The Silent Side of Academia: A Bibliometric Study of Knowledge Hiding

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Abstract

Knowledge hiding has received increasing scholarly attention in organizational research, yet its development within academic settings remains fragmented and insufficiently synthesized. This study provides a comprehensive bibliometric analysis of research on knowledge hiding in academia to clarify the field's intellectual structure, thematic evolution, and emerging research directions. Using a systematic literature review protocol, 39 Scopus-indexed publications were identified and analyzed through established bibliometric techniques. Following recommended procedures, the analysis combines performance indicators with science mapping methods to examine publication trends, influential authors, sources, and institutions, as well as the conceptual structure of the domain. Keyword co-occurrence and thematic mapping were applied to identify dominant research clusters and evolving themes.

The results reveal a rapidly developing but still nascent research field, with increasing scholarly attention since the late 2010s. The literature is primarily grounded in organizational behavior and knowledge management perspectives, emphasizing leadership dynamics, interpersonal relationships, competitive climates, and individual psychological factors that shape knowledge concealment in academic settings. Science mapping further highlights the central role of relational and contextual factors in explaining knowledge hiding behaviors within academia.

By systematically mapping the knowledge base of this emerging research area, the study advances understanding of knowledge hiding among academics and identifies key avenues for future theoretical and empirical development.

Keywords: Knowledge hiding; academia; higher education; bibliometric analysis

Introduction

Knowledge is widely recognized as the most critical resource in contemporary organizations, particularly in knowledge-intensive settings where value creation depends on the generation, integration, and dissemination of expertise (Grant, 1996; Nonaka & Takeuchi, 2007). Universities and research institutions exemplify such contexts, as their core mission, i.e., research, teaching, and service, are fundamentally grounded in knowledge exchange. Normatively, academia is portrayed as an open system that relies on collegiality, peer review, and cumulative knowledge building. However, growing evidence suggests that alongside visible practices of collaboration, academics may also deliberately withhold knowledge from colleagues, students, or collaborators (Hernaus et al., 2019; Mahamed Ismail & Welch, 2023; Modem et al., 2023; Xu & Jiesen, 2022). This less visible phenomenon challenges the idealized image of academia as a purely sharing-oriented community.

The construct of knowledge hiding was formally conceptualized by Connelly et al. (2012), who defined it as an intentional attempt to withhold or conceal knowledge that has been requested by another individual. Importantly, knowledge hiding is distinct from knowledge hoarding or simple non-sharing, as it emphasizes intentionality and interpersonal interaction. Connelly et al. (2012) further identified three primary forms of knowledge hiding: playing dumb, evasive hiding, and rationalized hiding. Since then, a substantial body of research has examined antecedents such as distrust (Connelly et al., 2012; Issac & Baral, 2020; Kumar Jha & Varkkey, 2018), competition (Hernaus et al., 2019), leadership style (Abdillah et al., 2020; Ladan et al., 2017; Offergelt et al., 2019), and psychological ownership (Peng, 2013; Tian et al., 2021), as well as consequences including reduced creative performance (Bogilovic et al., 2017; Butt, 2019a; Černe et al., 2014; Connelly & Zweig, 2015; Malik et al., 2019; Rhee & Choi, 2017), damaged interpersonal relationships (Connelly & Zweig, 2015), and increased turnover intention (Butt, 2019b; Offergelt et al., 2019; Serenko & Bontis, 2016).

Despite this expanding literature, most empirical studies have been conducted in corporate, industrial, or project-based organizational contexts. Comparatively little attention has been paid to academia as a unique organizational setting for knowledge hiding. This omission is notable because academia is known as a work environment

where knowledge is shared. Academics face the dilemma like other organizational employees at work: to share or hide what they know (Connelly & Zweig, 2015; Rhee & Choi, 2017). Even though most academics purposefully sought for knowledge from targeted colleagues, they have, for strategic reasons, hidden their tacit and/or explicit knowledge from others during ongoing research processes (Mahamed Ismail & Welch, 2023). The increasing reliance on performance metrics, citation indicators, and global university rankings has further intensified competitive pressures (Anderson et al., 2007). Under such conditions, withholding research ideas, data, methodological details, or collaborative opportunities may emerge as a strategic response to perceived threats or career risks.

Although individual empirical and conceptual studies have begun to address this phenomenon, the literature remains fragmented across journals, theoretical perspectives, and methodological approaches. The present study combines a systematic literature review (SLR) with bibliometric analysis. The dataset consists of 39 articles indexed in Scopus and identified through a rigorous SLR process following transparent inclusion and exclusion criteria. A systematic literature review meets standards of scholarly rigor and ensures comprehensiveness through the systematic identification and inclusion of all relevant studies (Okoli & Schabram, 2010). Building upon this curated corpus, the author employs the Bibliometrix package and its web interface, Biblioshiny (Aria & Cuccurullo, 2017), to conduct performance analysis and science mapping. Bibliometric techniques enable the identification of influential authors, affiliations, and journals, as well as the exploration of co-citation networks, keyword co-occurrences, and thematic clusters (Donthu et al., 2021; Zupic & Čater, 2015).

Focusing explicitly on academics' knowledge hiding behavior, this study pursues four objectives:

1. To map publication trends and key contributors in research on academic knowledge hiding;
2. To identify the intellectual structure of this research stream;
3. To uncover the thematic landscape and emerging research fronts; and
4. To propose a future research agenda tailored to the institutional characteristics of academia.

By integrating systematic review procedures with bibliometric techniques, this paper contributes to the literature in three ways. First, it consolidates and organizes a dispersed body of research within the broader knowledge hiding domain. Second, it highlights the specific factors that shape knowledge hiding in academia as opposed to corporate environments. Third, it provides a bibliometrically grounded roadmap for advancing scholarship on the "silent side" of knowledge processes in academia. In doing so, this study deepens our understanding of how intentional knowledge concealment coexists with the normative ideals of openness and collaboration that underpin academic life.

Theoretical Background

1. Conceptual Foundations of Knowledge Hiding

Knowledge hiding has emerged over the past decade as a distinct and theoretically grounded construct within the broader knowledge management (KM) literature. Building on earlier discussions of knowledge hoarding and knowledge sharing reluctance, Connelly et al. (2012) provided the seminal definition of knowledge hiding as "an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person." (Connelly et al., 2012, p. 65). By definition, knowledge hiding requires the presence of two conditions. First, it must be motivated by subjective factors rather than objective constraints, meaning that it involves a deliberate and intentional act. Second, it occurs only in response to a request for knowledge from another individual.

Knowledge hiding is conceptualized as a multidimensional construct comprising three distinct dimensions: playing dumb, evasive hiding, and rationalized hiding (Connelly et al., 2012). Playing dumb occurs when an individual pretends to be ignorant of the requested knowledge and claims an inability to provide assistance, despite actually possessing the relevant information. Evasive hiding refers to situations in which an individual provides incorrect or irrelevant information instead of the requested knowledge, or promises to share the information at a later time without any genuine intention of doing so. Both playing dumb and evasive hiding involve elements of deception to varying degrees (Connelly et al., 2012). In contrast, rationalized hiding does

not necessarily entail deception. Rather, the knowledge holder justifies withholding the requested knowledge by offering seemingly legitimate reasons (e.g., confidentiality constraints or organizational policies). Consequently, individuals engaging in rationalized hiding may perceive their behavior as honest, well-intentioned, and reflective of professional responsibility or competence (Connelly & Zweig, 2015).

Importantly, knowledge hiding is not simply the opposite of knowledge sharing. Empirical studies have demonstrated that knowledge sharing and knowledge hiding are related yet independent constructs (Černe et al., 2014; Connelly et al., 2012). An individual may engage in high levels of sharing in some interactions while deliberately hiding knowledge in others, depending on relational, contextual, and motivational conditions (Issac et al., 2020; Kumar Jha & Varkkey, 2018; Malik et al., 2019; Riaz et al., 2019; Serenko & Bontis, 2016; Shah & Hashmi, 2019; Zhao et al., 2016). This distinction has significant implications for research in academia, where norms of openness coexist with competitive pressures (Anderson et al., 2007).

2. Knowledge Hiding within the Knowledge Management Paradigm

Within the broader KM paradigm, knowledge processes have traditionally been framed positively - emphasizing creation (Nonaka & Takeuchi, 2007), transfer (Argote & Ingram, 2000), integration (Grant, 1996), and sharing (Wang & Noe, 2010). However, as KM matured, scholars increasingly acknowledged that knowledge processes are embedded in social, political, and power-laden contexts (Foss et al., 2010). Knowledge is not only a collective asset but also a source of individual power and competitive advantage (Yang & Ribiere, 2020).

Knowledge hiding research reflects this more nuanced view by recognizing that individuals may strategically control knowledge flows to protect status, maintain bargaining power, or avoid exploitation (Černe et al., 2014; Hernaus et al., 2019; Yang & Ribiere, 2020). From a knowledge-based view of the firm (Grant, 1996), knowledge constitutes a strategic resource; from a micro-behavioral perspective, individuals may seek to appropriate value from that resource. In academia, where intellectual contributions are directly tied to authorship credit, citations, funding success, and career progression, the incentive to manage knowledge boundaries may be particularly pronounced.

Thus, knowledge hiding can be conceptualized as a micro-level boundary management strategy within the knowledge-based organization. Rather than representing mere deviance, it may reflect rational responses to institutional incentives, evaluation systems, and perceived inequities (Abubakar et al., 2019; Butt, 2020; Butt & Ahmad, 2020; Jahanzeb et al., 2020). This perspective aligns with recent calls to examine the "dark side" of knowledge management, including counterproductive knowledge behaviors (Serenko & Bontis, 2016).

3. Knowledge Hiding in Academia: A Distinctive Context

Academia differs from corporate settings in several structural and normative dimensions. First, it operates under strong norms of openness and communalism, historically described by Merton (1973) CUDOS norms (Communalism, Universalism, Disinterestedness, Organized Skepticism). These norms promote knowledge sharing as a scientific virtue. Second, contemporary academia is increasingly performance-driven (Anderson et al., 2007). Bibliometric indicators, journal rankings, and grant success rates function as formalized evaluation mechanisms. This dual structure, i.e., normative openness versus institutional competition, creates a paradoxical environment conducive to both sharing and hiding.

Scholars and researchers may be reluctant to share preliminary ideas for fear of misuse or loss of credit, especially in competitive academic environments (Martin, 1998). Knowledge hiding in academia can be influenced by research-related norms, publication pressures, and competitive incentives, power asymmetries within research groups, and cultural and disciplinary differences in sharing norms (He et al., 2021; Hernaus et al., 2019; Yang & Ribiere, 2020; Zutshi et al., 2021). Moreover, the consequences of knowledge hiding in academia may extend beyond dyadic relationships. Because research is cumulative, concealment can delay scientific progress, reduce interdisciplinary integration, and weaken institutional trust climates (Černe et al., 2014; Černe et al., 2012). Conversely, certain forms of rationalized hiding (e.g., confidentiality due to ongoing review or ethical constraints) may be institutionally legitimate.

Thus, academic knowledge hiding must be analyzed through a multi-level lens integrating micro-motivations, meso-level relational dynamics, and macro-level institutional structures.

4. From Fragmentation to Intellectual Structure: The Need for Bibliometric Mapping

Although the theoretical richness of knowledge hiding research is evident, the literature remains dispersed across journals in knowledge management, organizational behavior, psychology, and higher education studies (Connelly et al., 2012; Hernaus et al., 2019; Xing, 2022). The rapid growth of publications since 2012 has led to conceptual diversification but also fragmentation.

Bibliometric mapping offers a systematic way to uncover the intellectual foundations, thematic clusters, and evolutionary trajectories of this research stream (Donthu et al., 2021; Zupic & Čater, 2015). For an emerging niche such as academic knowledge hiding, bibliometric analysis can reveal influential scholars and collaborative networks, thematic concentrations, and emerging frontiers. By situating academic knowledge hiding within the broader KM and organizational behavior literature, this study advances a structured understanding of how the "silent side" of knowledge processes is conceptualized and investigated. The following sections build on this theoretical foundation to empirically map the field using a systematic literature review and bibliometric analysis.

Methodology

This study adopts a systematic literature review combined with bibliometric analysis to map the intellectual and conceptual structure of research on academics' knowledge hiding behavior. The SLR ensures transparency, replicability, and methodological rigor in dataset construction (Keele, 2007; Tranfield et al., 2003), while bibliometric techniques enable quantitative science mapping of the field's evolution and structure (Donthu et al., 2021; Zupic & Čater, 2015).

The methodological procedure comprised two sequential stages. The first stage involved the systematic identification and screening of relevant publications. The second stage entailed bibliometric performance analysis and science mapping conducted using Bibliometrix and its web interface, Biblioshiny (Aria & Cuccurullo, 2017).

1. Data Collection and Search Strategy

Scopus was selected as the data source due to its extensive coverage of peer-reviewed journals across management, organizational behavior, and higher

education research. Scopus provides high-quality citation metadata and export formats compatible with bibliometric software, making it particularly suitable for science mapping studies.

To comprehensively capture research on knowledge hiding within academic contexts, the following structured query was applied to titles, abstracts, and keywords:

TITLE-ABS-KEY (("knowledge hiding" OR "knowledge concealment" OR "information hiding" OR "knowledge withholding") AND ("higher education" OR academia OR university OR "tertiary education" OR "post-secondary education"))

The search was conducted without time restriction to capture the full developmental trajectory of the field. Only peer-reviewed journal articles written in English were retained to ensure quality and comparability. The initial search conducted on December 10th, 2026 yielded 153 articles.

2. Screening and Selection Process

Following the initial retrieval of 153 records from Scopus, a rigorous multi-stage screening process was conducted. The objective was to ensure conceptual consistency with the construct of knowledge hiding as defined by Connelly et al. (2012) , while maintaining contextual specificity to academia, including research institutions and higher education institutions (HEIs).

The screening process involved title and abstract assessment, followed by full-text evaluation. To maintain analytical focus on academics' knowledge hiding behavior, several criteria was adopted to guide inclusion and exclusion decisions.

Firstly, to maintain contextual consistency, studies were excluded if they relied on mixed-sector samples in which academics were combined with respondents from non-academic organizations and results were not separately reported for the academic subsample. Including such studies would weaken contextual specificity and compromise interpretive clarity regarding academic environments. With respect to respondents, studies using students as the primary data source were excluded, as the focal interest of this study is academic staff behavior. One exception was retained: Weng et al. (2020), which surveyed PhD scholars who were fully engaged in research activities and functionally embedded in academic knowledge production processes. Given their

role within research teams and their proximity to academic work, these respondents were considered sufficiently aligned with the study's focus on academia.

Secondly, only empirical studies were retained in the final dataset. Conceptual, theoretical, or review papers were excluded to ensure that the bibliometric analysis reflects empirically grounded investigations of knowledge hiding behavior within academia contexts. This decision enhances comparability across studies and strengthens the analytical consistency of performance and science mapping results.

Thirdly, This study specifically focuses on knowledge hiding, defined as the intentional concealment of requested knowledge (Connelly et al., 2012). To preserve construct clarity and avoid conceptual contamination, strict terminological boundaries were applied. Articles were excluded if they centered primarily on:

• Knowledge concealment or knowledge withholding, given that the former frequently introduces definitional ambiguity, whereas the latter is commonly treated as a superordinate construct that includes both intentional knowledge hiding and unintentional knowledge hoarding (Kang, 2014). Because this study isolates deliberate interpersonal hiding behavior, broader framings that did not explicitly operationalize intentional knowledge hiding were excluded.

• Data hiding or information hiding in the domains of information technology, cryptography, or steganography. Although terminologically similar, these constructs concern technical protection mechanisms rather than interpersonal organizational behavior and are therefore conceptually unrelated to the present study.

This rigorous construct delimitation ensured alignment with the behavioral and interpersonal definition of knowledge hiding and prevented the inclusion of technically or metaphorically related but substantively distinct research streams.

After applying these screening criteria through title/abstract review and full-text verification, the dataset was reduced from 153 initially retrieved records to 39 empirical articles. This refined corpus forms the basis for the subsequent bibliometric performance analysis and science mapping. The overall review process was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, with the detailed screening procedure illustrated in the flow diagram shown in Figure 1.

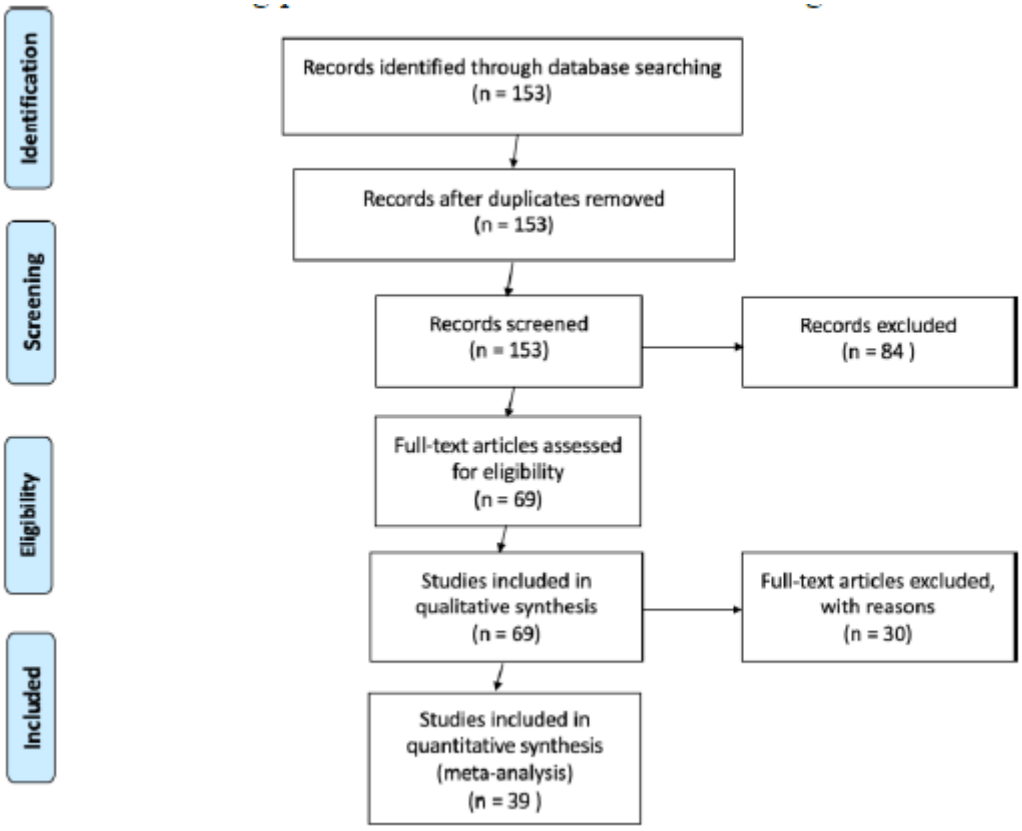

Figure 1 PRISMA framework

3. Bibliometric Analysis Procedure

Once the final dataset comprising 39 empirical articles was established after the systematic screening process, a bibliometric analysis was conducted to map the scholarly impact of research on academics' knowledge hiding behavior, intellectual structure, and thematic development. The final dataset comprised comprehensive bibliographic metadata exported from Scopus in CSV format, such as author information, institutional affiliations, countries, source titles, keywords, abstracts, and citation metrics, which were subsequently processed in Biblioshiny, the web interface of Bibliometrix R-package to enable interactive bibliometric analysis and visualization (Aria & Cuccurullo, 2017).

The bibliometric analysis proceeded along two complementary dimensions: performance analysis and science mapping, consistent with established approaches in management bibliometrics (Donthu et al., 2021; Zupic & Čater, 2015). Performance analysis assessed the productivity and scholarly impact of research on academics' knowledge hiding behavior. Specifically, the author examined annual publication trends,

leading journals, publication sources, and the most influential authors and articles (by citations). Science mapping techniques were then applied to uncover the field's intellectual and conceptual structure. Co-citation analysis identified foundational works and theoretical anchors shaping the domain (Zupic & Čater, 2015). Keyword co-occurrence (co-word) analysis was employed to detect dominant themes and research clusters (Callon et al., 1991). Thematic mapping, based on centrality and density metrics, enabled classification of themes into motor, basic, niche, and emerging categories (Cobo et al., 2011).

The present study differs from Fauzi (2023), who adopted a two-phase approach combining scientometric analysis followed by qualitative systematic review. In contrast, this study employs a reversed and more context-sensitive design. Specifically, the author first conducted a rigorous systematic literature review to identify and refine studies explicitly examining knowledge hiding within higher education contexts, and subsequently performed bibliometric analysis on this curated dataset. By sequencing the SLR prior to bibliometric mapping, the study ensures construct precision and contextual specificity, avoiding dilution from adjacent constructs (e.g., knowledge withholding, or information hiding in technical domains) and cross-sectoral samples. Consequently, the bibliometric results reflect the genuine intellectual structure of academic knowledge hiding research as a distinct subdomain. This methodological refinement enhances analytical clarity and allows for a more focused mapping of the "silent side of academia".

Results and Analysis

This section presents the findings of the bibliometric analysis based on the final dataset of 39 articles retrieved from Scopus. Following established bibliometric procedures (Donthu et al., 2021; Zupic & Čater, 2015), the results are organized into two parts: performance analysis and science mapping. The first stage examines publication productivity, citation impact, and key contributors, thereby outlining the structural characteristics of the field. The second stage moves beyond descriptive metrics to reveal the intellectual, conceptual, and thematic architecture of research on knowledge hiding

in academia. This twofold approach enables a comprehensive assessment of both the field's development trajectory and its underlying scholarly structure.

1. Performance Analysis

1.1 Annual Publication Trends

Figure 2 illustrates the annual scientific production on knowledge hiding in academia from 2019 to 2025, revealing a clear developmental trajectory of the field. During the initial phase (2019–2021), publication output remained relatively modest and fluctuating, reflecting the exploratory nature of early investigations and the limited attention given to the topic within academia. A significant shift occurred in 2022, when the number of publications increased sharply, marking the beginning of a rapid growth stage. Although a slight decline is observable in 2023, the overall upward trend quickly resumed, with 2024 and 2025 reaching the highest levels of annual output in the dataset. This sustained increase suggests that knowledge hiding in academia is gaining stronger scholarly recognition and moving beyond a peripheral extension of corporate-based knowledge hiding research. Instead, it appears to be consolidating as a context-specific and theoretically developing research domain within knowledge management and higher education studies.

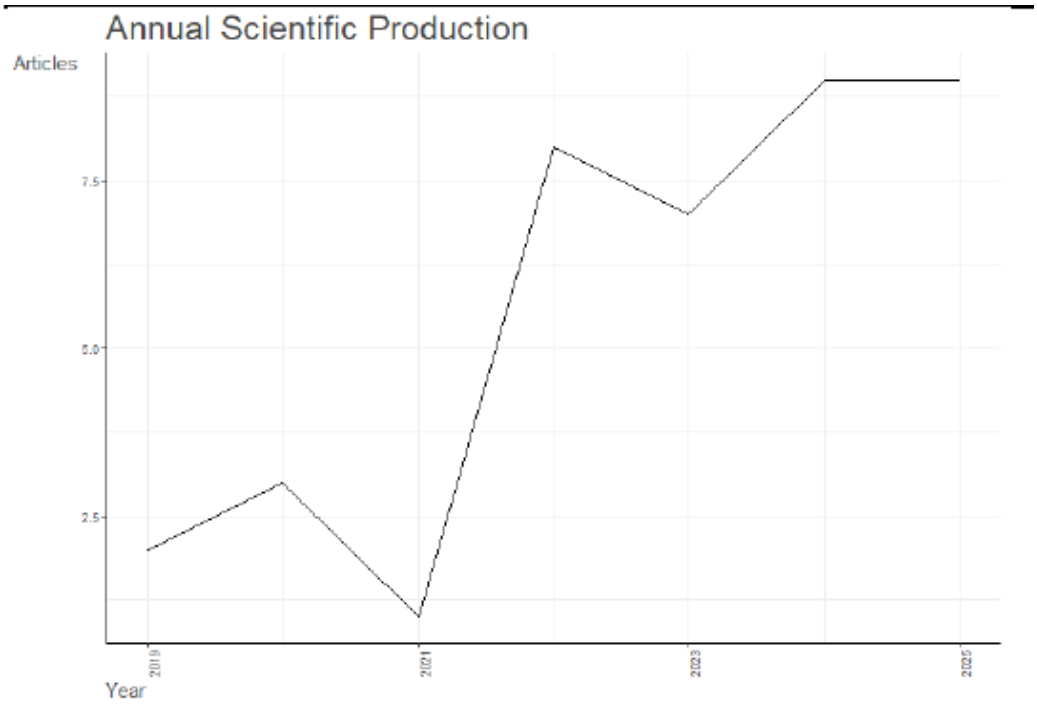

Figure 2 Yearly publications on knowledge hiding in academia

1.2 Most Frequent Publicaiton Outlets

Figure 3 presents the most relevant sources publishing research on knowledge hiding in academia. The results indicate a clear concentration of publications within knowledge management and organizational psychology outlets. Journal of Knowledge Management emerges as the leading source, contributing five articles, highlighting its central role in shaping and disseminating scholarship on knowledge behaviors. This is followed by Frontiers in Psychology andVINE Journal of Information and Knowledge Management Systems, each publishing three articles, suggesting strong engagement from both psychological and information management perspectives.

Several journals contributed two articles each, including Heliyon, International Journal of Knowledge Management Studies, Journal of Applied Research in Higher Education, Journal of Information and Knowledge Management, and Journal of the Knowledge Economy. Additionally, outlets such as Business Information Review contributed single publications, reflecting the topic's interdisciplinary diffusion.

Overall, the distribution demonstrates that research on the "silent side" of academia is primarily anchored in knowledge management and organizational behavior journals, while gradually extending into broader higher education and information systems outlets. This pattern suggests both disciplinary consolidation and increasing cross-disciplinary integration.

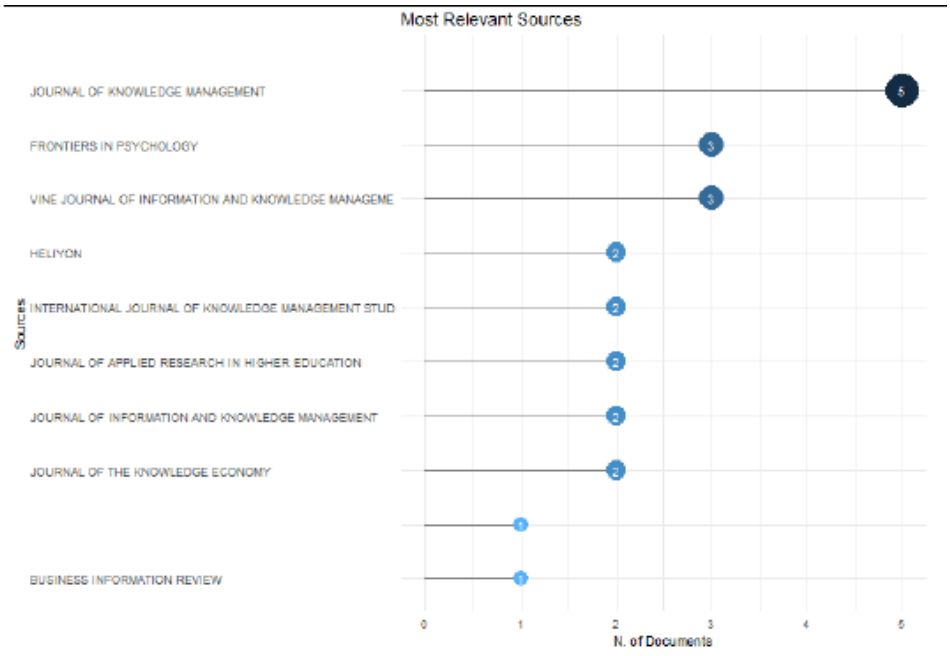

Figure 3 Most relevant sources

1.3 Most Relevant Affiliations

Figure 4 presents the most productive institutional affiliations contributing to research on knowledge hiding among academics. The results indicate a moderately dispersed institutional structure, with limited dominance by any single institution.

COMSATS University Islamabad and Government College University Faisalabad emerge as the most productive institutions, each contributing three publications. Their prominence suggests that Pakistani higher education institutions represent a significant empirical hub in advancing scholarship on knowledge hiding in academia.

A second group of institutions, each contributing two publications, includes Amity University, Fortune Institute of International Business, International Islamic University, Jahangirnagar University, Silesian University of Technology, United Arab Emirates University, Universidad de Antioquia, and Universitas Jenderal Soedirman. This distribution reflects a geographically diverse yet predominantly emerging-economy research landscape, with strong representation from South Asia, the Middle East, parts of Europe, and Latin America.

Overall, the affiliation analysis indicates that research on knowledge hiding in academia is institutionally decentralized but regionally clustered. The concentration within South Asian institutions, in particular, may reflect contextual factors such as intensified academic competition, performance pressures, and governance transformations that render knowledge hiding a salient phenomenon within these systems.

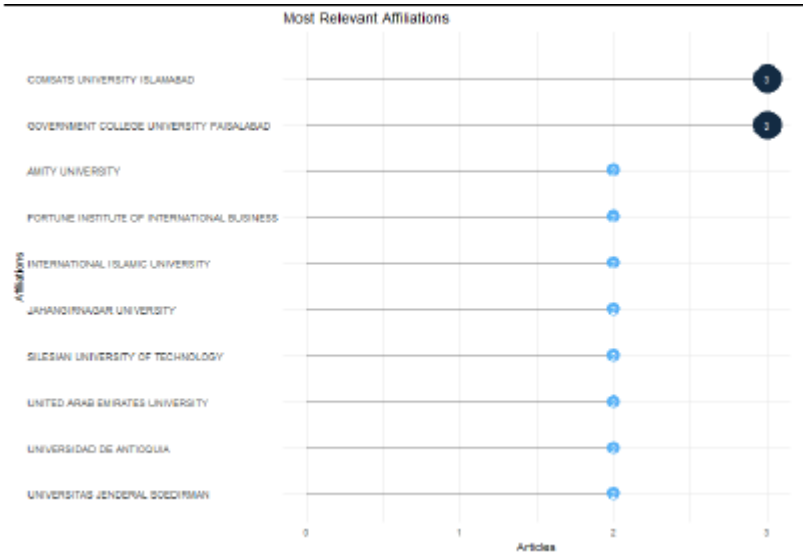

Figure 4 Most relevant affiliations

1.4 Most Locally Cited Authors

Figure 5 presents the most locally cited authors within the dataset, indicating those who exert the strongest intellectual influence on research concerning knowledge hiding in academia. Anand ranks first with 18 local citations, emerging as the most influential author within this specific citation network. He is followed by Bari (12) and Arain (11), both of whom have made substantial empirical and theoretical contributions related to workplace knowledge behaviors. Černe receives 8 local citations, while Al-Kurdi (6) and Barrick (5) also demonstrate notable influence. Additional contributors, including Abdullah, Abubakar, Agarwal, and Ahmad, each record four local citations, reflecting their continued relevance within the field.

Overall, the local citation structure suggests that research on knowledge hiding in academia is somewhat differentiated from the broader knowledge hiding literature. Rather than being dominated solely by the original conceptualizers of knowledge hiding, the field appears to draw heavily on scholars who have extended, contextualized, or empirically examined the construct in organizational and education-related settings. This indicates a gradual contextual specialization of the research stream within academia.

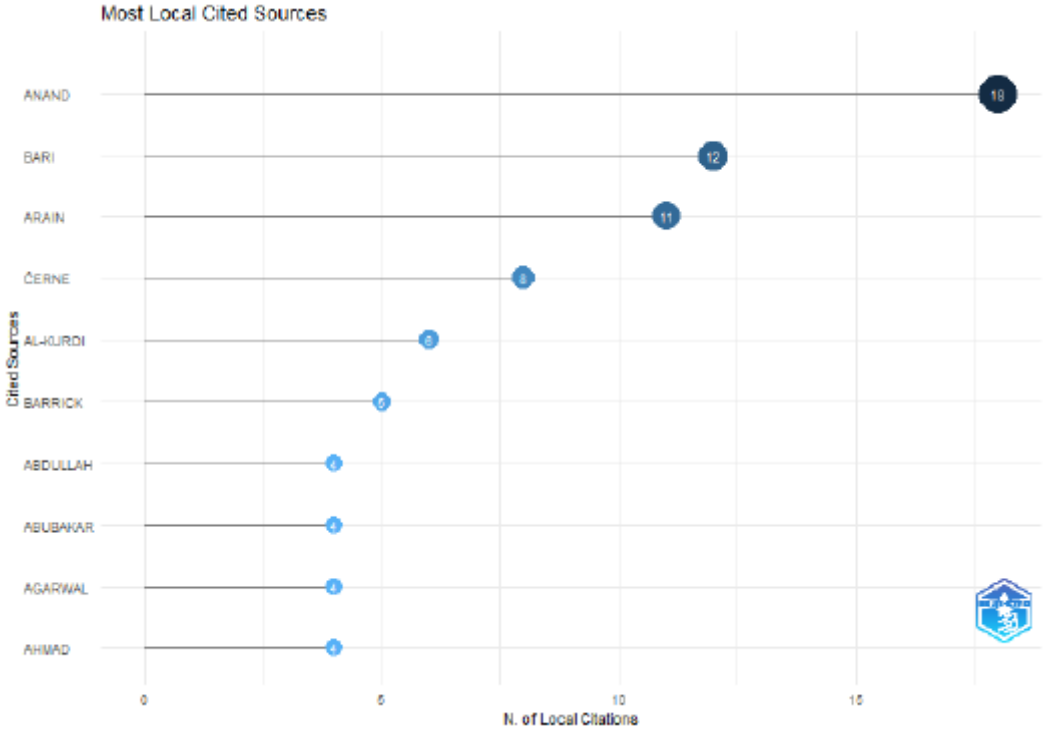

Figure 5 Leading authors by local citations

1.5 Most Influential Documents by Global Citations

Figure 6 illustrates the most globally cited documents in the dataset, highlighting those that have generated the strongest international scholarly impact. The most highly cited article is authored by Hernaus et al. (2019), titled Evasive knowledge hiding in academia: When competitive individuals are asked to collaborate, published in Journal of Knowledge Management, with 270 global citations. This study is particularly influential as it directly situates knowledge hiding within the academic context and empirically examines how individual competitiveness shapes evasive hiding behaviors under collaborative demands. Its prominence underscores the growing scholarly attention to the "silent side" of academia.

The second most cited article is authored by Malik et al. (2019) in Personality and individual differences (209 citations), followed by Weng et al. (2020) in Journal of Knowledge Management (97 citations). These works further expand the theoretical and empirical understanding of knowledge hiding, particularly in relation to leadership, interpersonal dynamics, and organizational climate.

Overall, the global citation structure reveals that while foundational conceptualizations of knowledge hiding remain influential, recent empirical investigations situated specifically in academia, particularly Hernaus et al. (2019), have become central reference points in shaping contemporary discourse.

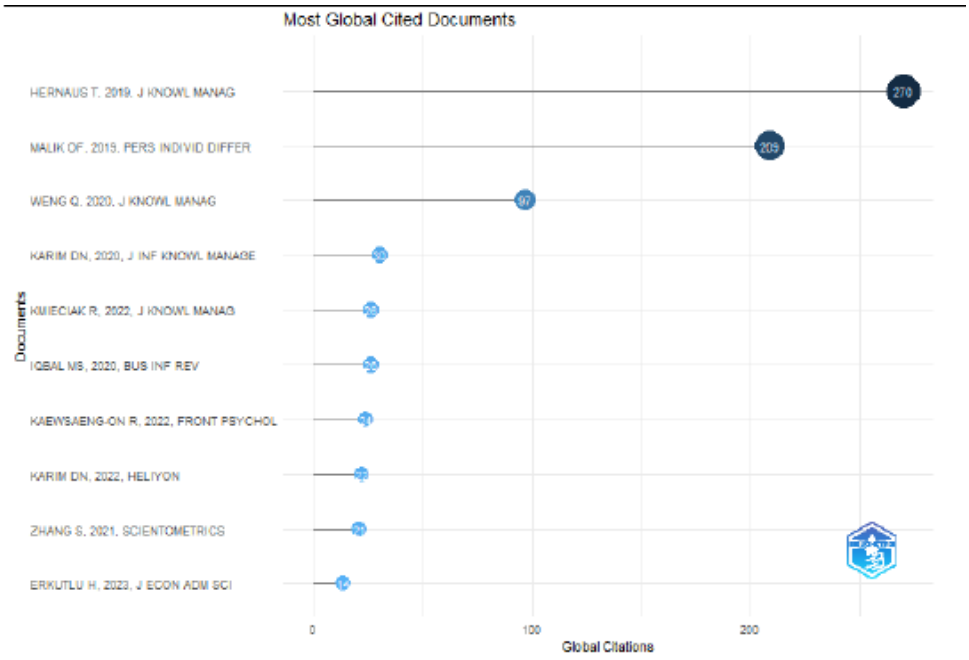

Figure 6 Most global cited documents

2. Science Mapping

While performance analysis identifies the most productive and influential contributors to the field, it does not reveal how knowledge is intellectually organized. Therefore, following established bibliometric guidelines (Donthu et al., 2021; Zupic & Čater, 2015), science mapping techniques are applied to uncover the intellectual structure (co-citation), conceptual structure (keyword co-occurrence), and thematic configuration of the domain. This second stage provides a structural interpretation of how research on knowledge hiding in academia has developed and consolidated.

2.1 Author Co-citation Analysis

Figure 7 presents the author co-citation network, revealing the intellectual structure underpinning research on knowledge hiding in higher education. The size of each node reflects citation frequency, while the links indicate how often two authors are cited together, thereby signaling theoretical proximity and shared intellectual foundations.

The network is anchored by Anand (red), who appears as one of the largest and most centrally positioned nodes. His strong co-citation ties with adjacent scholars suggest that his work forms a key theoretical bridge within the field. Closely connected to this central cluster are authors such as Aljawarneh and Ashiru, indicating a cohesive stream of research drawing on similar conceptual foundations.

A second highly prominent node is Bari (blue), who occupies a structurally influential position within another dense cluster. His connections with authors such as Bogilović, Agarwal, Abubakar, and Andersson suggest a related but somewhat distinct intellectual stream, likely grounded in organizational behavior and knowledge management perspectives. The proximity between the Anand and Bari clusters indicates partial theoretical convergence across these streams.

On the right-hand side of the network, Arain (green) forms the core of another visible cluster, connected to Černe, Aryee, Bashir, and others. The presence of works such as Exchange and Power in Social Life within this cluster suggests that social exchange theory constitutes a foundational theoretical anchor for this stream of research. This confirms that knowledge hiding scholarship in academia is deeply embedded in broader relational and power-based theoretical traditions.

Smaller, more peripheral clusters (e.g., Abdullah and Management Science Letters) indicate specialized or emerging lines of inquiry that are less integrated into the dominant intellectual core.

Overall, the co-citation structure demonstrates that research on knowledge hiding of academia is theoretically pluralistic but anchored in a relatively concentrated set of foundational scholars.

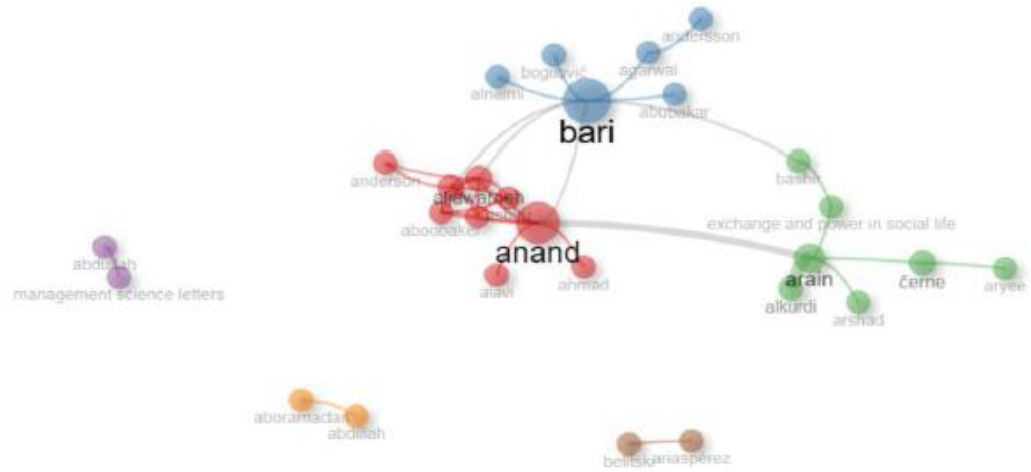

Figure 7 Author co-citation net

2.2 Keyword Co-occurrence Network

Figure 8 illustrates the keyword co-occurrence network, revealing the conceptual structure of research on knowledge hiding of academia. As expected, given the search strategy, "knowledge hiding" appears as the largest and most connected node. Beyond this methodological effect, its extensive linkages with leadership, personality, and organizational constructs indicate its function as the conceptual anchor integrating multiple research streams within the field.

One prominent cluster (red) connects knowledge hiding with "servant leadership", "higher education", "organizational support", and "creativity". This configuration suggests a dominant line of inquiry examining how leadership styles and supportive organizational climates influence knowledge behaviors and innovative outcomes within

academic institutions. The strong ties between these concepts reflect an integrated theoretical approach linking leadership theory with knowledge management perspectives.

Another cluster (blue) associates "higher education institutions" and "knowledge sharing" with personality-related constructs such as "psychopathy "and traits associated with the dark triad. This indicates a growing interest in individual differences and darker personality dimensions as antecedents of knowledge hiding in academic contexts. The positioning of this cluster slightly peripheral to the core suggests an expanding but still consolidating research trajectory.

A smaller cluster (green) highlights "workplace spirituality" in connection with "higher education institutions", reflecting an emerging focus on ethical climate and values-based frameworks. Meanwhile, a peripheral methodological cluster (purple), including terms such as "human" and "article", appears less conceptually central and likely reflects indexing or research design descriptors rather than substantive theoretical themes.

Overall, the network demonstrates that while knowledge hiding remains the conceptual nucleus, the field is progressively integrating leadership theories, personality psychology, organizational climate constructs, and higher education–specific variables. This pattern indicates increasing theoretical diversification while maintaining a coherent intellectual core.

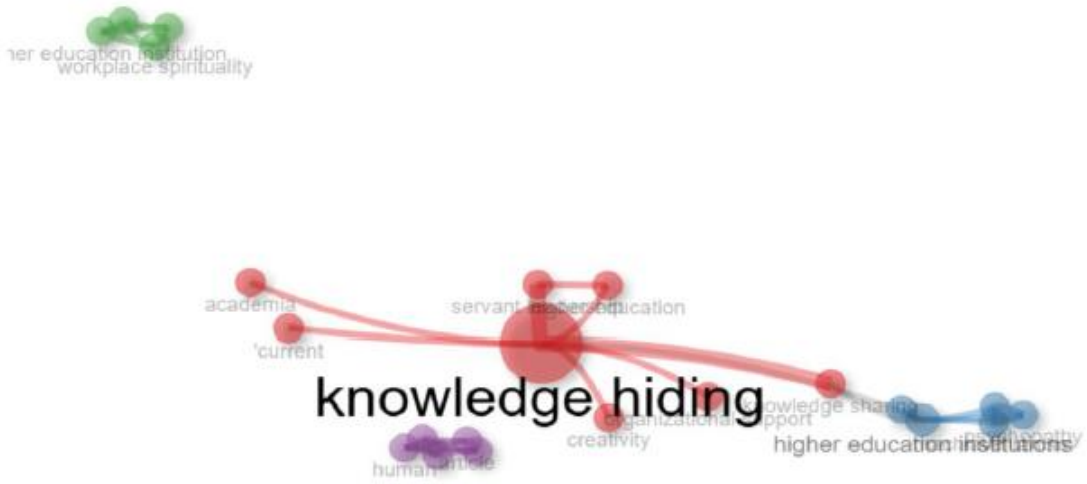

Figure 8 Keyword co-occurrence network

2.3 Thematic Mapping

Figure 9 presents the thematic map based on centrality (x-axis) and density (y-axis), enabling the classification of research themes into motor, basic, niche, and emerging/declining categories (Cobo et al., 2011). Centrality reflects the extent to which a theme is connected to other themes within the field, indicating its relevance and integrative role in the overall research structure. In contrast, density represents the internal cohesion of a theme, reflecting the degree of development and conceptual maturity of the cluster (Callon et al., 1991).

Motor themes represent mature and influential areas of research that actively shape and propel the development of the field. In the motor themes (upper right) quadrant (high centrality, high density), the cluster comprising "higher education institutions","knowledge sharing", and "abusive supervision" stands out as the most developed and structurally important theme. Its strong centrality indicates that it is well connected to other topics in the field, while its high density reflects internal conceptual cohesion. This suggests that research examining dysfunctional leadership and interpersonal dynamics within higher education institutions constitutes a driving force in shaping the discourse on knowledge hiding. A second cluster positioned near the motor quadrant center includes "workplace spirituality", "dark triad", and "higher education institution", highlighting the increasing integration of personality traits and ethical–spiritual dimensions into the explanation of knowledge-related behaviors in academia.

Basic themes are fundamental to the field but not yet fully developed internally. The basic themes (lower right) quadrant (high centrality, low density) contains the cluster of "knowledge hiding", "servant leadership", and "higher education". Its high centrality confirms that knowledge hiding remains the core organizing concept of the field. However, the comparatively lower density suggests that this line of research, while fundamental, is still evolving and diversifying conceptually. It serves as the intellectual backbone of the domain, linking various antecedents and outcomes but requiring further theoretical refinement.

Niche themes are well-developed internally but marginal to the overall field. In the niche themes (upper left) quadrant (low centrality, high density), the cluster including "article", "human", and "human experiment" appears highly developed

internally but weakly connected to the broader field. This may reflect methodological emphases or specific empirical designs that are specialized yet peripheral to the central conceptual debates.

Finally, emerging or declining themes are both weakly developed and marginal, representing either newly evolving research areas or topics losing relevance. The emerging or declining themes (lower left) quadrant (low centrality, low density) includes "academia" and "current". These themes are either nascent areas gaining initial scholarly attention or topics whose influence is diminishing. Given the relatively recent expansion of research into academic contexts, the positioning of academia likely signals an emerging trajectory, pointing to future opportunities for more context-specific theorization of knowledge hiding within higher education systems.

Overall, the thematic map indicates a field anchored in the core concept of knowledge hiding, increasingly driven by leadership and organizational climate variables, and gradually expanding toward personality-based and context-specific explanations within academia.

Figure 9 Thematic map

Discussion

This study provides a comprehensive bibliometric overview of research on knowledge hiding in academia. Integrating performance analysis and science mapping based on a systematic literature review, it offers insights into the field's evolution, concentration, and theoretical structure. Several key observations emerge from the findings.

1. From Peripheral Topic to Emerging Research Stream

The annual publication trend demonstrates that research on knowledge hiding in academia has transitioned from a nascent and exploratory phase (2019–2021) to a rapid growth stage beginning in 2022. The sharp increase in publications, followed by sustained output through 2024 and 2025, indicates that the phenomenon is no longer treated merely as an extension of corporate knowledge hiding studies. Instead, it is increasingly conceptualized as a context-sensitive issue embedded in the unique structural, relational, and performance pressures of academic institutions.

This trajectory aligns with broader transformations in higher education, including intensified research competition, performance-based evaluation systems, international rankings, and resource constraints (Hazelkorn, 2015; Musselin, 2018). Such systemic pressures may inadvertently foster competitive climates in which knowledge hiding becomes a strategic behavior. The bibliometric growth pattern therefore reflects not only academic interest but also the practical relevance of the topic in contemporary university governance.

2. Disciplinary Anchoring and Gradual Cross-Field Integration

The analysis of publication outlets confirms that the field is strongly anchored in knowledge management and organizational behavior journals. Leading outlets such as Journal of Knowledge Management have played a pivotal role in consolidating the research stream, while psychology- and higher-education-oriented journals signal interdisciplinary diffusion.

This disciplinary pattern suggests that knowledge hiding in academia is primarily framed as a behavioral and relational phenomenon rather than solely as an educational policy issue. At the same time, the gradual extension into broader higher education journals indicates an expanding recognition that knowledge behaviors among

academics have institutional-level consequences, affecting collaboration, innovation, mentoring, and organizational performance.

3. Regional Concentration and Contextual Sensitivity

The affiliation analysis reveals a geographically diverse but regionally clustered research landscape, with particularly strong representation from South Asian institutions. This concentration may reflect contextual dynamics such as high academic competition, hierarchical organizational cultures, and evolving governance systems that make knowledge hiding a salient issue.

Rather than viewing this regional clustering as a limitation, it may indicate that emerging economies provide fertile empirical contexts for examining competitive and relational tensions in academia. However, the field would benefit from broader comparative studies across Western, Asian, and other global higher education systems to enhance contextual generalizability and theoretical robustness.

4. Intellectual and Conceptual Consolidation

The author co-citation analysis indicates that the field is theoretically pluralistic but anchored in a relatively concentrated intellectual core. Simultaneously, the keyword co-occurrence and thematic analyses reveal increasing diversification. Leadership styles (e.g., abusive and servant leadership), personality traits (e.g., dark triad characteristics), and ethical or spiritual dimensions are emerging as important explanatory mechanisms. This suggests a shift toward multi-level theorization that integrates individual, interpersonal, and institutional perspectives.

5. Field Maturity and Developmental Stage

Overall, the bibliometric patterns suggest that research on knowledge hiding in academia is in an early-to-intermediate stage of maturity. The field demonstrates increasing publication momentum, identifiable intellectual clusters, and expanding thematic breadth. However, theoretical integration across streams remains partial, and context-specific theorization of academic systems is still developing.

Implications for Theory and Practice

Building on these observations, the findings not only delineate the current structure and developmental stage of the field but also point to critical gaps and

opportunities for advancement. In particular, the coexistence of a consolidating conceptual core with expanding yet fragmented thematic streams underscores the need for deeper theoretical integration and more context-sensitive frameworks. These insights provide the foundation for deriving implications for both theory and practice.

1. Theoretical Implications

This bibliometric synthesis offers several important theoretical contributions to the emerging domain of knowledge hiding in academia.

First, the findings indicate that the field is transitioning from conceptual transfer to contextual theorization. Early research largely borrowed frameworks from corporate knowledge hiding literature. However, the science mapping results demonstrate a growing effort to embed the construct within the institutional logic of academic settings. This shift suggests the need to theorize knowledge hiding not merely as an interpersonal workplace behavior, but as a phenomenon shaped by academic norms such as collegiality, disciplinary silos, tenure systems, publication pressures, and competitive funding structures.

Second, the prominence of leadership styles (e.g., abusive supervision, servant leadership) and personality traits (e.g., dark triad characteristics) highlights the emergence of multi-level explanatory models. Future theoretical development should explicitly integrate Individual-level antecedents (personality traits, competitiveness, psychological insecurity), interpersonal mechanisms (trust, reciprocity norms, perceived fairness), and institutional-level structures (governance models, ranking systems, performance evaluation regimes). Such integration would move the field beyond fragmented antecedent–outcome studies toward more comprehensive, systems-based frameworks.

Third, the regional clustering observed in the affiliation analysis raises important theoretical questions regarding contextual boundary conditions. Academic competition, hierarchical structures, and governance reforms vary significantly across national higher education systems. Cross-cultural comparative research would therefore enhance theoretical robustness by identifying whether knowledge hiding operates as a universal behavioral response or as a context-contingent strategy.

Fourth, the thematic map suggests that while knowledge hiding remains the core organizing concept, the construct itself may require further conceptual refinement within academia. For example, future research might differentiate between strategic, defensive, politically motivated, and resource-protection forms of knowledge hiding in academic contexts. This differentiation would support construct clarity and theoretical maturation.

Collectively, these directions signal that the field is ready to move from exploratory empirical expansion toward deeper theoretical consolidation.

2. Practical Implications

The findings carry significant implications for university governance, leadership development, and institutional policy design.

First, the strong linkage between knowledge hiding and leadership variables suggests that managerial behavior within academia plays a central role in shaping knowledge exchange norms. Leadership development programs should therefore prioritize ethical conduct, psychological safety, and fairness perceptions. Reducing supervisory hostility and increasing supportive leadership practices may directly mitigate hiding behaviors.

Second, the concentration of research around performance pressures and competitive dynamics implies that institutional incentive systems may inadvertently encourage knowledge hiding. Universities and research institutions should critically evaluate evaluation metrics that excessively emphasize individual publication counts, citation indices, or grant acquisition without rewarding collaborative contributions. Balanced performance systems that recognize team-based research, co-authorship, and mentoring activities may foster more open knowledge climates.

Third, the integration of personality-related constructs indicates that knowledge hiding is not solely structurally induced but also psychologically mediated. Institutions may consider implementing training programs that cultivate trust-building skills, conflict management competencies, and collaborative mindsets among faculty members.

Finally, the practical relevance of these findings becomes more evident when considered alongside the documented consequences of knowledge hiding. Prior research shows that knowledge hiding reduces job satisfaction (Offergelt et al., 2019), productivity (Butt, 2019a), task performance (Singh, 2019), and innovation capacity (Cai &

Wen, 2018; Černe et al., 2017). In line with the present bibliometric results, which highlight leadership, interpersonal dynamics, and organizational climate as dominant research themes, these outcomes suggest that managerial practices and institutional environments in higher education play a pivotal role in shaping not only knowledge behaviors but also broader performance outcomes. Practically, this implies that efforts to mitigate knowledge hiding - through supportive leadership, fair evaluation systems, and trust-based academic cultures - are likely to yield tangible benefits in terms of faculty well-being, research productivity, and institutional innovation.

Limitations and Future Research Avenues

Despite its contributions, this study is subject to several limitations that simultaneously open avenues for future research.

First, the dataset was derived exclusively from Scopus-indexed publications. Although Scopus offers extensive interdisciplinary coverage, relevant studies indexed in Web of Science, Google Scholar, or regional databases may not have been captured. Consequently, the intellectual and thematic structures identified reflect the Scopus-indexed corpus rather than the entirety of global scholarship. Future bibliometric studies could adopt multi-database approaches to enhance comprehensiveness and validate the stability of network configurations.

Second, the relatively small sample size (39 documents) reflects the emerging nature of research on knowledge hiding in academia. While suitable for exploratory bibliometric mapping, the limited corpus may influence network density and cluster formation. As publication output continues to grow, future analyses should reassess the field's intellectual and thematic structure to determine whether clearer subfields, stronger theoretical consolidation, or new research streams emerge.

Third, citation-based techniques inherently privilege earlier publications and highly visible journals. Recently published studies, particularly those from 2024 and 2025, may not yet have accumulated sufficient citations to be prominently represented in co-citation networks. Longitudinal bibliometric analyses would therefore be valuable in tracking how influence patterns evolve over time and whether emerging scholars reshape the intellectual core of the domain.

Fourth, bibliometric methods identify structural relationships among authors, keywords, and documents but do not evaluate theoretical rigor, methodological quality, or empirical robustness at the individual study level. Future research could complement bibliometric mapping with meta-analyses to assess effect sizes, theoretical consistency, and research design sophistication.

Beyond methodological considerations, several substantive research opportunities emerge.

The science mapping results suggest the need for stronger multi-level theorization, integrating individual traits, leadership behaviors, and institutional governance systems within unified explanatory frameworks. Future studies should move beyond isolated antecedent-outcome models toward more comprehensive, contextually embedded designs.

Moreover, the regional clustering of research highlights the importance of cross-cultural comparative studies. Differences in academic competition, governance structures, tenure systems, and funding models across higher education systems may shape knowledge hiding behaviors in distinct ways. Comparative research would enhance theoretical generalizability and clarify contextual boundary conditions.

Additionally, the construct itself warrants further refinement in academic contexts. Future research could differentiate between strategic, defensive, politically motivated, and resource-protection forms of knowledge hiding within universities. Such conceptual clarification would strengthen construct validity and theoretical precision.

Finally, given the increasing performance pressures and digital transformation happening within academia, future studies may explore how hybrid work environments, interdisciplinary collaborations, and artificial intelligence tools influence knowledge hiding and sharing dynamics.

Taken together, addressing these methodological and substantive directions will contribute to the maturation of research on knowledge hiding in academia and support its evolution into a theoretically integrated and contextually grounded field.

Conclusion

This study advances understanding of the "silent side of academia" by systematically mapping the intellectual and conceptual landscape of knowledge hiding

research in higher education. The findings reveal a field that is gaining momentum, anchored in established knowledge management and organizational behavior theories, yet increasingly evolving toward context-specific explanations shaped by academic norms and institutional pressures. By integrating systematic literature review with bibliometric analysis, this study not only clarifies the structure and development of the domain but also highlights critical gaps and future directions. As higher education systems continue to face intensifying competition and performance demands, addressing knowledge hiding becomes essential for fostering collaborative, innovative, and sustainable academic environments.

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