (Rudolph et al., 2017). In developing nations, this requires investment in adaptable career services, digital infrastructure, and regulations that foster robust and egalitarian career trajectories.

6. Co-Author Contribution

The authors affirmed that there is no conflict of interest in this article. Author 1 carried out the field work, prepared the literature review and methodology, and Author 2 reviewed the write-up of the whole article. Author 3 overlooked the article write-up and the conclusion.

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