

Mapping the Conceptual Structure of Psychological Capital as A Driver of Employee Performance and Innovation Through Scopus and VOS Viewer Bibliometric Analysis 2022–2026

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ABSTRACT: This study aims to map the development of publications, the conceptual structure, collaboration patterns, and research theme trends of psychological capital as a driver of employee performance and innovation during 2022–2026. The study uses a quantitative–descriptive bibliometric approach applied to 28 English-language journal articles indexed in Scopus. Data were retrieved on 1 August 2026, restricted to final-stage articles published in journals. Analysis was conducted using VOSviewer through network, temporal (overlay), and density visualizations, together with analysis of annual publication growth, subject-area distribution, affiliation productivity, country collaboration, and keyword occurrence. The results show that the number of publications increased from four articles in 2022 to eight articles in 2025, while the four articles recorded in 2026 represent partial, current-year data. The field of Business, Management and Accounting was the dominant category, followed by Social Sciences and Psychology. Nanjing University was the most productive affiliation, while China served as the hub of the inter-country collaboration network. Keyword mapping produced two clusters comprising psychological capital, innovation, leadership, innovation performance, and human. Psychological capital occupied a central position, while leadership emerged as the relatively most recent theme. The study concludes that research on PsyCap, performance, and innovation is experiencing growth, but its knowledge structure remains exploratory, geographically concentrated, and not yet fully integrated.

KEYWORDS: psychological capital; employee performance; innovation; bibliometric analysis; Scopus; VOSviewer.

I. INTRODUCTION

The increasingly dynamic changes in the work environment have driven a shift in human resource management studies away from a deficit-based approach and toward one that positions psychological strengths as strategic organizational assets. This shift is rooted in positive psychology (Seligman & Csikszentmihalyi, 2000) and was later developed within the organizational domain through Positive Organizational Behavior (POB), a framework that focuses attention on positive psychological capacities that can be measured, developed, and managed to improve performance (Luthans, 2002). One of the principal constructs to emerge from this framework is Psychological Capital (PsyCap), defined as a positive psychological state of development composed of four dimensions known by the acronym HERO: Hope, Efficacy, Resilience, and Optimism (Luthans et al., 2007b). Hope provides both goal-directed energy and the capacity to identify alternative pathways; self-efficacy strengthens an individual's confidence in accomplishing challenging tasks; resilience enables recovery and growth following setbacks or failure; while optimism forms positive expectations that remain grounded in realistic appraisal (Snyder et al., 1991; Bandura, 1997; Seligman, 1998; Scheier & Carver, 1985). The integration of these four dimensions makes PsyCap a higher-order construct that provides greater psychological capacity than the contribution of each dimension considered separately (Luthans & Youssef-Morgan, 2017). This foundation is also consistent with Conservation of Resources Theory (Hobfoll, 1989), which views psychological resources as mutually reinforcing reserves that can be invested to counter the threat of resource loss.

The urgency of PsyCap research has grown because organizations no longer demand only the achievement of routine performance, but also employees' capacity to adapt and innovate on an ongoing basis. The post-pandemic work environment and VUCA (Volatility, Uncertainty, Complexity, Ambiguity) conditions have heightened the need for psychological resources that sustain employee resilience and growth orientation (Luthans & Broad, 2022). In this context, performance can no longer be adequately understood merely as the achievement of short-term targets, since organizational sustainability is also determined by employees' ability to generate, promote, and implement ideas continuously. Innovative Work Behavior (IWB), which encompasses these three stages, requires the confidence, persistence, cognitive flexibility, and recovery capacity synergistically provided by the HERO dimensions (Janssen, 2000). Employees with high PsyCap also tend to possess stronger self-regulatory capacity in setting goals, monitoring progress, and adjusting strategies when facing obstacles (Luthans & Youssef-Morgan, 2017).

The relationship between PsyCap and performance and innovation has received varied empirical support. The meta-analysis by Avey et al. (2011) confirmed that PsyCap is positively related to task performance, desirable work attitudes, and constructive behavior, while being negatively correlated with stress, cynicism, and turnover intention. Sweetman et al. (2011) demonstrated that PsyCap, as a composite construct, has predictive power for creative performance that exceeds the contribution of each HERO component individually. The influence of PsyCap on innovative behavior has also been found to operate through knowledge-sharing mechanisms, particularly knowledge donating and knowledge collecting (Chen et al., 2021), as well as through the psychological safety created by leaders with high PsyCap (Wang et al., 2021). A broader

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body of evidence further reinforces the relevance of this construct: PsyCap has been linked to breakthrough innovation performance in high-technology firms (Liu et al., 2023), to entrepreneurial innovation performance through creative innovation behavior (Gao et al., 2020), and to performance and engagement in cross-cultural higher-education settings (Abraham & Madukwe, 2025). This diversity of findings shows PsyCap to be a productive construct, while also producing a research field dispersed across levels of analysis, sectors, mediating mechanisms, and types of innovation outcomes.

Various prior reviews and scientific mappings have attempted to organize knowledge about PsyCap. Newman et al. (2014) synthesized the conceptual and empirical development of PsyCap along with its antecedents, consequences, mediators, and moderators. The bibliometric mapping by Sun et al. (2022) visualized research pathways and the diversification of PsyCap themes across contexts, while other studies have identified publication productivity trends and dominant themes across the broader PsyCap literature (“Publication Performance and Trends in Psychological Capital Research,” 2024). A systematic review on emotional intelligence and PsyCap (Tjimuku et al., 2025) and a synthesis of PsyCap's application across various organizational outcomes (Riana et al., 2026) have further broadened the available knowledge base. However, this very breadth has caused the specific relationships among PsyCap, performance, and innovation to be scattered across numerous clusters that have not yet been mapped in an integrative manner.

From this literature review, the present study identifies eight scientific gaps. First, the three main domains of PsyCap, performance, and innovation have not yet been captured within a single integrated knowledge structure. Second, emerging mediating themes have not been mapped within a clear core–peripheral hierarchy. Third, prior mappings generally cover overly broad fields without an exclusive focus on the intersection of PsyCap, performance, and innovation. Fourth, the 2022–2026 period, as a phase of accelerating digital transformation, has not yet been positioned as an independent bibliometric analysis window. Fifth, visual network maps have not been used to display the conceptual configuration as a whole. Sixth, the concentration of productivity in particular institutions and countries has not been examined. Seventh, most of the evidence remains cross-sectional in design, so causal claims must be read with caution. Eighth, terminological variation across studies requires normalization before it can be integrated into a single knowledge landscape. These gaps create the need for an up-to-date, focused, temporal, and data-driven bibliometric mapping.

This study responds to these gaps through a bibliometric analysis of 28 English-language journal articles indexed in Scopus, published during 2022–2026. VOSviewer was used to map relationships among bibliographic and conceptual elements through network, overlay, and density visualizations. The analysis covers annual publication development, subject-area distribution, affiliation productivity, country collaboration networks, and keyword occurrence. The research problem is formulated as follows: How are the conceptual structure, publication development, collaboration patterns, and research theme trends of psychological capital as a driver of employee performance and innovation reflected in the Scopus literature for the 2022–2026 period, based on VOSviewer mapping?

Theoretically, this study is expected to clarify PsyCap's position as a higher-order construct within the research network on performance and innovation. Methodologically, a transparent and replicable procedure constitutes a distinct contribution to the development of bibliometric research in the field of management. Practically, the identification of dense and peripheral themes can help researchers prioritize their research agendas, while patterns of international collaboration open opportunities for cross-institutional partnerships. With a focused yet integrative scope, this study does not merely present publication counts, but reads the collective pattern of knowledge production to determine whether PsyCap truly occupies a central position or remains fragmented within the research landscape on employee performance and innovation.

II. RESEARCH METHOD

This study employs a descriptive quantitative design with a bibliometric analysis approach to map the development of publications, conceptual structure, distribution of scientific contributions, and collaboration patterns in research on psychological capital, employee performance, and innovation. The bibliometric approach was chosen because it enables publication metadata to be analyzed systematically through productivity indicators and relationships among bibliographic elements, as applied in the mapping of psychological capital knowledge development by Sun et al. (2022), the mapping of the relationship between psychological capital and other organizational constructs by Tjimuku and Atiku (2024), and prior analyses of PsyCap publication trends (“Publication Performance and Trends in Psychological Capital Research,” 2024).

The data source for this study is the Scopus database. The search was conducted on the title, abstract, and keyword fields using the syntax (TITLE-ABS-KEY (psychological AND capital) AND TITLE-ABS-KEY (performance AND employee) AND TITLE-ABS-KEY (innovation)).

The search results were then restricted using the criteria of publication year 2022–2026, source type journal, final publication stage, article document type, and English language, through the syntax PUBYEAR > 2021 AND PUBYEAR < 2027 AND LIMIT-TO (SRCTYPE, “j”) AND LIMIT-TO (PUBSTAGE, “final”) AND LIMIT-TO (DOCTYPE, “ar”) AND LIMIT-TO (LANGUAGE, “English”). Applying these criteria yielded 28 articles, which constituted the entire population and unit of documents for the study; consequently, no sampling was performed. The year 2026 was treated as a partial observation year because data collection was carried out before the publication year had ended. The units of analysis included articles, publication year, authors, organization or affiliation, country, subject area, and keywords. The selection of key terms also took into account the conceptualization of PsyCap as a construct composed of hope, efficacy, resilience, and optimism, so that variations in terminology related to these four dimensions were examined during the metadata cleaning stage (Luthans et al., 2007a; Luthans et al., 2007b).

Prior to analysis, the data were checked to ensure there were no duplicate documents, empty metadata fields affecting counts, variations in author names, or discrepancies in the spelling of institution and country names. Keyword normalization was carried out by merging terms with the same meaning, singular and plural forms, abbreviations, and spelling variants using the VOSviewer thesaurus file; for example, terms referring to psychological capital, employee performance, innovative work behavior, and innovation performance were checked to prevent them from splitting into entities that should otherwise be treated as identical. Overly generic terms, such as human, were evaluated for substantive relevance before being retained in the network. The data were then analyzed using VOSviewer to generate network visualization, overlay

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visualization, and density visualization. Keyword network analysis used a co-occurrence technique to identify the strength of relationships among topics, the formation of clusters, and the position of core versus peripheral concepts. Analysis of thematic development used overlay visualization based on the average publication year to distinguish earlier terms from relatively more recent ones, while density visualization was used to show thematic areas with the highest concentration of occurrence and relationships. Author analysis was conducted through document counts and, where relationships met the threshold set within the project, through a co-authorship network; organizational analysis used affiliation productivity and inter-institutional connectivity; while country analysis used co-authorship by countries to identify collaboration hubs and the strength of international relationships. Publication development was calculated based on the number of articles per year, while the distribution of organizations and subject areas was presented through frequencies and percentages. Network interpretation was based on node size, distance between nodes, cluster color, number of links, and total link strength, rather than on the visual position of elements alone. This procedure enabled the conceptual structure of PsyCap, performance, and innovation to be analyzed in an integrated manner alongside the development of scientific productivity and collaboration, as guided by the bibliometric studies underlying this research.

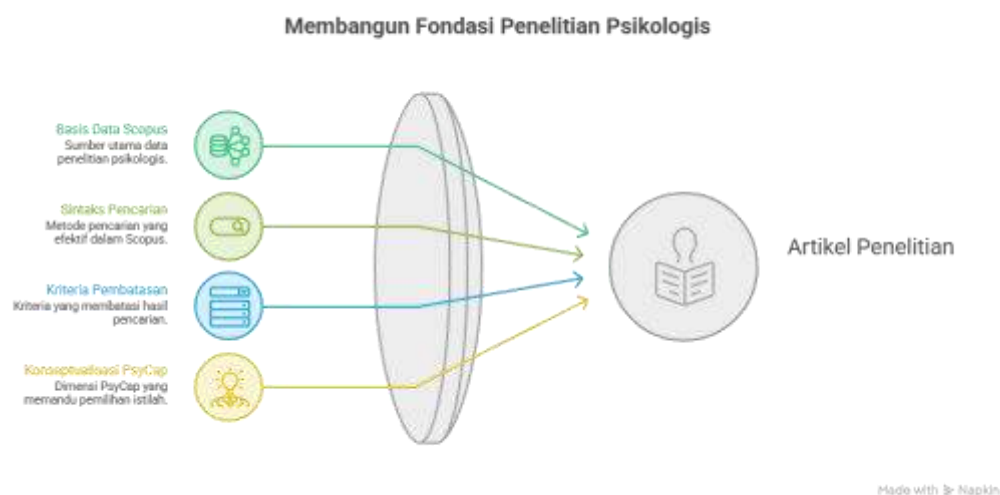


Figure 1

III. RESULTS OF THE BIBLIOMETRIC ANALYSIS

A. Publication Development, 2022–2026

TABLE I. DISTRIBUTION OF PUBLICATIONS BY YEAR

Year	Number of documents	Percentage	Annual change	Cumulative total
2022	4	14.29%	–	4
2023	5	17.86%	+25.00%	9
2024	7	25.00%	+40.00%	16
2025	8	28.57%	+14.29%	24
2026	4	14.29%	–50.00%*	28
Total	28	100.00%	–	–

* 2026 data are partial, since data collection was carried out on 1 August 2026.

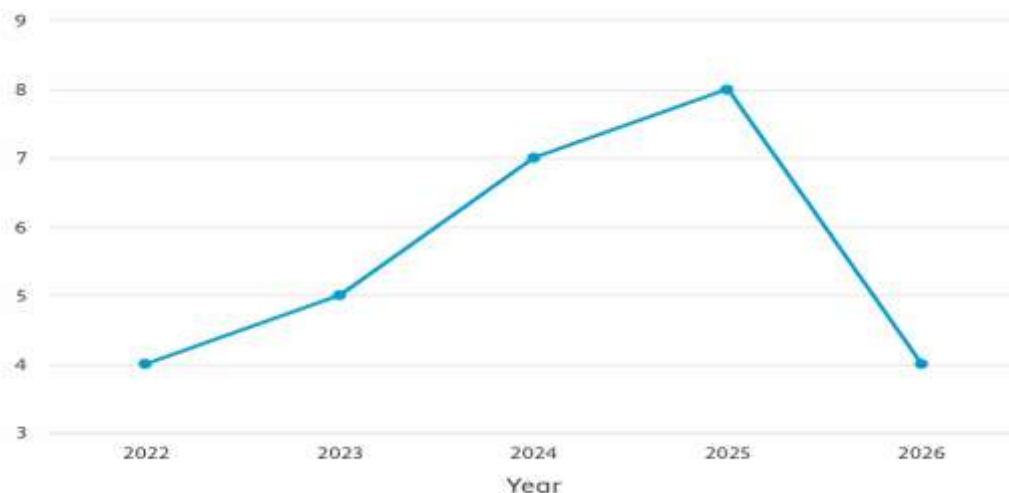


Figure 2. Growth in the number of publications

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Figure 2 shows that research on psychological capital, employee performance, and innovation exhibited a growth trend across the first four full years of the observation period. The number of publications rose from four documents in 2022 to five documents in 2023, representing growth of 25.00%. A larger increase occurred in 2024, when the number of publications reached seven documents, an increase of 40.00% over the previous year. Peak publication productivity was recorded in 2025, with eight documents, equivalent to 28.57% of the entire dataset. Compared with 2022, publications in 2025 increased by 100%, indicating that scientific attention to the intersection of these three concepts has grown substantially. Publications in 2024 and 2025 together totaled 15 documents, or 53.57% of all articles analyzed. This concentration of more than half the articles within these two years shows that the main growth phase occurred toward the latter part of the full observation period. The year 2026 recorded four documents, or 14.29%. The 50.00% decline from 2025 to 2026 cannot be interpreted as a decline in research interest, because the 2026 observation period was not yet complete. Cumulatively, the number of articles reached nine documents by the end of 2023, rose to 16 documents by the end of 2024, reached 24 documents by the end of 2025, and totaled 28 documents as of the data collection date. This pattern indicates relatively consistent publication expansion, although the limited size of the dataset requires this trend to be understood as a tendency within the corpus that meets the search syntax, rather than as a measure of the entire PsyCap field.

B. Document Distribution by Affiliation

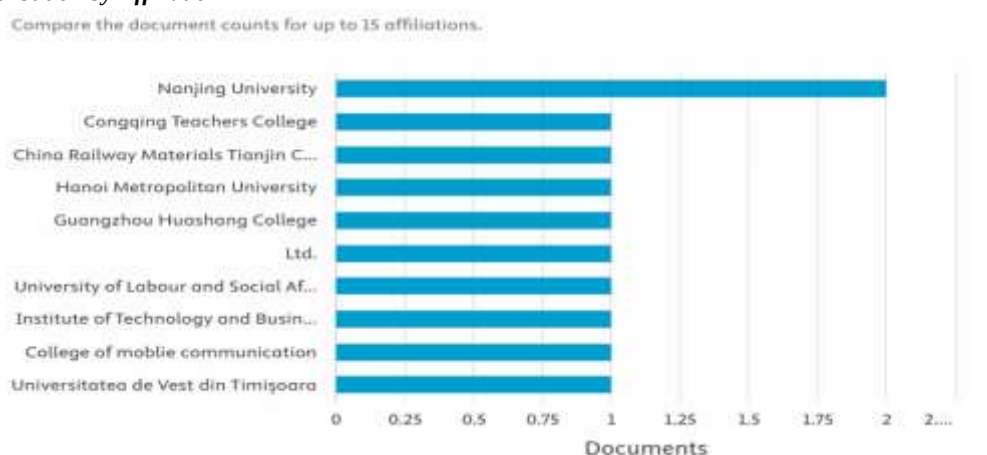


Figure 3. Affiliations shown in the Scopus visualization

Figure 3 shows that institutional productivity in this dataset remains dispersed and has not yet formed a strong concentration of publications at any single affiliation. Nanjing University is the institution with the highest number of documents, namely two articles, while the nine other affiliations shown each produced one article. Although Nanjing University's publication count is twice that of every other affiliation in the visualization, the absolute difference is only one document. This condition indicates that no institution can yet be said to dominate this research field substantially. The distribution of a single document across many affiliations indicates that research on PsyCap, performance, and innovation is being carried out by dispersed groups rather than by a particularly productive specialized research center. The appearance of several institutions from China is also consistent with that country's position as the main hub in the inter-country collaboration visualization. Affiliations from Vietnam and Romania show that this topic is not studied within a single national context, even though publication intensity there remains low. The label "Ltd." appearing as a separate affiliation indicates a possible issue with the completeness or standardization of organizational metadata. The number of documents by affiliation also need not sum to 28, since a single article may list more than one organization. This visualization is therefore more accurately interpreted as a distribution of affiliation contributions rather than an exclusive distribution of documents by a single institution.

C. Distribution by Subject Area

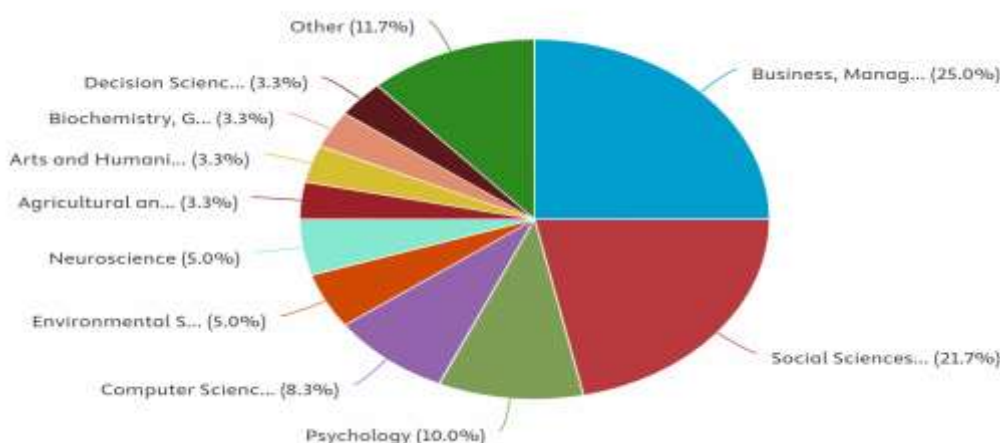


Figure 4. Distribution of subject areas in the dataset

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Figure 4 shows that research on PsyCap, employee performance, and innovation has a multidisciplinary orientation, but develops predominantly within the management and social science clusters. The field of Business, Management and Accounting accounts for the largest share, at 25.0%, indicating that a quarter of the subject-area classifications in the dataset relate to organizational management, work behavior, and business outcomes. Social Sciences ranks second at 21.7%, so that together these two largest fields account for 46.7% of the disciplinary distribution. Psychology contributes 10.0%, confirming that the psychological foundation of PsyCap remains an important component even though its application is directed mainly toward organizational contexts. Computer Science accounts for 8.3%, which may reflect the entry of topics such as innovation, technology, information systems, or digital change into discussions of PsyCap and performance. Environmental Science and Neuroscience each account for 5.0%, indicating an expansion in the use of the PsyCap concept beyond conventional management domains. Agricultural and Biological Sciences, Arts and Humanities, Biochemistry, Genetics and Molecular Biology, and Decision Sciences each contribute 3.3%. The “Other” category, at 11.7%, indicates that additional disciplinary classifications not shown individually in the chart remain present. When the four largest fields — management, social sciences, psychology, and computer science — are combined, their share reaches 65.0%. This composition shows that the scientific structure of this research lies at the intersection of organizational behavior, work psychology, social studies, and technological context.

D. Inter-Country Collaboration Network



Figure 5. Simplified reconstruction of the country network

Figure 5 displays five countries connected within a single collaboration network: China, Malaysia, the Philippines, Taiwan, and South Korea. China has the largest node and is positioned centrally, so that visually it functions as the network's connecting hub. On the left side, China is linked to Malaysia and the Philippines through two collaboration lines forming a regional relationship structure. On the right side, China is linked to Taiwan and South Korea, while Taiwan also appears to be linked with South Korea. This position makes China an intermediary node between the group of countries on the left and the group of countries on the right. Without China's presence, the visualized network would likely fragment into several smaller connections, so its role can be described as structurally central within this corpus. Malaysia's node size appears larger than those of the Philippines, Taiwan, and South Korea, but remains smaller than China's. This network shows a geographic orientation concentrated in Asia, particularly East Asia and Southeast Asia. No nodes from North America, Western Europe, Africa, or Latin America appear in the network that meets the visualization threshold. Nevertheless, the absence of a country from the network does not necessarily mean that no articles originate from that country, since countries with a number of documents or relationships below the threshold may not be visualized.

E. Keyword Co-Occurrence Network Structure

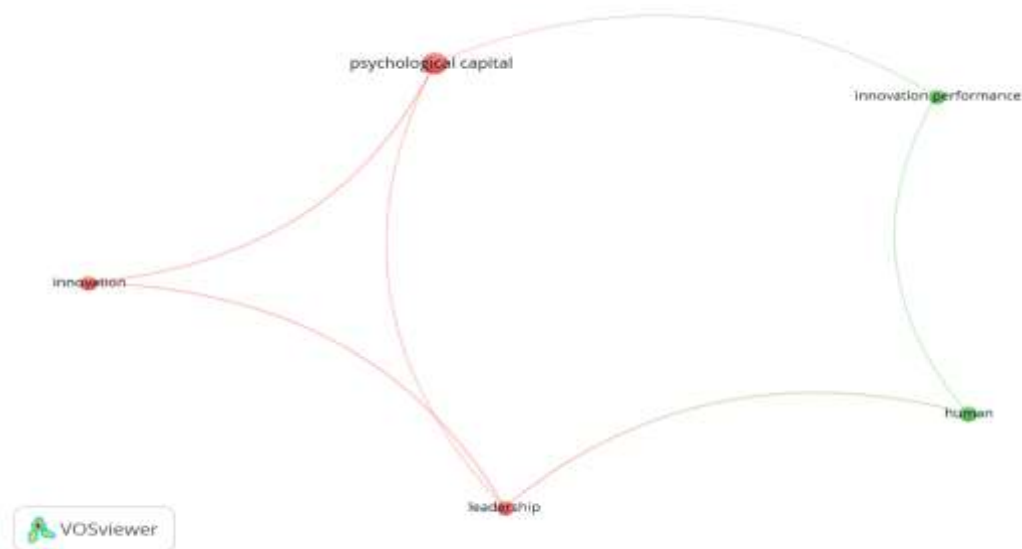


Figure 6. Conceptual structure of keywords

Figure 6 shows a co-occurrence network consisting of five main keywords and two conceptual clusters. The first cluster, colored red, comprises psychological capital, innovation, and leadership. The second cluster, colored green, consists of innovation performance and human. The keyword psychological capital has a relatively prominent label and node, consistent with its position as the main concept in the search syntax. This node is directly linked to innovation, leadership, and innovation performance, thereby functioning as one of the connecting points

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among concepts within the network. Its link with innovation shows that PsyCap is discussed alongside processes or orientations toward renewal, while its link with leadership reflects the involvement of leadership context within the literature's structure. The direct connection between psychological capital and innovation performance links the cluster of psychological resources with the cluster of innovation outcomes. The keyword leadership is also linked to innovation and human, giving this term an additional bridging function between discussions of innovation and human aspects. In the second cluster, innovation performance is linked to human, indicating that innovation outcomes are mapped alongside human subjects or populations. The relatively large distance between several nodes indicates that the conceptual structure is not yet very dense, even though all items still form a single connected network. Only five keywords appear to meet the visualization configuration, so the diversity of mapped themes remains limited and is strongly influenced by the occurrence threshold and the term-cleaning process. The term employee performance does not appear as a separate node, even though the words performance and employee were used in the search syntax. This absence may occur because the term did not reach the minimum threshold, was split into other term variants, or appeared only in titles and abstracts without being recorded as a recurring keyword. The network therefore provides the clearest support for the relationship of PsyCap with innovation, leadership, and innovation performance, but has not yet shown an explicit structure regarding employee performance in general.

F. Temporal Development of Keywords

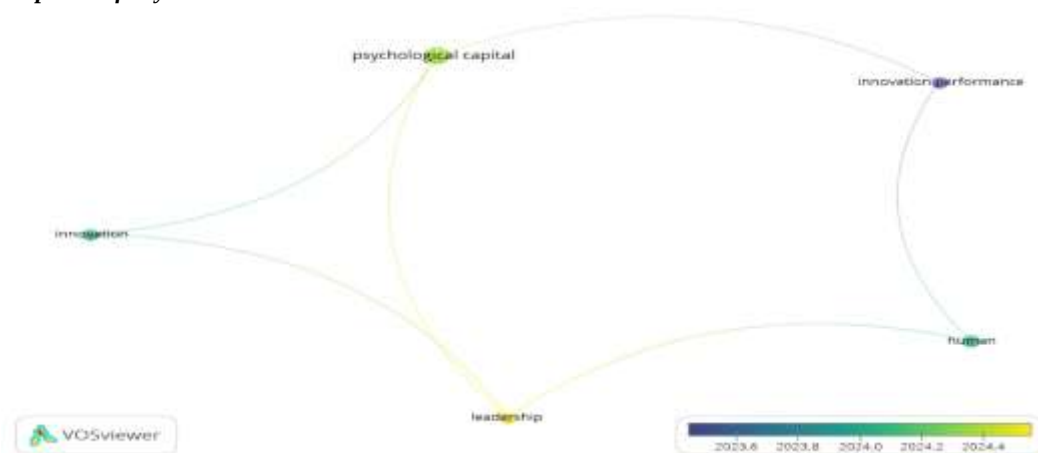


Figure 7. Relative temporal sequence based on overlay coloring

Figure 7 uses the overlay-visualization color scheme, which distinguishes the relative temporal position of each keyword. Innovation performance appears in blue or purple, making it visually the term with the earliest average publication year among the five items. The keyword innovation is bluish-green and occupies a relatively earlier phase than psychological capital and leadership. The term human appears in green, indicating an intermediate temporal position within the network. Psychological capital is yellowish-green, indicating that its usage appears more recent than that of innovation performance, innovation, and human. The keyword leadership has the color closest to yellow and relatively represents the newest theme in the visualization. This color arrangement indicates a shift in attention from the outcome of innovation performance toward a stronger discussion of psychological capital and leadership. This shift does not mean that older themes have ceased to be studied, but rather reflects differences in the average time of occurrence based on the documents forming each node. The more yellow-tinted connection between psychological capital and leadership also shows that the relationship between these two concepts is more prominent in the more recent part of the analysis period. Meanwhile, the earlier position of innovation performance indicates that innovation outcomes served as an important entry point in the corpus before the theme of leadership became more prominent. The year boundaries on the legend are not legible, so these results cannot be used to state with certainty that a given keyword appeared in 2022, 2023, 2024, or any particular year.

G. Density of Research Topics

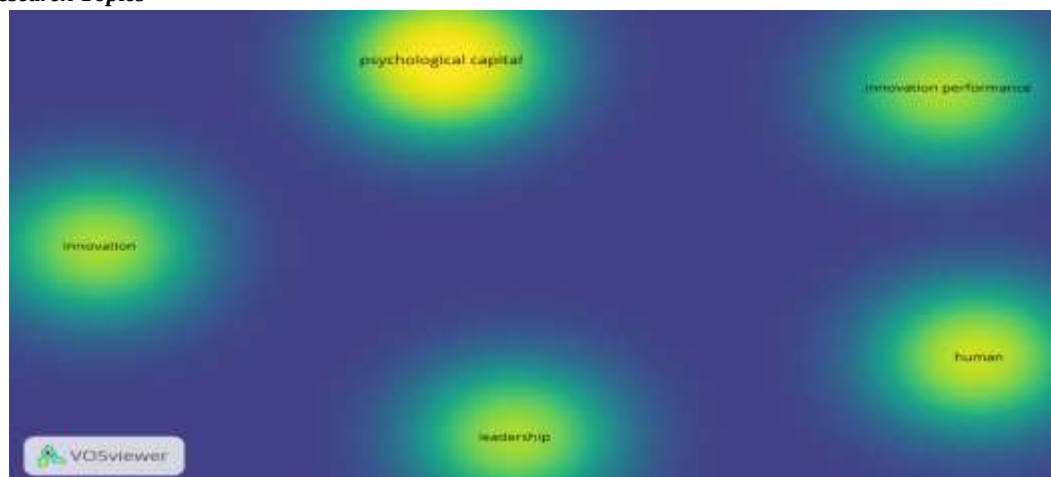


Figure 8. Visual interpretation of keyword density

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Figure 8 shows a density visualization that places the five terms as separate centers of density. Yellow indicates areas of greater weight and item concentration, green represents medium density, while blue indicates areas of low density. Psychological capital has a broad, bright-yellow area, making it visually the most prominent thematic center on the map. This finding is consistent with the focus of the search, which positions PsyCap as the main construct. Human also has a fairly distinct yellow center, although this term is generic and must be interpreted with care. Innovation performance forms a separate density region in the upper-right area, indicating a concentration of studies on innovation outcomes. The keyword innovation has a density point on the left side and is spatially separate from innovation performance, indicating that the two terms are not used in entirely identical contexts. Leadership forms a density center in the lower area and is at a considerable distance from psychological capital, although the two remain connected in the network visualization. The broad blue area between these centers indicates that the overall relationship among themes has not yet formed a very dense structure. Overall, the density map confirms the dominance of PsyCap, while also revealing room for development to connect this construct more explicitly with employee performance and more specific forms of innovative behavior.

H. Empirical Synthesis of the Bibliometric Results

The bibliometric results overall show that research on PsyCap, performance, and innovation is in a growth stage, but its publication structure has not yet formed a very large or consolidated field. Growth from four documents in 2022 to eight documents in 2025 shows a clear increase in scientific attention across the full observation years. Institutional productivity remains dispersed, since only Nanjing University produced two articles, while the other affiliations shown each produced one article. Disciplinarily, the literature is dominated by management and social sciences, but also extends to psychology, computer science, environmental science, neuroscience, and several other fields. The country network shows that collaboration is centered on China and concentrated within the Asian region. The keyword structure forms two clusters connecting PsyCap, innovation, leadership, human, and innovation performance. PsyCap occupies the principal position because it is directly linked to three terms, namely innovation, leadership, and innovation performance. Temporal development shows that innovation performance became prominent earlier, while leadership emerged as the relatively most recent theme. The density map confirms that psychological capital is the strongest center of study, but the distance between topic centers indicates a knowledge structure that remains relatively dispersed. The absence of the term employee performance as a node indicates that the dimension of employee performance has not yet been consolidated as a dominant keyword within the visualized network. Based on all these results, PsyCap can be said to be the conceptual center of the corpus, but the term “driver of performance and innovation” at this stage describes the direction of relationships within the literature's structure, not causal proof of the magnitude of PsyCap's influence on these two outcomes.

IV. DISCUSSION

A. General Structure of Research Development on Psychological Capital, Performance, and Innovation

The results of the bibliometric analysis show that research on psychological capital as a driver of employee performance and innovation during the 2022–2026 period is developing as a relatively new, growing, multidisciplinary field that is not yet fully consolidated. This conclusion is based on the increase in publications from four articles in 2022 to eight articles in 2025, the spread of contributions across many affiliations with low productivity, the concentration of collaboration among five Asian countries, and a keyword network forming only two main clusters. This pattern indicates that academic attention to the relationship among PsyCap, performance, and innovation is increasing, but that the field's social and conceptual structure remains at an exploratory stage. The total of 28 articles shows that the specific intersection of these three concepts has not yet grown as large as the broader PsyCap literature, which has developed across various contexts of attitudes, behavior, well-being, and organizational performance. This condition is consistent with the review by Newman et al. (2014), which described PsyCap as a construct continuing to develop through the expansion of antecedents, consequences, mediators, moderators, and levels of analysis. The mapping by Sun et al. (2022) likewise shows that knowledge of PsyCap has developed along various research pathways, so that the intersection of PsyCap with performance and innovation is a more specific part of this broader scientific landscape. Unlike studies that map PsyCap in general, this study shows that within a corpus specifically requiring the presence of both employee performance and innovation concepts, PsyCap remains the main node, but the relationships among themes have not yet formed a very high density. In other words, the literature analyzed has recognized the relevance of PsyCap for performance and innovation, but the way this relationship is conceptualized remains dispersed across themes of leadership, human factors, innovation, and innovation performance. This structure supports the interpretation that PsyCap has become an important psychological resource in contemporary organizational studies, but its integration with employee performance and innovation still requires further conceptual elaboration and more systematic empirical testing.

Explicitly, the research problem can be answered by noting that the conceptual structure of the Scopus literature for the 2022–2026 period is shaped by two main orientations. The first orientation connects psychological capital with innovation and leadership, while the second connects innovation performance with human. PsyCap occupies a connecting position because it is directly linked to innovation, leadership, and innovation performance. Publication development shows a growth trend during 2022–2025, with 2025 as the most productive year, while the 2026 data cannot yet be fully compared, since they were collected only up to 1 August 2026. The collaboration pattern is centered on China and involves Malaysia, the Philippines, Taiwan, and South Korea, indicating the dominance of an Asian network within the research corpus. The temporal trend shows a relative shift from the theme of innovation performance toward PsyCap and leadership, with leadership as the most recent theme based on the overlay-visualization coloring. Thus, the structure of research on PsyCap as a driver of employee performance and innovation has developed from attention to innovation outcomes toward a more contextual explanation of the psychological resources and leadership that enable those outcomes to form. However, this bibliometric analysis does not prove a causal relationship in which PsyCap directly increases performance and innovation. The term “driver” should be understood as PsyCap's conceptual position within the literature network and as a resource that is theoretically and empirically associated with positive work outcomes.

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B. Publication Growth and the Maturity Stage of the Field

The increase in publications from four articles in 2022 to five articles in 2023, seven articles in 2024, and eight articles in 2025 shows that the topic of PsyCap, performance, and innovation has received increasing scientific attention. Growth of 100% between 2022 and 2025 represents a meaningful expansion within this small corpus. A total of 15 of the 28 articles were published in 2024 and 2025, meaning that more than half of the literature analyzed is concentrated within these two years. This concentration can be interpreted as an indication that the relationship between PsyCap and innovation and performance has become increasingly relevant as organizations face rapid change, demands for adaptation, work transformation, and environmental uncertainty. Luthans and Broad (2022) position PsyCap as an important resource in confronting the psychological impact of the pandemic and the VUCA environment, particularly because hope, efficacy, resilience, and optimism help employees maintain adaptive functioning under pressure. The bibliometric findings on publication growth are consistent with this argument, since the 2022–2025 period represents a phase in which organizations paid increasing attention to employees' capacity to recover, adapt, and remain innovative. The review by Tang et al. (2024) likewise shows that positive psychology is related to adaptive performance, so that the rise in publications may reflect a broadening of attention from conventional task performance toward the capacity to adjust behavior in response to change.

Despite this growth, the annual number of publications remains relatively low, so this field cannot yet be described as having reached a high level of maturity. In highly consolidated fields, publication growth is typically accompanied by many core authors, dominant institutions, extensive collaboration networks, diverse terminology, and dense conceptual clusters. By contrast, the present results show only five main keywords, two clusters, and affiliation productivity that is largely limited to a single article each. This pattern indicates a developmental phase, in which researchers are beginning to connect PsyCap with innovation and performance through various pathways, but have not yet established firmly settled terminology and scientific-community structures. Comparison with the review by Riana et al. (2026), which synthesized the application of PsyCap to engagement, satisfaction, commitment, performance, well-being, stress, and turnover intention, shows that the PsyCap literature as a whole is far broader than the specific intersection analyzed here. Thus, the small number of articles does not mean that PsyCap is less relevant, but rather indicates that the simultaneous combination of PsyCap, employee performance, and innovation remains a developing research niche. The figure of four articles in 2026 likewise cannot be used as a basis for concluding a decline in interest, since that year had not yet ended at the time of data collection. The appropriate interpretation is that the growth trend can be confirmed through 2025, while the direction of 2026 requires updated data once all publications for that year have been indexed.

C. Psychological Capital as the Center of the Conceptual Structure

The position of psychological capital as the main node in the keyword network shows that this construct is not merely an administrative search term, but functions as the central thematic hub within the corpus. PsyCap is directly linked to innovation, leadership, and innovation performance, thereby bridging individual psychological resources, organizational contextual conditions, and innovation outcomes. This position is consistent with the conceptualization of PsyCap as a positive psychological state of development formed by hope, self-efficacy, resilience, and optimism (Luthans et al., 2007b). These four resources do not merely operate separately, but form a higher-order construct that produces psychological capacity more comprehensive than the simple sum of its individual dimensions (Luthans et al., 2007a; Luthans & Youssef-Morgan, 2017). Substantively, PsyCap's centrality can be explained by the fact that both performance and innovation demand motivational energy, confidence in competence, the capacity to recover, and positive expectations about outcomes. Hope enables employees to devise alternative pathways toward goals, efficacy strengthens confidence in confronting difficult tasks, resilience assists recovery after failure, and optimism sustains a realistic orientation toward success. The integration of these mechanisms makes PsyCap relevant both for the performance of routine tasks and for uncertain, risk-laden innovative activity.

PsyCap's central position is also consistent with Positive Organizational Behavior, which positions measurable and developable positive capacities as a source of improved organizational performance (Luthans, 2002). From this perspective, PsyCap differs from relatively stable personality traits because it possesses a state-like character and can be developed through intervention, learning, support, and experiences of success. This carries the implication that organizations need not treat psychological capital as an unchangeable, innate condition. Instead, PsyCap can be positioned as a developmental resource with the potential to improve employees' capacity to confront challenging tasks and generate new ideas. This explanation is reinforced by Conservation of Resources Theory, which holds that individuals strive to acquire, retain, and protect the resources they possess (Hobfoll, 1989). The four HERO dimensions can be understood as a mutually reinforcing resource caravan, so that employees with high PsyCap possess greater reserves for confronting pressure and allocating attention to exploration, learning, and innovation.

D. The Relationship of Psychological Capital with Employee Performance and Innovation

Although the term employee performance does not appear as a separate node, the presence of innovation performance shows that the performance dimension within the corpus is more often represented as an innovation outcome than as general task performance. This is significant because the search syntax required the words performance and employee, yet the term that emerged as a recurring term within the network was instead innovation performance. Bibliometrically, this pattern indicates that when PsyCap is discussed alongside performance and innovation, the literature tends to integrate these two outcomes within the concept of innovation performance. In other words, performance is viewed not merely as the quantity, quality, or efficiency of work execution, but as the capacity to produce new, valuable outcomes. This is consistent with the development of research shifting from conventional performance assessment toward adaptive performance, creativity, and innovative behavior. The meta-analysis by Avey et al. (2011) shows that PsyCap is positively related to performance and desirable work behavior, while Stajkovic and Luthans (1998) show that self-efficacy is related to work performance. This evidence provides a basis for concluding that positive psychological dimensions are indeed relevant to work achievement, although the present bibliometric results do not permit quantification of the magnitude of that influence.

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The relationship with innovation receives more explicit support within the keyword structure and the empirical literature. Sweetman et al. (2011) found that PsyCap, as a composite construct, predicts creative performance and has stronger predictive power than the contribution of its individual dimensions. This finding explains why PsyCap can emerge as the central node linking innovation and innovation performance. Innovation requires the generation, promotion, and implementation of ideas, each of which carries risks of rejection, failure, and uncertainty (Janssen, 2000). Hope supports the search for alternatives when an initial idea fails, efficacy strengthens the courage to voice ideas, resilience helps sustain effort when implementation encounters obstacles, and optimism sustains the belief that innovative effort can bear fruit. Chen et al. (2021) extend this explanation by showing that knowledge sharing through knowledge donating and knowledge collecting mediates the relationship between PsyCap and innovative work behavior. Liu et al. (2023) also show the relationship of PsyCap and knowledge sharing with breakthrough innovation performance. The bibliometric results therefore support the interpretation that PsyCap functions as an initial resource, while its actualization into innovation depends on the social and cognitive processes that connect individual capacity with organizational action.

E. Thematic Shift from Innovation Performance toward Leadership

The overlay visualization shows that innovation performance is a theme that emerged relatively earlier, while leadership is the most recent theme. This shift indicates a change in research focus from questions about outcomes toward questions about the conditions that enable those outcomes to be achieved. In the early stage, the literature tended to assess whether PsyCap was related to innovation and innovation performance. Once this basic relationship received support, attention then shifted toward contextual mechanisms, including the role of leaders in building or channeling psychological resources. This pattern reflects scientific development from direct-relationship models toward more complex, contextual models. The study by Wang et al. (2021) supports this direction by showing that leader PsyCap can increase employees' innovative behavior through the creation of psychological safety. A leader with high optimism, resilience, hope, and efficacy can build a climate in which employees feel safer sharing ideas, acknowledging mistakes, and taking interpersonal risks. Thus, leadership is not merely an organizational setting, but can become a social pathway that translates PsyCap into innovative behavior.

The emergence of leadership as the most recent theme also indicates an expansion of the level of analysis from the individual toward interpersonal relationships and the organization. Earlier PsyCap literature emphasized largely the resources possessed by an individual employee, while subsequent developments began to examine how leaders' psychological capital, social support, and the work environment shape collective outcomes. This shift is important because employees with high PsyCap are not always able to realize innovation if the work environment penalizes mistakes, restricts autonomy, or rejects differing ideas. Conversely, a supportive leadership environment can strengthen the benefits of PsyCap and help employees translate internal beliefs into innovative action. This finding is consistent with a growing tendency in the literature to incorporate mediators and moderators such as knowledge sharing, psychological safety, job satisfaction, mastery orientation, and organizational commitment. Abraham and Madukwe (2025), for example, position job satisfaction and engagement as part of the relationship between PsyCap and performance among international teaching staff. Gao et al. (2020) likewise show that creative innovation behavior can serve as a link between entrepreneurial PsyCap and firm performance.

F. Topic Density and the Fragmentation of the Knowledge Structure

The density map places psychological capital as the most prominent center, followed by human, innovation performance, innovation, and leadership. PsyCap's dominance can be understood because this construct is the main requirement in the search syntax and the conceptual meeting point of all the articles. However, the distance between density centers shows that the literature is still composed of several foci that have not yet fully merged. The broad blue area between nodes indicates a low concentration of relationships in certain spaces, while the separate yellow centers indicate the existence of specific sub-themes. Such a structure is common in developing fields, because researchers use the same core concept but link it to a variety of contexts, mechanisms, and outcomes. Within this corpus, some studies appear to emphasize innovation in general, some assess innovation performance, and others develop explanations through leadership. This fragmentation can be a strength, since it opens up a variety of perspectives, but it can also hinder knowledge accumulation if the terms and indicators used are inconsistent.

The appearance of the word human as a high-density node requires caution. This term is very generic and does not directly explain the type of subject, job level, sector, or specific psychological mechanism involved. It is possible that this word originates from Scopus index keywords rather than from author-selected keywords. If generic terms are retained without cleaning, network density may appear high while its interpretive value remains low. This result therefore underscores the importance of using a thesaurus file in VOSviewer to remove overly generic terms and merge similar term variants. The absence of innovative work behavior, employee performance, knowledge sharing, resilience, hope, efficacy, and optimism does not mean these themes are absent from the articles. These terms may not have reached the occurrence threshold or may have been split across terminological variants. This finding shows that bibliometric interpretation is highly dependent on metadata quality and preprocessing decisions. The two-cluster structure should therefore be understood as a concise representation of the keywords meeting the threshold, not as the entire conceptual content of the 28 articles.

G. Country and Affiliation Collaboration Structure

The country network centered on China shows that research production and collaboration within this corpus are highly concentrated in Asia. China is linked to Malaysia, the Philippines, Taiwan, and South Korea, and functions as the node bridging the left and right sides of the network. This position is consistent with Nanjing University's affiliation as the most productive institution, even though it produced only two documents. China's relative dominance may be linked to the growth of PsyCap and innovation research in high-technology firms, entrepreneurship, and organizations facing rapid change, as reflected in the studies by Liu et al. (2023), Chen et al. (2021), and Gao et al. (2020). However, a network consisting of only five countries shows that international collaboration is not yet extensive. The absence of many other regions from the visualization may indicate a low number of documents or the non-fulfillment of the collaboration-link threshold. Thus, this field has not yet shown a balanced global network.

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Concentration in Asian countries carries two implications. First, the Asian context provides an important contribution in broadening PsyCap studies, which were initially developed largely from Western psychological and management traditions. Second, dominance by a particular region may limit generalizability, since the meaning of hope, efficacy, resilience, optimism, leadership, and innovation may be shaped by culture. Luthans and Youssef-Morgan (2017) caution that PsyCap requires attention to context, including possible variation in its application across cultures. Emphasis on individual agency, for example, may operate differently within collectivist cultures that place group relationships, social harmony, and leader authority as important elements. The emergence of leadership as the most recent theme and the concentration of research in Asia may therefore indicate that relational context is becoming increasingly important in explaining PsyCap. Riana et al. (2026) also affirm the need to develop PsyCap studies within digital and cross-cultural environments, particularly in the context of developing countries. This bibliometric pattern supports that need, since the existing network remains narrow and has not yet shown adequate cross-regional comparison.

H. Multidisciplinary and the Scientific Position of PsyCap

The distribution of subject areas shows the dominance of Business, Management and Accounting at 25.0% and Social Sciences at 21.7%, followed by Psychology at 10.0% and Computer Science at 8.3%. This composition indicates that research on PsyCap, performance, and innovation is placed primarily within an organizational context, but is not confined to work psychology. The dominance of management can be explained by the fact that performance and innovation are strategic outcomes for organizations, while PsyCap is positioned as a human resource that can be managed. The proportion attributed to social sciences reflects attention to relationships, organizational structure, institutional context, and group behavior. Meanwhile, psychology provides the theoretical foundation for efficacy, hope, optimism, resilience, self-regulation, and motivational processes. The presence of computer science may relate to the context of digital transformation, information-systems teams, technology, and knowledge-based innovation. Tang and Shao (2019), for example, discuss PsyCap within information-systems development teams, systems effectiveness, and social innovation.

This multidisciplinary carries scientific value, because the relationship between PsyCap and innovation cannot be explained through a single discipline alone. Psychology explains individual capacity, management explains organizational management and outcomes, social science explains interaction and institutions, while computer science provides the technology-based work context. However, disciplinary diversity can also produce fragmentation in terminology, instruments, and units of analysis. The concept of innovation may refer to innovative work behavior, individual creativity, innovation performance, social innovation, or breakthrough innovation. Similarly, performance may be measured through self-report, supervisor assessment, team outcomes, or organizational outputs. Tjimuku and Atiku (2024) show that PsyCap also develops in relation to emotional intelligence, while Tjimuku et al. (2025) show its association with performance and well-being. Multidisciplinary thus broadens PsyCap's relevance, but requires consistency in definitions so that findings across fields can be compared.

I. Scientific Significance and Theoretical Contributions

The scientific significance of this study lies in its ability to show that PsyCap occupies a central position within the conceptual structure connecting employees, innovation, leadership, and innovation performance. This finding reinforces Positive Organizational Behavior by showing that positive psychological resources are related not only to attitudes and well-being, but are also embedded within a knowledge network that leads toward innovation. The first contribution is the reinforcement of PsyCap's position as a higher-order construct that functions as a bridge between individual capacity and organizational outcomes. PsyCap's centrality shows that hope, efficacy, resilience, and optimism are more appropriately understood as a combined resource rather than as separate predictors. The second contribution is an extension of the explanation grounded in Conservation of Resources Theory. PsyCap can be understood as an initial resource reserve that enables employees to confront the risk of loss, recover after failure, and continue investing energy in innovative activities (Hobfoll, 1989). The third contribution is the affirmation of the role of social mechanisms. The emergence of leadership as a recent theme shows that individual psychological resources do not operate in a vacuum, but are influenced by the quality of interaction, psychological safety, and organizational support.

The fourth contribution relates to the relationship between performance and innovation. The network results show that performance is more prominent in the form of innovation performance than employee performance. This indicates that recent research is beginning to treat innovation as an important dimension of performance, rather than as an entirely separate outcome. The fifth contribution is the identification of an agenda shift from direct relationships toward contextual models. The literature no longer simply asks whether PsyCap is related to innovation, but has begun to examine how leadership, knowledge sharing, job satisfaction, and psychological safety channel this relationship. Chen et al. (2021), Wang et al. (2021), Liu et al. (2023), and Abraham and Madukwe (2025) support this pattern through different mediating mechanisms. This bibliometric study thus contributes not by creating a new theory, but by showing the configuration of relationships among concepts that can be used to integrate previously scattered theory and empirical findings.

J. Academic Implications and the Future Research Agenda

Academically, the results indicate a need to strengthen the integration of PsyCap, general performance, innovative work behavior, creativity, and innovation performance. The absence of employee performance as a main node indicates that future research needs to use more consistent terminology so that the relationship between routine performance and innovative performance can be mapped clearly. Research also needs to distinguish the stages of idea generation, promotion, and implementation, since each stage may be influenced by different HERO dimensions (Janssen, 2000). Hope may be more relevant to the search for alternative pathways, efficacy to idea promotion, resilience to implementation, and optimism to persistence throughout the process. Future empirical models need to test the simultaneous contribution of overall PsyCap and its individual dimensions, so that the construct's synergistic effect can be compared with the specific effects of each component. Sweetman et al. (2011) have shown the predictive superiority of the composite construct in explaining creative performance, but this pattern still needs to be tested across more diverse sectors and contexts.

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Future research also needs to expand the use of longitudinal, experimental, and multi-source designs. Most PsyCap studies use cross-sectional designs, so the direction of the relationship between PsyCap and performance cannot yet be fully established. Successful performance may increase efficacy and optimism through mastery experiences, so the relationship may be reciprocal. The use of supervisor performance ratings, objective innovation data, or team outputs can reduce reliance on self-report and the risk of common method variance. Cross-cultural studies are also important, since the country network remains dominated by Asia and does not yet fully reflect global variation. Research on digital contexts, remote work, virtual teams, and technological change can broaden the relevance of PsyCap within contemporary work environments, as suggested by developments in the literature discussed by Luthans and Broad (2022), Tang et al. (2024), and Riana et al. (2026). From a bibliometric standpoint, updating the dataset after 2026 has concluded, expanding the search syntax, normalizing keywords, and adding analyses of authors, citations, and journals will yield a more complete picture.

K. Research Limitations

This study has several limitations that must be considered when interpreting the results. First, the dataset consists of only 28 articles, so cluster structure, node size, and network density are sensitive to the addition or removal of a small number of documents. Second, the 2026 data are partial, having been collected on 1 August 2026, and therefore cannot be compared equally with prior full years. Third, the syntax psychological AND capital does not require both words to appear as a single phrase, so documents may have been retrieved even without using the exact construct “psychological capital.” The same applies to the words performance AND employee, which are not always identical to the phrase “employee performance.” Fourth, the word innovation was not truncated as innovat, so articles using only variants such as innovative may potentially not have been captured. Fifth, this study used only Scopus, so publications not indexed in that database fall outside the scope of the analysis. These limitations do not indicate that the database used is inadequate, but they do restrict generalization to the corpus formed by this particular search strategy.

Sixth, only five keywords appear in the network, so the map does not represent the entirety of the concepts discussed in the titles and abstracts of the articles. Seventh, the generic term human may reduce interpretive precision if it originates from index keywords and is not cleaned through a thesaurus file. Eighth, data on author productivity, inter-author collaboration, citations, and influential journals were not available, so the field's intellectual and social structure could not be fully analyzed. Ninth, node size and relationships were interpreted based on visualization, but numerical values for occurrence, link, and total link strength were not provided. Tenth, bibliometric analysis identifies patterns of publication and conceptual connectivity, rather than testing causal relationships or the magnitude of PsyCap's effect on performance and innovation. Therefore, the results of this study cannot be used to state that an increase in PsyCap necessarily causes an increase in performance in every organization. The defensible conclusion is that the literature positions PsyCap as a central construct conceptually and empirically related to performance and innovation.

L. Synthesis of the Answer to the Research Problem

Based on the overall findings, the conceptual structure of research on PsyCap as a driver of employee performance and innovation during 2022–2026 is formed by a small, connected network, with PsyCap at its center and two main clusters combining innovation, leadership, innovation performance, and human factors. Publication development shows consistent growth through 2025, indicating increasing academic interest in the role of psychological resources in supporting performance and innovation. The collaboration pattern remains limited and centered on China, while institutional productivity is dispersed without strong dominance by any single institution. The disciplinary structure is dominated by management and social sciences, but shows the involvement of psychology and computer science, confirming the multidisciplinary nature of this field. Thematic trends move from attention to innovation performance toward PsyCap and leadership, indicating development from an outcome orientation toward explanations concerning the resources and social conditions that support those outcomes. This finding carries scientific significance because it positions PsyCap as a bridge between positive psychological capacity, leadership processes, and innovation outcomes. However, the still-sparse network, the limited number of documents, and the absence of employee performance as a main node indicate that theoretical integration in this field is not yet fully mature. Thus, this study answers the research problem by affirming that PsyCap has become the conceptual center within the literature on employee performance and innovation, but that the field's development remains exploratory, geographically concentrated, and in need of strengthened terminology, causal designs, global collaboration, and more comprehensive bibliometric mapping.

V. CONCLUSION

This study concludes that the literature on psychological capital as a driver of employee performance and innovation during the 2022–2026 period shows increasing development, but remains at an early consolidation stage. Analysis of 28 English-language journal articles indexed in Scopus shows a gradual rise in publications, from four documents in 2022 to eight documents in 2025. The number of publications in 2026 cannot yet be directly compared, since the data cover only articles indexed up to 1 August 2026. The conceptual structure produced by VOSviewer forms two main clusters connecting psychological capital, innovation, leadership, human factors, and innovation performance. PsyCap occupies a central position because it serves as the link between individual psychological resources, leadership context, and innovation outcomes. The temporal development of keywords shows a shift in attention from innovation performance toward discussion of PsyCap and leadership, indicating that the more recent literature is beginning to move from assessing outcomes toward explaining the psychological and social conditions that support those outcomes. However, PsyCap's position as a “driver” must be understood as conceptual centrality within the literature, not as causal proof that PsyCap always increases performance and innovation in every organizational context.

The main contribution of this study lies in integrating the mapping of publication development, thematic structure, disciplinary distribution, affiliation productivity, and country collaboration within a single, focused bibliometric framework. The dominance of Business, Management and Accounting and Social Sciences, together with the involvement of psychology and computer science, shows that research on PsyCap,

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performance, and innovation is developing multidisciplinary. Scientific collaboration remains concentrated in Asia and centered on China, while organizational productivity is dispersed without a single dominant institution. This pattern shows that the field has international relevance, but its scientific community has not yet formed a strong, evenly distributed global network. Theoretically, PsyCap's centrality reinforces the view that hope, self-efficacy, resilience, and optimism can be treated as an integrated psychological resource that supports employees' capacity to meet work demands and engage in innovation processes. Academically, this study clarifies that PsyCap's relationship with performance is increasingly represented through the concept of innovation performance, while leadership is developing as a recent context that bridges psychological capacity with organizational behavior. Thus, the contribution of this study is not merely a count of publications, but also an explanation of the direction in which knowledge in this field is being formed and interconnected.

Future research needs to update the dataset once all 2026 publications have been indexed, and to broaden the search strategy through the use of exact phrases and term variants such as innovative work behavior, creativity, adaptive performance, and innovation performance. Keyword normalization should be improved to merge equivalent terms and remove overly generic terms such as human. Subsequent analyses should also incorporate author productivity, inter-author collaboration networks, the most influential journals, document citations, and bibliographic coupling, so that the field's social and intellectual structure can be explained more comprehensively. On the empirical research side, longitudinal, experimental, and multi-source designs are needed to distinguish the effect of PsyCap on performance from the possibility of a reciprocal relationship between work success and increased PsyCap. Cross-cultural and cross-sector studies are also important for assessing whether the roles of hope, efficacy, resilience, optimism, and leadership differ according to institutional environment and job characteristics. Future research needs to test the mechanisms of knowledge sharing, psychological safety, job satisfaction, and leadership support as pathways linking PsyCap with innovation. This agenda is expected to develop this field from exploratory mapping toward a more integrated, comparative, and causally robust knowledge framework.

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