



Unraveling the two decades of Knowledge Hiding scholarship: A systematic review, bibliometric analysis, and literature synthesis

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ABSTRACT

Purpose: This study aims to provide a state-of-the-art review of the literature on Knowledge Hiding (KH), focusing on its inherent knowledge structure (i.e. intellectual, social, and conceptual structure). This study also presents an integrative synthesis of previous research and highlights knowledge gaps and limitations for further knowledge advancement in this field.

Methodology: The systematic literature review approach was used to identify, select, and review the extant KH literature. For analysis, we employed a hybrid technique that combines quantitative and qualitative methods. In the first phase, we conducted quantitative bibliometric analyses (using VOS viewer and Biblioshiny in R-Studio) to highlight the state of the research profile. In the second phase, we utilise the ADO-TCM framework to synthesise the current literature into key themes, followed by the proposal of future research trajectories.

Results: Our findings in the first phase highlighted the current research profile of KH in terms of publication timeline, relevant journals, utilised methods, top contributing authors, affiliations, and countries. In addition, our first-phase findings revealed the knowledge structure of KH research: intellectual structure (i.e. influential authors, influential studies, and citation analysis), social structure (i.e. collaborating authors, institutions, and countries), and conceptual structure (i.e. co-citation analysis, keyword co-occurrences, and thematic mapping). In the second phase, we discuss the KH literature and propose a future research agenda regarding antecedents, decisions, and outcomes (ADO) and theories, contexts, and methods (TCM) frameworks.

Future Research / Implications: By offering a knowledge database of existing literature and building a solid foundation for future research, this study is anticipated to inspire academics and researchers to expand the literature on this topic and theoretically develop the field. Additionally, it creates a strong argument for businesses to acknowledge the presence of KH and assess the risks, advantages, and drawbacks of this phenomenon in order to make wise decisions.

Introduction

Over the years, knowledge has been considered a key resource that plays a crucial role in the success of individuals and organisations (Shan et al., 2023; Vidic, 2022). Management and sharing of knowledge in the workplace are pivotal for fostering innovation, enhancing productivity, and gaining a competitive advantage (Cabrilo et al., 2024; Idrees et al., 2023; ud din Khan et al., 2023). However, it has been reported that about 50 % of employees intentionally withhold, mislead, or conceal knowledge from their counterparts (Peng, 2013). To this end, a subtle yet pervasive phenomenon has emerged in workplace dynamics, termed

‘Knowledge Hiding’ (Connelly et al., 2012). It is often described as the intentional concealment or withholding of knowledge from others (Connelly et al., 2012). Notably, knowledge hiding (KH) has been popularised as an independent concept, different from merely considering it as the opposite side of knowledge sharing (Zhao et al., 2019). The prevalence of KH in the workplace makes it challenging for organisations to compete, perform, and grow.

The concept of KH has received considerable attention from researchers, practitioners, and policymakers owing to its severely detrimental effects on individuals and organisations (e.g. Xiong et al., 2021). Previous studies have provided valuable insight into the

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conceptualisation, antecedents, and outcomes of KH (e.g., [Arain et al., 2024](#); [Bari et al., 2023](#); [Connelly et al., 2019](#)). In this regard, there is a plethora of empirical research on the factors contributing to KH behaviour in the workplace. These factors include i) individual characteristics, ii) organisational characteristics, and situational factors (e.g., [A. Anand et al., 2023](#); [Butt, 2021](#); [Connelly et al., 2012](#)). Similarly, another stream of research explored the consequences of KH at both the individual and organisational levels, highlighting its detrimental effects on trust, collaboration, innovation, and organisational performance (e.g., [Andreeva & Zappa, 2023](#); [Arain et al., 2021](#)).

Interestingly, despite the predominant scholarly consensus on its severe negative consequences for individuals, groups, and organisations, empirical evidence highlights the positive aspects of KH ([Khoreva & Wechtler, 2020](#); [Yao et al., 2023](#)). Proponents of this school of thought also suggest that KH can be triggered by pro-social motivation, thereby strengthening interpersonal ties between the perpetrator and the victim ([Connelly & Zweig, 2015](#); [Connelly et al., 2012](#)). Moreover, rationalised hiding can enhance employee empowerment ([Offergelt, 2019](#)) and well-being ([Khoreva & Wechtler, 2020](#)). Additionally, KH may provide benefits to the organisation by protecting its knowledge and resources, confidentiality, and competitive advantage ([Anand et al., 2020](#); [Connelly et al., 2012](#)).

Given the widespread interest in KH's dynamics, there is a dire need to consolidate the knowledge structure of the field (i.e. intellectual, social, and conceptual structure) from the current fragmented literature. Therefore, we aim to synthesise the existing literature, identify research gaps, and provide directions for future knowledge development. There have been few valuable attempts to conduct literature reviews on KH (e.g. [Anand et al., 2020](#); [Di Vaio et al., 2021](#); [Siachou et al., 2021](#); [Silva de Garcia et al., 2022](#); [Xiao & Cooke, 2019](#)). For instance, [Anand et al. \(2020\)](#) conducted a systematic review to identify research streams and provide future research directions. More recently, [Xiao \(2024\)](#) provided insight into the perpetrator-centric causes and consequences of KH. Another valuable field-specific scientometric review focusing on KH in higher education institutions is available ([Fauzi, 2023](#)). While these literature reviews provide excellent insight into this topic and directions for future research, our review aims to address the following research questions (see [Table 1](#)).

Our review extends the valuable insight offered by previous studies as follows. Our review utilises both quantitative and qualitative techniques to evaluate existing research and provides a nuanced understanding of the knowledge structure on this topic. In doing so, we delineate the existing literature into intellectual, social, and conceptual structure. In other words, by utilising various bibliometric analytical techniques, we provide up-to-date profiles of research (performance analysis), citation-based analyses (intellectual structure), collaboration networks (social structure), and key conceptual and thematic networks (conceptual structure) in the current literature on KH. Another key contribution of our review is the development of an ADO-TCM framework-based literature synthesis (i.e., *what do we know, and how do we know?*) and future research agendas (i.e., *where should we be heading, and how can we get there?*). In this vein, our review presents a literature synthesis to highlight the key antecedents, decisions, and outcomes (ADO) of KH and the theories, contexts, and methods (TCM) employed in the current literature. In addition to synthesising the current literature, our review highlights research gaps and proposes future research trajectories on this topic. This review will assist researchers and academicians in gaining an overview of the current literature, its publication trends (timeline, articles, sources, citation metrics), and potential collaborators (authors, institutions, and countries) in KH research. Our review is also helpful for policymakers and practitioners in gaining insight from the existing literature to develop and adapt appropriate policies and make informed decisions.

Table 1
Research questions and sub-questions of this review.

Research Questions	Sub-questions
1- What are the current publication trends and characteristics in knowledge hiding research?	1a: What is the publication timeline of knowledge hiding studies? 1b: Which journals are leading in publishing knowledge hiding research? 1c: What are the key studies that have significantly contributed to the field of knowledge hiding? 1d: Who are the most influential and prolific authors in knowledge hiding research? 1e: Which institutions are prominently involved in knowledge hiding research?
2- What is the collaboration network and social structure within knowledge hiding research?	2a: How do authors collaborate in knowledge hiding studies? 2b: Which institutions collaborate on knowledge hiding research? 2c: What is the international collaboration network in knowledge hiding research?
3- What are the key thematic areas in the knowledge hiding literature?	3a: What are the clusters of co-occurring keywords in knowledge hiding research? 3b: What themes emerge from thematic mapping in knowledge hiding studies?
4- What are the key theories employed, methods utilised, and contexts explored in knowledge hiding research?	4a: Which theoretical frameworks are commonly used in knowledge hiding studies? 4b: What research methodologies are utilised in knowledge hiding research? 4c: What contexts (e.g. geographical, industries) are explored in knowledge hiding studies?
5- What are the research gaps, limitations, and future directions in knowledge hiding literature?	5a: What gaps and limitations exist in the current knowledge hiding research? 5b: What future research directions are suggested for advancing knowledge hiding scholarship?

Methodology

When conducting a systematic literature review, scholars have suggested four approaches: domain-based, theory-based, method-based, and meta-analytical reviews ([Paul & Criado, 2020](#)). In this regard, our study is classified as a domain-based review, as we aim to conduct a comprehensive review of the KH literature. Previous studies have used various techniques to perform domain-based reviews, such as structured reviews (e.g. [Khizar et al., 2023](#)), framework-based reviews (e.g. [Paul & Benito, 2018](#)), bibliometric reviews ([Donthu et al., 2020](#); [Dzhunushaliev & Teuber, 2024](#)), and hybrid reviews ([Bhukya & Paul, 2023](#)). Among these techniques, the hybrid reviews, as compared to others, combine both qualitative and quantitative techniques to provide a comprehensive overview of the current literature and enlighten the directions for further knowledge advancements. This technique also facilitates the development of new theoretical frameworks and contributes significantly to conceptual, methodological, and thematic development ([Bahoo et al., 2020](#); [Thomas & Gupta, 2022](#)).

However, given the diversity of the existing knowledge on KH, our study employed a hybrid review technique that combined the standard procedures of bibliometric analysis (quantitative) and framework-based synthesis (qualitative). In the first phase, we utilised bibliometric techniques to present an up-to-date research profile of the existing literature, and in the second phase, we utilised the ADO-TCM framework to integrate current research, identify knowledge gaps, and propose future research directions. [Fig. 1](#) summarises the data collection and assessment procedures adapted from SPAR-4-SLR (Scientific procedures and rationales for systematic literature reviews) ([Paul et al., 2021](#)).

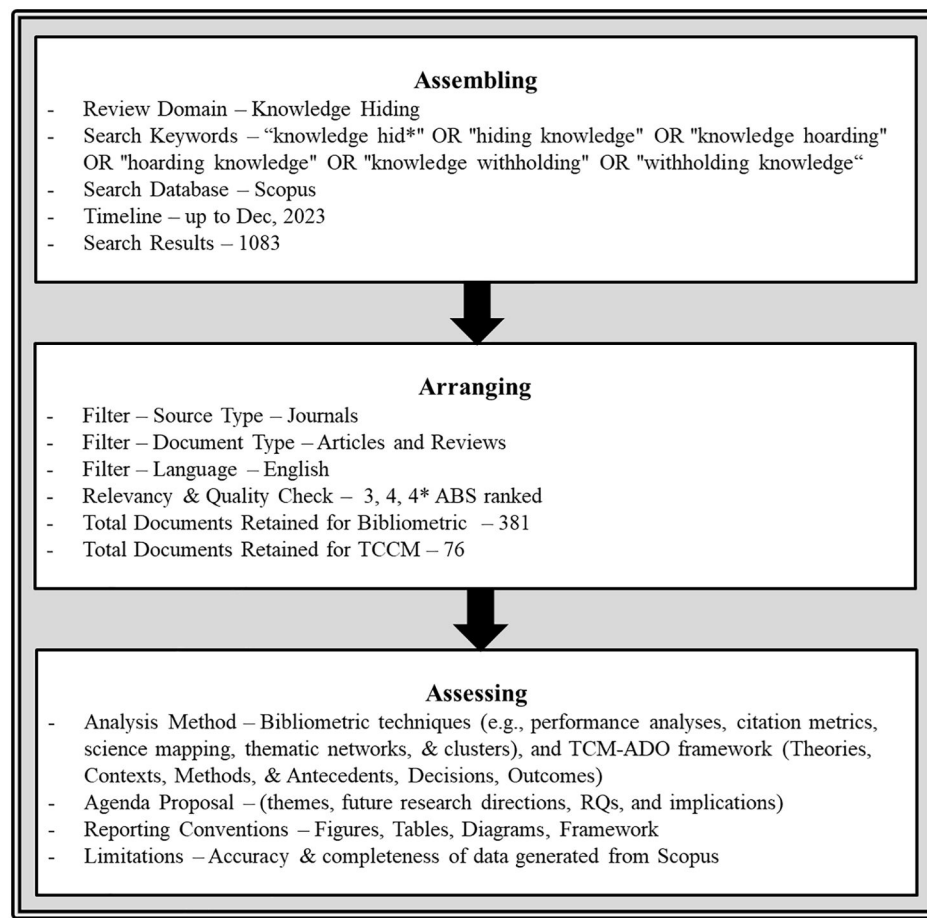


Fig. 1. Systematic review procedure adapting the SPAR-4-SLR protocol.

Assembling

We initially developed our search string by combining relevant keywords to identify a corpus of articles on KH. Based on our preliminary review of the relevant literature, we identified a list of possible keywords, followed by consultation with three academic experts to ascertain the suitability of these keywords for representing KH. This led to the following search string: “*Knowledge hid**” OR “*hiding knowledge*” OR “*knowledge hoarding*” OR “*hoarding knowledge*” OR “*knowledge withholding*” OR “*withholding knowledge*”. To identify potentially relevant articles for this review, we searched the prominent academic database Scopus. This is the largest high-quality scientific database of scholarly articles. We limited the initial search to 31 December 2023 to ensure that all relevant and recent studies are considered for inclusion in our review. Based on our Scopus search, 1083 documents were returned.

Arranging

To arrange the corpus of 1083 articles identified, we utilised the following filter function in the databases to limit our search: *year* (i.e. up to 2023), *document type* (i.e. articles and reviews), *source type* (i.e. journals), and *language* (English). This process resulted in a reduced corpus of 768 articles. Subsequently, to ensure the relevance and quality of the studies to be included in our review, two authors independently read the titles and abstracts of the papers to include only those studies that were relevant to KH. Consequently, we retained 381 studies to be included in our review for further analysis.

Assessing

To analyse the selected studies ($n = 381$), we performed a two-stage analysis: quantitative bibliometric analysis, followed by ADO-TCM framework-based qualitative literature synthesis. In the first phase, we utilised bibliometric analysis to quantitatively analyse the scientific information of the selected studies (Donthu et al., 2021). In the second phase, we selected a subsample of studies based on journal quality criteria: studies published in journals ranked 3, 4, and 4* on the Chartered Association of Business School list (CABS). That is, we selected 76 studies to extract key information on the antecedents, decisions, and consequences as well as the theories, contexts, and methods to develop our ADO-TCM framework. In particular, the ADO-TCM framework was organised to explore and address the following implied questions: *What is known? How is it known? Where should we be heading? How can we get there?*

Quantitative bibliometric analysis

We performed three types of quantitative bibliometric analyses: i) performance analysis, ii) collaboration network analysis, and iii) science mapping. First, the performance analyses delineate the research profile in terms of publication timeline, publishing journals, influential articles, prolific authors, institutions, and countries. Second, collaboration network analyses reveal the social structure of KH research by highlighting the collaboration networks among authors, institutions, and countries. Finally, a science mapping technique is utilised through co-citation analysis, keyword co-occurrence networks, and thematic mapping. Our analyses were mainly performed using VOSviewer and Biblioshiny in the R studio.

Performance analysis

Performance analysis is a bibliometric analysis technique used to highlight the descriptive research profile of a given topic or research domain [Donthu et al. \(2021\)](#). We utilised a performance analysis to reveal the research profile of KH in the following ways: i) publication trends over time, ii) the most influential articles, iii) the most productive authors, iv) key journals, v) institutions, and vi) countries.

Publication trends for KH

The year-wise publication trend of KH Research is presented in [Fig. 2](#). This indicates that scholarly interest in exploring this concept began during the first decade of the 21st century. Our findings highlighted that the scholarly piece of [Connelly et al. \(2012\)](#) served as a breakthrough, as it was followed by an increase in scholarly publications. Notably, an exponential increase in publications was observed beginning in 2019, whereby nearly 85 % of the articles were published between 2019 and 2023, with almost 50 % ($n = 169$) published in the last 2 years.

Top contributing journals for KH research

The extant literature on KH selected in our review ($n = 352$) was published in 109 journals. [Table 2](#) indicates that the top 10 contributing journals published 185 articles (53 %) in the field. Specifically, the top three most prolific journals were *Journal of Knowledge Management* ($n = 69$), *Journal of Business Research* ($n = 33$), and *Vine Journal of Information and Knowledge Management Systems* ($n = 21$). However, in terms of their influence, the *Journal of Knowledge Management* showed the highest at 4418 citations, followed by the *Journal of Organizational Behavior* and *Journal of Business Research*, with 2043 and 1314 citations, respectively. Notably, our analyses revealed that KH research has received predominant attention and publication space in some of the best journals. This is indicated because most of the contributing journals are rated as 3* or 4* in the Academic Journal Guide by the Chartered Association of Business Schools (CABS) and have an impact factor above three.

Most significant articles for KH

[Table 3](#) presents the most influential articles in KH research based on their citations. Our findings highlight that [Connelly's \(2012\)](#) study, published in the *Journal of Organizational Behavior*, has received widespread acknowledgement, with 836 citations (an average of 76 citations per year) since its publication in 2012. This was followed by [Al-Alawi's \(2007\)](#), [Cerne's \(2014\)](#), and [Peng's \(2013\)](#) articles published in the *Journal of Knowledge Management*, *Academy of Management Journal*, and *Journal of Knowledge Management*, which have been cited 545, 539, and 363 times, respectively. Notably, the top 10 most-cited articles have significantly contributed to the field with a total of 4043 citations.

Table 2

Top contributing journals for knowledge hiding research.

Top Journal	NP	TC	ABS	IF	H
JOURNAL OF KNOWLEDGE MANAGEMENT	69	4418	2	10.26	134
JOURNAL OF BUSINESS RESEARCH	33	1314	3	13.44	236
VINE JOURNAL OF INFORMATION AND KNOWLEDGE MANAGEMENT SYSTEMS	21	349	–	3.64	37
KNOWLEDGE MANAGEMENT RESEARCH AND PRACTICE	13	300	1	4.02	45
KNOWLEDGE AND PROCESS MANAGEMENT	10	267	1	4.77	49
JOURNAL OF ORGANIZATIONAL BEHAVIOR	9	2043	4	7.46	205
JOURNAL OF BUSINESS ETHICS	8	468	3	5.39	116
MANAGEMENT DECISION	8	426	2	8.11	229
DEVELOPMENT AND LEARNING IN ORGANIZATIONS	7	54	–	8.139	151
LEADERSHIP AND ORGANIZATION DEVELOPMENT JOURNAL	7	319	1	5.76	78

NP: Number of publications, TC-Total citations, CABS: The 2022 Journal ranking by the Chartered Association of Business Schools (i.e. lowest rating 1/2/3/4/4* highest rating, NR: No rating). IF-Impact factor from the Journal Citation Report (JCR) 2023 and h-H_Index.

Top contributing authors for KH

Our findings revealed that 786 authors contributed to the publication of the 352 studies selected for our review. The authors of the KH research are listed in [Table 4](#). Our results show that 'BUTT AS' (from the American University of Ras Al Khaimah, UAE), 'ČERNE M' (from the University of Ljubljana, Slovenia), 'ZHAO H' (from Shanghai University, China), and 'ISSAC AC' (from the Indian Institute of Technology Madras, India) are the four most prolific authors in the field, with 12, 10, nine, and nine articles, respectively. However, the two most influential authors (based on the citations) are 'CONNELLY CE' from McMaster University, Canada, and 'ČERNE M' from University of Ljubljana, Slovenia, with 2052 and 1865 citations, respectively. Overall, these 10 authors have made substantial contributions in terms of knowledge advancements in the field of KH.

Top contributing affiliations and countries

The top contributing institutions and countries for KH research are listed in [Table 5](#). Our findings suggest that the most prolific institution in KH research is Shanghai University, China, with 25 articles, followed by Tongji University, China, with 22 articles and University of Ljubljana, Slovenia, with 14 articles. Our findings in terms of countries' scientific production indicate that China ($n = 282$), Pakistan ($n = 128$), and India ($n = 92$) are the three most prolific countries. Although South Asian researchers dominated scientific knowledge production in the realm of KH, there was also notable representation of authors from Western and Oceanic countries, including the USA ($n = 53$), Australia ($n = 49$),

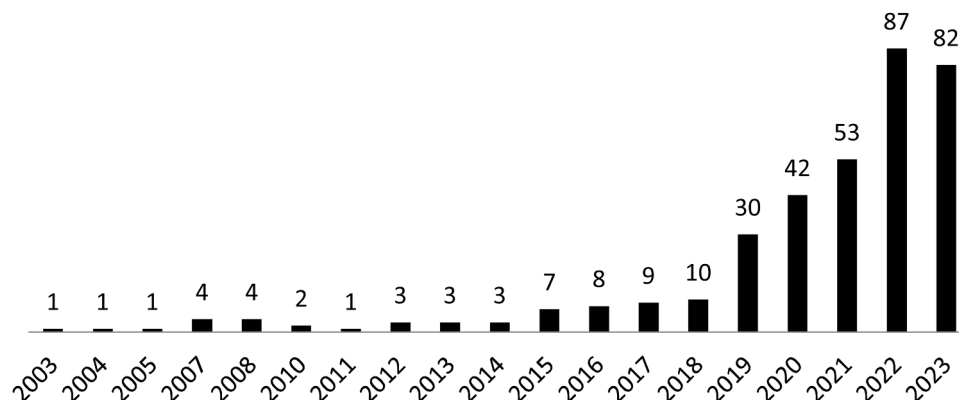


Fig. 2. Year-wise publication for KH research between 2003 and 2023.

Table 3

Most significant articles for KH research.

Author(s)	Article Title	Journal	DOI	TC
Connelly et al. (2012)	KH in organizations	Journal of Organizational Behavior	10.1002/job.737	836
Al-alawi et al. (2007)	Organizational culture and knowledge sharing: critical success factors	Journal of Knowledge Management	10.1108/13,673,270,710,738,898	545
Černe et al. (2014)	What goes around comes around: KH, perceived motivational climate, and creativity	Academy of Management Journal	10.5465/amj.2012.0122	539
Peng (2013)	Why and when do people hide knowledge?	Journal of Knowledge Management	10.1108/JKM-12-2012-0380	363
Serenko and Bontis (2016)	Understanding counterproductive knowledge behavior: antecedents and consequences of intra-organizational KH	Journal of Knowledge Management	10.1108/JKM-05-2016-0203	343
Connelly and Zweig (2015)	How perpetrators and targets construe KH in organizations	European Journal of Work and Organizational Psychology	10.1080/1359432X.2014.931325	337
Chang et al. (2020)	How Blockchain can impact financial services–The overview, challenges and recommendations from expert interviewees	Technological Forecasting and Social Change	10.1016/j.techfore.2020.120166	305
Michailova and Husted (2003)	Knowledge-sharing hostility in Russian firms	California Management Review	10.2307/41,166,176	260
Zhao et al. (2016)	Workplace ostracism and KH in service organizations	International Journal of Hospitality Management	10.1016/j.ijhm.2016.09.009	255
Singh (2019)	Territoriality, task performance, and workplace deviance: Empirical evidence on role of KH	Journal of Business Research	10.1016/j.jbusres.2018.12.034	230

Table 4

Top contributing authors for KH.

Authors	Start Year	NP	h_index	g_index	TC	TC/NP
BUTT AS	2019	12	9	12	320	26.67
ČERNE M	2014	10	9	10	1865	186.5
ISSAC AC	2018	9	7	9	153	17
ZHAO H	2016	9	7	9	601	66.78
ZHANG Z	2019	8	6	8	155	19.37
LUO J	2016	7	7	7	736	105.14
BARAL R	2018	7	6	7	145	20.71
FATIMA T	2019	7	5	7	229	32.71
CONNELLY CE	2008	7	7	7	2052	293.15
ŠKERLAVAJ M	2014	6	6	6	1449	241.5

***NP- Number of publications, TC- Total citations, TC/NP- Average citations per publication.

Table 5

Top contributing institutions and countries.

Institutions' Scientific Production	Countries' Scientific Production
Shanghai University	25 China 282
Tongji University	22 Pakistan 128
University of Ljubljana	14 India 92
Huaqiao University	13 USA 53
Zhejiang University of Technology	12 Australia 49
American University of Ras Al Khaimah	12 Canada 43
South China University of Technology	12 UK 40
Swinburne University of Technology	10 UAE 29
Comsats University Islamabad	09 Italy 24
International Islamic University	09 Malaysia 22

Canada ($n = 43$), and the UK ($n = 40$).

Social structure – collaboration networks

Fig. 3a-b shows the collaboration network analysis, which highlights the collaboration between authors and institutions involved in KH research. Our analysis revealed a highly interconnected network of scholarly collaborations driven by prominent clusters. Notable collaborations are among the most prominent authors, including C. E. Connelly, M. Černe, A. Dysvik, and M. Škerlavaj. This group of authors has made substantial contributions to KH research since its inception. Other notable collaborations include authors like A. Anand and U.A. Agarwal, as well as Chinese authors, including H. Zhao and Q. Xia. On the institutional side, few distinct clusters were identified. Cluster 1 highlights the substantial collaboration among Pakistani universities, such as COMSATS University in Islamabad and Government College University

in Faisalabad, underscoring a concentrated regional effort. In Cluster 3, notable Chinese universities such as Shanghai University and Tongji University showcase a vibrant research network that advances the field through cohesive academic partnerships. These clusters collectively illustrate the pivotal role of collaborative efforts in driving forward KH research and fostering regional and international academic synergy.

Moreover, in terms of the landscape of international collaboration in KH research, our review shows that researchers from several countries across different continents have been involved (Fig. 4a-b). In this vein, China has emerged as a central hub, as its researchers have formed strong research ties with researchers from the USA (12 collaborations), the UK (11 collaborations), and Pakistan (nine collaborations). This collaborative scholarly partnership reflects extensive global academic reach and interest in KH. Canada also played a pivotal role, particularly with Norway (four collaborations) and Slovenia (three collaborations), highlighting its position in fostering research across continents. Moreover, Pakistan has exhibited robust collaborative efforts, especially with the UAE (eight collaborations) and Canada (five collaborations), indicating its strategic partnership in advancing KH studies. Likewise, Indian scholars have also actively engaged in cross-border research initiatives, co-authoring with scholars from Australia (eight collaborations) and the UAE (one collaboration). Authors from these countries collectively contributed to a rich, interconnected network, driving the research agenda forward through collaborative endeavours.

Science mapping

Science mapping involves analytical techniques that uncover what knowledge exists and how it is interrelated within a domain Donthu et al. (2021). Science mapping of KH research was carried out using three bibliometric analysis techniques: i) co-citation analysis (in VOSviewer) to reveal the major clusters/themes in KH research over the last two decades, ii) network analysis using keyword co-occurrences (in VOSviewer), and iii) thematic maps (in R-Studio) to unpack thematic evolution and key research themes.

Co-citation networks

Co-citation refers to the frequency with which two papers are cited together in another (Small, 1973). This technique has been extensively used in bibliometric analyses to uncover intellectual and conceptual structures within a research field. A higher co-citation frequency between two articles indicates greater similarity in their research areas (Culnan, 1987). Documents that are too old, with only a few citations, or too recent tend not to significantly impact the research domain Pilkington and Fitzgerald (2006). To focus on the most impactful publications on KH, we selected a threshold of 25 citations of a document for

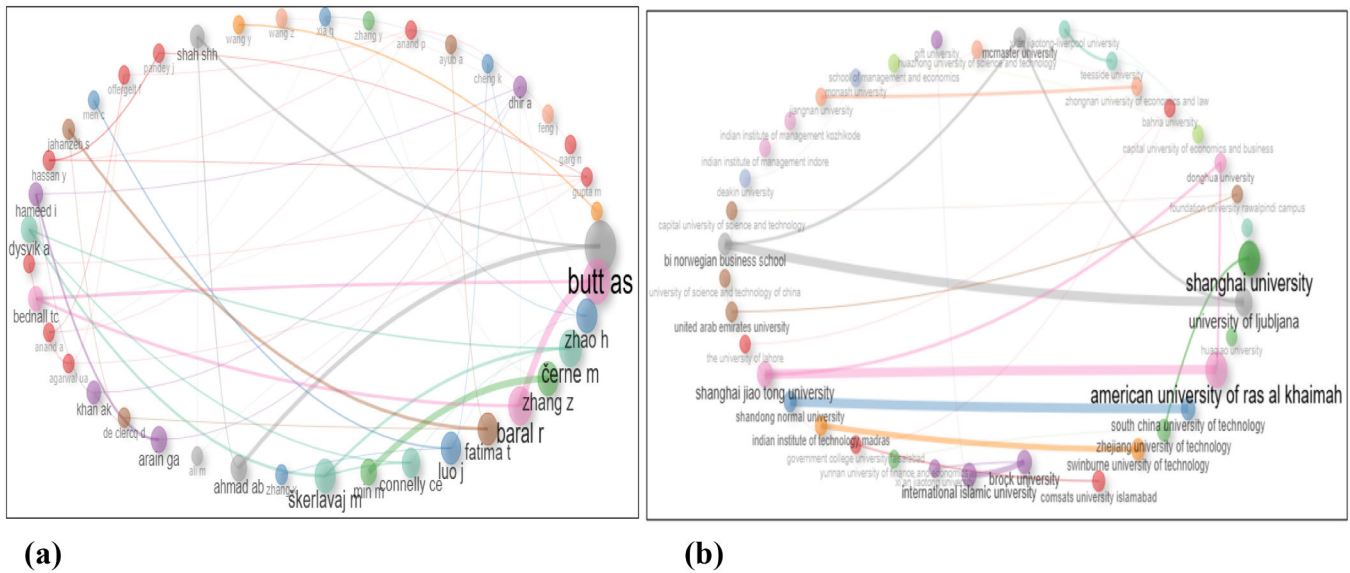


Fig. 3. a Authors collaborations. b Institutional collaborations.

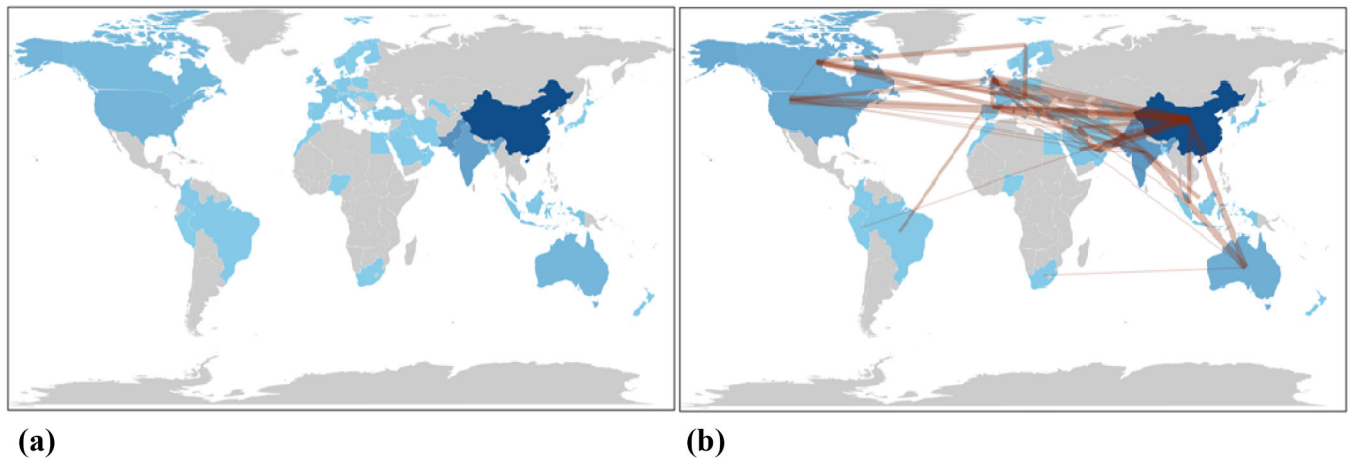


Fig. 4. a Countries productivity. b Countries collaborations.

inclusion in the analysis. This ensures that the analysis remains centred on influential and relevant literature. Consequently, our findings revealed 44 studies that were categorised into four clusters based on thematic similarity (Fig. 5).

Cluster 1 - KH and employees' psychological, social, and behavioural dynamics. The first cluster (red) in our co-citation analysis ($n = 15$) centres on the intricate dynamics of KH within organisational settings. In particular, the majority of studies in this cluster examined the antecedents and consequences of KH. Key studies in this cluster examined the psychological and social factors influencing KH, such as organisational politics, leadership dynamics, task interdependence and territoriality (e.g. Connelly et al., 2019; Singh, 2019). Scholars have also highlighted the role of work design, psychological safety, and organisational cynicism in motivating or deterring KH behaviours (Gagné et al., 2019; Jiang et al., 2019). Moreover, this cluster includes studies related to psychological mechanisms from the perspective of knowledge hiders. In this regard, by delving into the emotional aftermath of KH, previous studies have suggested that feelings of guilt and shame drive different compensatory behaviours among employees (Burmeister et al., 2019). Collectively, these studies underscore the multifaceted nature of KH and its profound implications for organisational behaviour and

performance.

Cluster 2 - Theoretical Foundations and interpersonal relations in teams. Cluster 2 (green; $n = 14$) largely includes seminal studies of KH and foundational theories utilised in prior research, including social exchange and agency theories (e.g. Connelly et al., 2012; Cropanzano & Mitchell, 2005; Peng et al., 2013). Key studies in this cluster suggested that KH hampers creativity, creates distrust, and has varied impacts based on colleagues' perceptions (Černe et al., 2014; Connelly et al., 2012, 2015). Scholars have also highlighted an intricate link between KH and team creativity, revealing that absorptive capacity mediates this relationship, and task interdependence can mitigate the negative effects of KH (Fong et al., 2018). This cluster underscores the critical need for organisations to foster positive social exchange and open knowledge-sharing environments to enhance creativity and mitigate the adverse effects of KH on organisational dynamics and performance.

Cluster 3 - Negative Workplace dynamics and KH. Cluster 3 (blue; $n = 9$) examined the influence of negative workplace dynamics, such as abusive supervision, competitiveness, and workplace bullying, on KH behaviours. This cluster of studies suggests that abusive supervision and competitiveness increase KH, which consequently influences

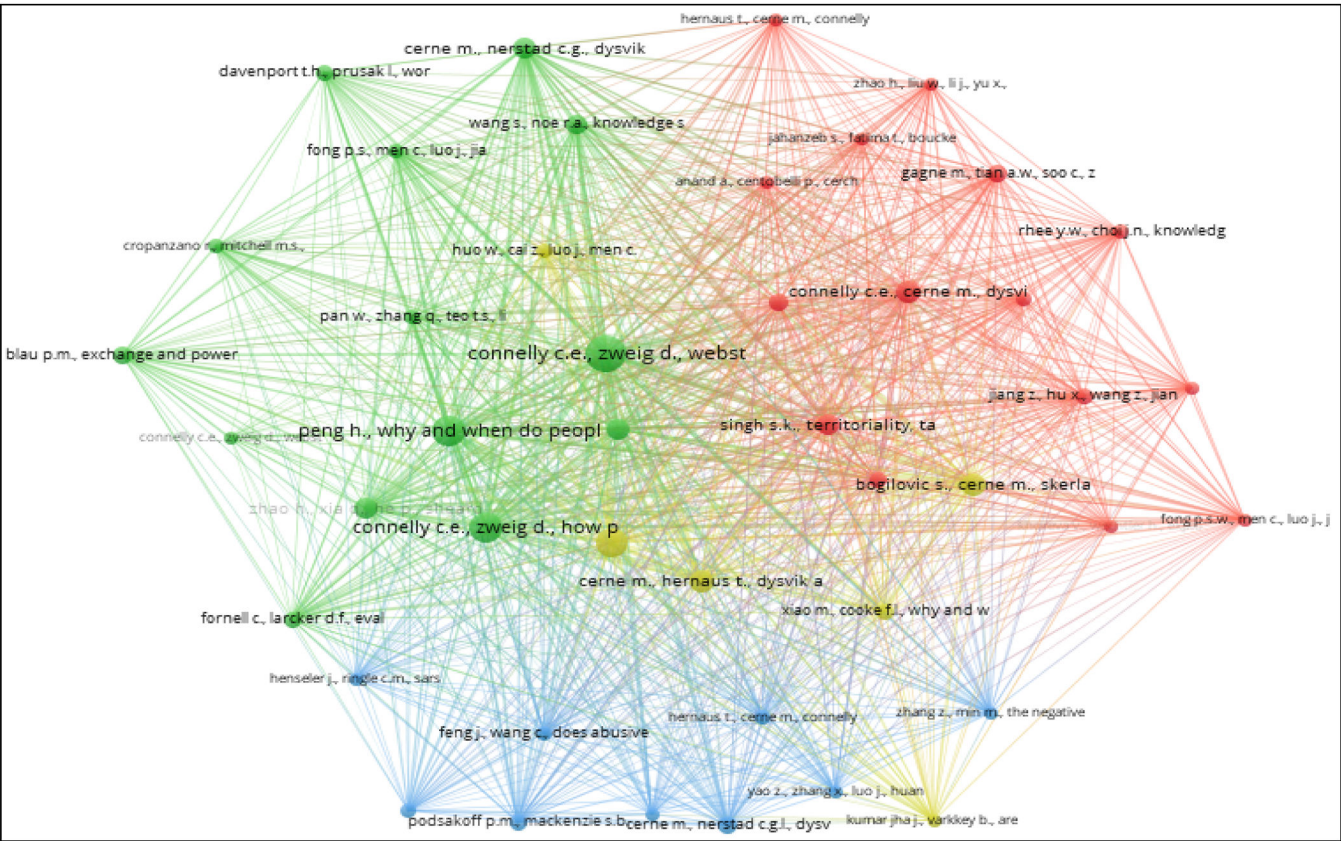


Fig. 5. Co-citation network.

employees' creativity and triggers distrust (Černe et al., 2014; Feng & Wang, 2019). These studies highlight the profound impact of negative workplace behaviours on KH and reveal the complex mechanisms and moderating factors that organisations must address to foster a more

collaborative and innovative environment.

Cluster 4 - Cultural and contextual influences. Cluster 4 (yellow; $n = 6$) focuses on the interplay between cultural and contextual dynamics and

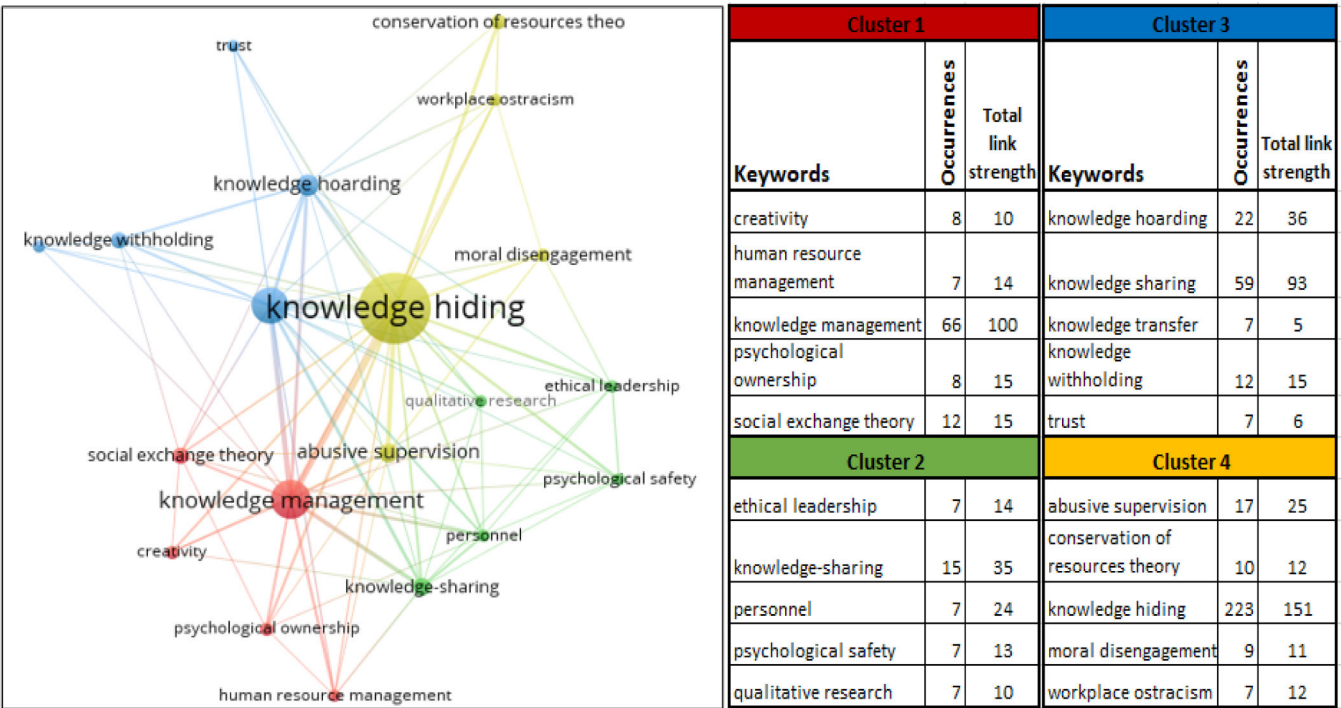


Fig. 6. Keyword co-occurrence network.

KH behaviour. The key interconnected studies in this cluster include those by [Serenko and Bontis \(2016\)](#), [Bogilovic et al. \(2017\)](#), and [Xiao and Cooke \(2019\)](#). This cluster includes studies examining the impact of cultural intelligence ([Bogilović et al., 2017](#)), team dynamics ([Černe et al., 2017](#)), and contextual settings such as the Chinese business environment ([Huo et al., 2016](#)) and Indian research and development professionals ([Kumar Jha & Varkkey, 2018](#)). This cluster highlights how KH varies across organisational and cultural contexts.

Keyword co-occurrence analysis (Network analysis)

Using the VOSviewer software, we performed a keyword co-occurrence analysis to identify key topics and their conceptual structures in KH scholarship. This analysis utilised all keywords (author keywords + index keywords), as they represent the study theme. [Fig. 6](#) shows the network of keyword co-occurrences and the top keywords used in KH research, along with their total link strength. Keyword co-occurrence occurs when two keywords appear simultaneously in an article, indicating a relationship between them ([Baker et al., 2020](#)). Based on the analysis, four key clusters were identified. Each cluster is represented by a different colour ([Fig. 6](#)) and signifies a thematic grouping based on keyword associations within the studied literature.

Cluster 1 (red) includes keywords like ‘knowledge management’ (66 occurrences, 100 link strength), ‘creativity’ (eight occurrences, 10 link strength), ‘human resource management’ (seven occurrences, 14 link strength), ‘psychological ownership’ (eight occurrences, 15 link strength), and ‘social exchange theory’ (12 occurrences, 15 link strength). This cluster highlights the integration of knowledge management with psychological and organisational theories to enhance creativity and human resource management effectiveness.

Cluster 2 (green) comprises keywords such as ‘ethical leadership’ (seven occurrences, 14 link strength), ‘knowledge-sharing’ (15 occurrences, 35 link strength), ‘personnel’ (seven occurrences, 24 link strength), ‘psychological safety’ (seven occurrences, 13 link strength), and ‘qualitative research’ (seven occurrences, 10 link strength). This cluster focuses on the role of leadership, psychological factors, and qualitative methodologies in promoting knowledge-sharing behaviours.

Cluster 3 (blue) features terms like ‘knowledge hoarding’ (22 occurrences, 36 link strength), ‘knowledge sharing’ (59 occurrences, 93 link strength), ‘knowledge transfer’ (seven occurrences, 5 link strength), ‘knowledge withholding’ (12 occurrences, 15 link strength), and ‘trust’ (seven occurrences, 6 link strength). This cluster emphasises the contrasting behaviours of knowledge sharing and hoarding and their implications for trust and knowledge transfer within organisations.

Cluster 4 (yellow) includes ‘abusive supervision’ (17 occurrences, 25 link strength), ‘conservation of resources theory’ (10 occurrences, 12

link strength), ‘knowledge hiding’ (223 occurrences, 151 link strength), ‘moral disengagement’ (nine occurrences, 11 link strength), and ‘workplace ostracism’ (seven occurrences, 12 link strengths). This cluster examines negative workplace behaviours and their impact on knowledge hiding, supported by theories such as the conservation of resources.

Thematic evolution and strategic map

The thematic evolution of KH research over the past two decades revealed significant shifts and expansions in the field ([Fig. 7](#)). From 2003 to 2008, the focus was predominantly on knowledge sharing (or non-sharing) within the broader context of knowledge management. This foundational period set the stage for more specific enquiries. Between 2009 and 2013, knowledge management continued to be a central theme, with increased attention being paid to knowledge-sharing practices. However, during this period, studies began to emerge in Asian countries, including China, Pakistan, and India. Subsequently, the period from 2014 to 2018 marked a critical transition as the concept of KH became more prominent. This period witnessed a shift from merely sharing (or not sharing) knowledge to understanding why individuals withhold information. Moreover, innovation and creativity have emerged as prominent themes because of their association with workplace knowledge dynamics. In the most recent period, from 2019 to 2023, KH became a crucial research focus, with related themes such as knowledge hoarding, moral disengagement, and workplace ostracism gaining prominence. Recent studies have extended this debate and explored the personal, psychological, and social factors that influence knowledge behaviours (e.g. distrust, personality traits, and interpersonal relationships). In this regard, conservation of resources and social exchange theories provided deeper insight into the personal and interpersonal mechanisms that drive these behaviours. The thematic evolution of the KH literature underscores the growing recognition of the multifaceted nature of knowledge processes and the importance of fostering an environment that mitigates KH and promotes innovation and collaboration.

[Fig. 8](#) presents a thematic map (aka; strategic map) that reveals the distinct classifications and trends in the field. The X-axis represents the centrality and significance of a theme while the Y-axis represents the density and internal strength of a cluster network. In this 2 × 2 strategic diagram, the lower right quadrant classifies the basic themes (i.e. general topics that are transversal to different research areas of the field); the lower left quadrant contains emerging or declining themes (i.e. novel topics, or weakly developed research areas); the upper left quadrant depicts the niche and isolated themes (i.e. themes with a specialised focus); and finally, the upper right quadrant identifies motor

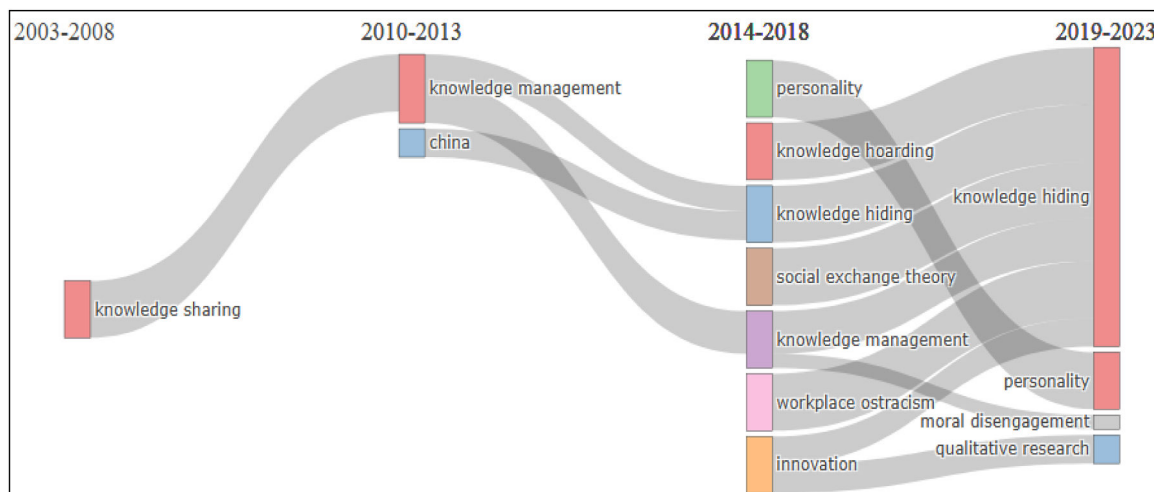


Fig. 7. Thematic evolution.

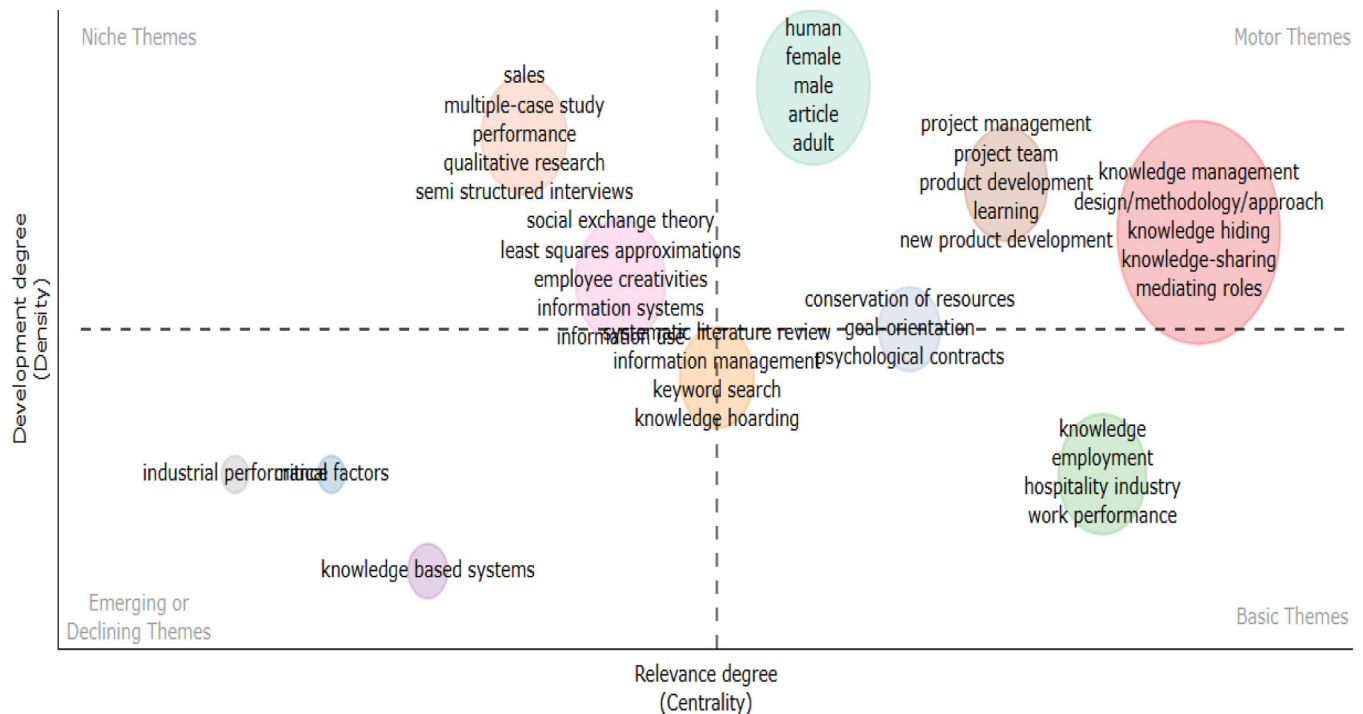


Fig. 8. Strategic map.

themes (i.e. key research areas, and well-developed themes).

Our results revealed that the basic themes such as 'knowledge', 'employment', 'hospitality industry', and 'work performance' form the foundational elements of KH research. These topics serve as critical entry points for understanding complex interactions. Second, we identified emerging or declining themes (e.g. knowledge-based systems and industrial performance) that are areas of fluctuating scholarly interest. These themes underscore the need for a shift in the focus or evolution of new subfields. Third, the motor themes crucial for driving the field forward include 'product development', 'project management', 'learning', and 'new product development', highlighting the importance of innovation and team dynamics in contemporary research. In addition, intrinsic factors such as 'intrinsic motivation', 'citizenship', and 'social behaviour' underscore the significance of human elements in knowledge processes. Finally, the niche themes, characterised by specialised focus areas, encompass 'social exchange theory', 'employee creativities', and 'social cognitive theory'. These themes provide deeper insight into the psychological and social dimensions of knowledge sharing and hiding. These themes are complemented by methodological approaches such as 'multiple-case study' and 'qualitative research', which facilitate nuanced explorations of these phenomena.

Literature synthesis and future research agenda: an ADO-TCM perspective

After evaluating KH research using quantitative bibliometric techniques, we performed an in-depth review of the selected studies to delineate the extant literature within the ADO-TCM framework (Paul et al., 2021). This section discusses the key antecedents, decisions, outcomes, theories, contexts, and methods to present a synthesis of the KH literature and suggests future research trajectories (Fig. 9). Below, we present our ADO-TCM analysis of KH literature at three levels: micro (personal), meso (interpersonal), and macro (organisational).

Antecedents (What do we know?)

Micro level

Micro-level antecedents mainly include personal, psychological, and job-related factors that explain KH behaviours in the workplace. Previous studies have examined job-related factors, suggesting that job autonomy is indispensable for knowledge sharing. Conversely, if the tasks are interdependent and conflicting, they are associated with KH (A. Anand et al., 2023; Gagné et al., 2019; Boz Semerci, 2019; Nguyen et al., 2022). Previous studies have also found that job insecurity may cause KH in the workplace (Kmieciak, 2023; Nguyen et al., 2022). That is, employees intentionally hide knowledge from others for job security and career prospects (Butt & Ahmad, 2019). At the same time, empirical evidence suggests no significant association between job insecurity and KH (Ali et al., 2021). Moreover, workplace status is associated with KH through two opposing mechanisms: status triggers a feeling of obligation to share knowledge, but it may also trigger feelings of being envied, leading to KH (Liu et al., 2020). Additionally, in their investigation of the linkage between knowledge management and creativity, Rhee and Choi (2017) examined the motivational processes underlying the choice of knowledge management behaviour at the individual level and highlighted three key aspects: i) learning goal orientation increases knowledge sharing and decreases knowledge manipulation, ii) avoiding goal orientation increases knowledge sharing and manipulation, and iii) proving goal orientation increases KH and manipulation.

The personal, psychological, and emotional factors of employees also shape their KH behaviours. Scholars have suggested that negative emotional and psychological factors, such as dark-triad (Pan et al., 2018), burnout (Ali et al., 2021), emotional fatigue (Cao, 2022), fear of negative evaluation (Butt & Ahmad, 2019), fear of negative comments (Khelladi et al., 2022), and envy (Peng et al., 2021; Weng et al., 2020) may increase KH behaviour. In addition, it was discovered that envy and jealousy stem from upward leader-member exchange social comparison (LMXSC) and lead to additional coworker-directed KH conduct (Weng et al., 2020; Li et al., 2022). Moreover, Guo et al. (2022) found an association between territorial feelings and two dimensions, playing dumb and evasive hiding, but not with rationalised hiding. In this line of



Fig. 9. ADO-TCM Framework of Knowledge Hiding Research.

research, several studies have also reported that employees' positive emotions and their intrinsic motivation play a crucial role in reducing KH behaviours (Butt, 2020). Drawing from the affective events lens, Xia et al. (2022) suggested that request politeness may evoke emotional experiences such as happiness (or anger), consequently associating negatively (or positively) with KH. They found a negative association between request politeness and anger, highlighting the mediating role of anger in the relationship between request politeness and KH.

Meso level

Meso-level antecedents are categorised as interpersonal-level dynamics in groups, teams, and leader-member exchange relationships. Previous studies have emphasised the significant role played by positive interpersonal relationships in knowledge management. For instance, the perceived support from co-workers (Batistic & Poell, 2022) and supervisors (Kmieciak, 2023) negatively impacts KH. In addition, collaborative learning (Xiong et al., 2021) and high-quality team member exchanges (Tan et al., 2022) also reduce KH behaviour. However, relationship conflicts within teams (Boz Semerci, 2019; Venz & Nesher Shoshan, 2022), power differentiation (Hays et al., 2022) amplify the likelihood of information concealment. Moreover, when the supervisor has dark personality traits (Soral et al., 2022), employees engages in KH mediated by low mattering perception and threatened job security,

Scholars have also highlighted that the trade-off between knowledge sharing and withholding is shaped by expectations of reciprocity and the perceived utility of knowledge exchange. According to Zhao et al. (2016), when employees experience workplace ostracism, they tend to engage in evasive hiding and playing-dumb behaviours. However, this relationship was not observed for rationalised hiding. Specifically, when employees held strong beliefs about negative reciprocity and moral disengagement, workplace ostracism was strongly linked to increased evasive hiding and playing dumb. However, if employees had low levels of either or both of these beliefs, workplace ostracism did not seem to affect their tendency to engage in these behaviours.

Macro level

At the macro level, previous studies have focused on examining the organisational-level antecedents of KH, such as organizational design (Oubrich et al., 2021), hierarchical structures (Almeida et al., 2022), injustice (Ali et al., 2024; Jahanzeb et al., 2020), incivility (A. Anand et al., 2023), and a competitive climate (Shrivastava et al., 2021). Additionally, existing studies have also emphasized the role of technology use (Zhang & Ji, 2023), social quality (Che et al., 2022), and business-family dynamics (Hadjielias et al., 2021) on KH practices. According to Abubakar et al. (2019), organisational injustice interacts with sentiments of psychological ownership, shaping knowledge concealment behaviour. Similarly, Jahanzeb et al. (2021) found that employees who encounter organisational injustice tend to psychologically disengage from their organisation, intensifying KH. However, employee behaviour is positive and they discourage KH when they perceive fairness in the workplace (Ali et al., 2024). Our literature review also revealed a significant impact of deliberately imposing a knowledge-sharing culture. Managers should prioritise enforcing knowledge-sharing practices among employees as a first step in cultivating a knowledge-embracing culture within their organisations instead of relying on other measures, such as encouraging, stimulating, and aligning incentives (Michailova & Husted, 2003). At the same time, empirical evidence suggests that lack of rewards, recognition, false perception, and lack of inventive motivations are major causes of KH (Pereira & Mohiya, 2021). However, ethical leadership (Ali et al., 2024; Men et al., 2020), employee-oriented HR practices (El-Kassar et al., 2022) and organizational justice (Oubrich et al., 2021) mitigate KH.

Existing research also suggests that internal and external competitiveness may lead to KH behaviour (Caputo et al., 2021). In addition, scholars have highlighted that a competitive psychological climate is positively related to KH. This relationship becomes weaker when there is

a high level of organisational justice and optimism (Han et al., 2021). Functional bias, misaligned incentives, dysfunctional resource allocations, and value incongruence are the four major root causes of KH and are important for unlocking the mystery climate in organisations (Shrivastava et al., 2021). Another study indicated that a significant factor contributing to an increased KH under extreme work pressure is individuals' belief that their careers must come before their personal lives (Sofyan et al., 2023). However, when competitive people also care about helping others, their paradoxical personality shows up less in evasive KH, especially when they feel that they can trust the situation (Hernaes & Cerne, 2022), and both perceived social support and perceived mastery climate reduce evasive KH through perceived status in the organisation (Wang et al., 2022).

Decisions (What do we know?)

Decisions serve as a pivotal link between antecedents and outcomes and, consequently, guide the actions that individuals may undertake. According to Connelly (2012), KH manifests mainly in three forms: (i) evasive hiding (e.g. deliberately providing incorrect or incomplete information when asked to share knowledge), (ii) playing dumb (e.g. pretending not to know the requested information), and (iii) rationalised hiding (e.g. providing reasons and justifications to avoid knowledge sharing, often citing legitimate-sounding reasons). However, each of these three types of KH has distinct drivers and consequences. Our review of extant literature suggests a predominant scholarly consensus on this three-component view. Our review discusses mediators and moderators as decisions that may shape the presence (or absence) of KH and its outcomes.

Micro level

At the micro level, several personal traits, psychological factors, and job-related factors mediate and moderate the relationship between antecedents and KH. In this regard, our review reveals the role of internal psychological mechanisms such as empathy, conscientiousness, and emotional exhaustion in shaping KH behaviours. For instance, emotional exhaustion links work alienation to KH; emotionally depleted individuals are more likely to hide their knowledge (Guo et al., 2022). Similarly, perceived role stress has emerged as a significant precursor of KH through pathways such as emotional exhaustion and job strain Zhao and Jiang (2022). Moreover, moral disengagement mediates the relationship between leaders' dark personality traits and bystander KH, indicating that leaders' behaviours can influence employees' moral justifications for hiding knowledge (Zhao et al., 2023). Moreover, scholars have also examined the mediating role of moral disengagement between (i) negative workplace gossip and KH (Khan et al., 2022), and (ii) ethical leadership and KH (Koay & Lim, 2022). Additionally, present bias and loss aversion have been linked to underinvestment in knowledge-sharing practices, which fosters a KH culture (Kim & Nguyen, 2023).

On the other hand, studies have also suggested various factors that may navigate the effects of KH. For instance, empathy negatively mediates the relationship between ICT use and KH, showing that employees with higher empathy are less likely to engage in knowledge hiding, even in digitally intensive environments (Zhang & Ji, 2023). Likewise, employees' personal motivation and goal orientation tend to reduce KH behaviours (Yang et al., 2023). The psychological safety felt by individuals within their work environment is also significant, as ethical leadership and psychological safety together mitigate KH behaviour (Men et al., 2020). Personality traits such as conscientiousness moderate the relationship between ethical leadership and KH. A recent study reported that individuals high in conscientiousness are more likely to engage in rationalised hiding but less likely to evade or play dumb (Ali et al., 2024). Moreover, Islamic work ethic serves as a valuable buffer, mitigating the impact of despotic leadership and abusive supervision on KH behaviours (Islam et al., 2021; Pour et al., 2024).

Meso level

Our review also suggested that at the *meso* level, KH is influenced by leadership styles, team dynamics, and interpersonal relationships. Leadership styles, especially ethical and transformational leadership, significantly impact KH behaviours through mediators such as psychological safety and organisational justice (Men et al., 2020; Oubrich et al., 2021). Ethical leadership reduces KH by creating environments in which team members feel safe sharing information (Men et al., 2020). On the other hand, psychological contract breach caused by abusive supervision may lead to employee silence. Workplace ostracism and abusive supervision are linked to evasive hiding and playing-dumb behaviours (Ayub et al., 2021; Zhao et al., 2016).

At the team level, KH is influenced by leadership style, team dynamics, and interpersonal relationships. Team member exchange (TMX) mediates the relationship between leadership behaviours and knowledge hiding, where high-quality exchanges reduce KH by fostering trust and safety within teams (Tan et al., 2022). Team task interdependence further moderates the influence of leadership on KH, where high task interdependence magnifies the negative effects of self-serving leadership on KH (Peng et al., 2019). Cultural and relational dynamics also shape team-level KH behaviour. For instance, guanxi closeness, a concept from Eastern cultures, mediates the relationship between negative workplace gossip and KH, showing that interpersonal relationships can either promote or suppress knowledge sharing depending on the cultural context (Cheng et al., 2023). Furthermore, team-level interventions such as fostering psychological safety and ethical leadership are effective strategies for mitigating knowledge hiding, enhancing collaboration, and improving overall team performance. Moreover, scholars have highlighted that psychological safety within teams (Jiang et al., 2019) and social support foster conducive work environments that enhance knowledge sharing and reduce KHB (Evans et al., 2015).

Macro level

At the macro level, workplace ethics, incivility, and cross-cultural dynamics shape KH's landscape within organisations. Workplace incivility triggers negative work engagement and turnover intentions, exacerbating KH behaviour among employees (Agarwal et al., 2024). Additionally, cross-cultural tightness influences KH, with employees in environments characterised by low pro-social drive and cultural tightness exhibiting heightened tendencies towards knowledge concealment (Babic et al., 2018). Power differentiation is also a critical macro-level moderator. In teams with high status differentiation, power imbalances exacerbate the negative effects of KH on team performance, whereas in teams with status equality, KH behaviour is reduced (Hays et al., 2022). Organisational cynicism further moderates the relationship between KH and psychological safety, in which a toxic work environment increases the negative effects of KH on both individual well-being and organisational performance (Jiang et al., 2019). Moreover, previous studies have suggested that KH climate negatively mediates the relationship between knowledge sharing and innovation, with firms experiencing diminished product innovation and overall performance in environments with KH (Haar et al., 2022). Leadership trust and organisational justice act as mediators with higher levels of perceived fairness and trust-reducing KH behaviours, particularly in hierarchical or competitive organisational cultures (Oubrich et al., 2021). When paired with leadership trust, high-performance work systems (HPWSs) further moderate the effects of organisational climate on KH, showing that a culture of transparency and fairness can mitigate knowledge hiding behaviours (Haar et al., 2022). Additionally, cultural intelligence is conducive to knowledge sharing and minimising KH tendencies (Bogilović et al., 2017).

Outcomes (What do we know?)

We also synthesised the outcomes/consequences of KH at the micro, *meso*, and macro levels. These outcomes serve as critical indicators of

their impact on individuals, teams, and organisations.

Micro level

At the micro level, the consequences of KH reverberate through individual behaviours and performance metrics. For instance, KH behaviour negatively impacts employee creativity (Bogilović et al., 2017; Černe et al., 2014; Rhee & Choi, 2017), extra-role behaviours (Alnaimi & Rjoub, 2021), and job performance indicators (Nguyen et al., 2022). Scholars have suggested that KH at workplace leads to employee silence mediated by psychological contract breach (Bari et al., 2020). In addition, previous studies have also highlighted the different effects of the different dimensions of KH. For instance, employees who engage in evasive hiding and playing dumb exhibit more OCB-I due to perceived moral credit loss, whereas rationalized hiding has no such effect (Pan et al., 2024). Likewise, another study revealed complex relationships between KH and OCB-I via guilt and shame (Burmeister et al., 2019). There also exist interesting scholarly evidence which suggested the negative correlations between evasive hiding and in-role job performance and positive correlations with innovative job performance; playing dumb exhibits a positive association with in-role job performance; and rationalized hiding was found to be positively associated with innovative job performance (Khoreva & Wechtler, 2020). Moreover, previous studies have also highlighted that the two dimensions of KH (i.e. evasive hiding and playing dumb) negatively impact employees' job satisfaction and increase their turnover intentions (Offergelt et al., 2019). Likewise, it was noted that evasive hiding and playing dumb negatively affect empowerment, whereas rationalized hiding has a positive effect (Offergelt et al., 2019).

Meso level

At the *meso* level, KH exerts detrimental impacts on interpersonal relationships within groups and teams, although certain forms of KH may paradoxically enhance colleagues' relationships (Connelly & Zweig, 2015). Organisations plagued by KH may face various challenges in team creativity (Bogilović et al., 2017; Fong et al., 2018; Peng et al., 2019), territoriality (Jafari-Sadeghi et al., 2022), and innovation behaviour (Yang et al., 2023). However, cultural intelligence moderates this relationship (Bogilović et al., 2017). Additionally, supervisors' distrust emerges as a pivotal mediator, linking supervisor KH to diminished organisation citizenship behaviour (Arain et al., 2020). In addition, leader's KH behaviour also affects subordinates KH, job satisfaction, and turnover intentions (Offergelt et al., 2019).

Macro level

Zooming out to the macro level, KH's ramifications manifest mainly in organisational performance and innovation (Haar et al., 2022; Duan et al., 2022). KH exerts a deleterious influence on organisational performance, inhibiting project team performance and individual novelty and creativity (Chatterjee et al., 2021; Donate et al., 2022; Garg et al., 2021). Evasive KH directly undermines dual innovation behaviour, impeding organisational adaptability and agility (Yang et al., 2023). Moreover, tacit and explicit KH behaviours have the negative impacts on individual innovation quality and knowledge flows while the inverted U-shape relation with firm's innovation quality (Duan et al., 2022). However, rationalized knowledge hiding can accelerate new product development in entrepreneurial firms (Xiong et al., 2021).

Theories (How do we know it?)

From the selected studies, we identified 43 theories. Commonly applied theories included social exchange theory ($n = 24$), conservation of resources theory ($n = 10$), psychological ownership theory ($n = 7$), and social learning theory ($n = 5$). We found that 63 studies used theories to guide their research on KH in organisations (see Table 6). Among these, 44 studies employed a single theory, 10 studies used two theories, and nine studies integrated three or more theories. These

Table 6

List of theories.

Articles	Theories	n Articles
With theory (n = 63)	Social exchange theory	24
Without theory (n = 13)	Conservation of resources theory	10
1 theory (n = 44)	Psychological ownership theory	7
2 theories (n = 10)	Social learning theory	5
3 theories (n = 09)	Social cognitive theory	2
	Social comparison theory	2
	Agency theory	2
	Social identity theory	2
	Social information processing theory	2
	Interdependence theory	2
	Theory of planned behaviour	2
	Norms of reciprocity theory	2

Note: Other theories that were utilised once in the selected studies include trait-activation theory, appraisal theory of empathy, backlash theory, classical leadership theory, emotion appraisal theory, expectancy motivation theory, goal orientation theory, information theory, contextual theory, coping theory, LMX, moral cleansing theory, optimal distinctiveness theory, self-determination theory, self-perception theory, social categorisation theory, social quality theory, social role theory, stakeholder theory, stewardship theory, theory of industrial symbiosis, status characteristics theory, and transformational leadership theory.

findings suggest that theoretical integration is a promising strategy for future research, as is evident from the current literature on KH. Moreover, we observed that few studies did not rely on any theory, including empirical studies (n = 6), non-empirical literature reviews (n = 5), and conceptual articles (n = 2). This indicates that publishing without depending on theories is feasible, but it is likely preferable to use theories to guide research, as their inclusion would strengthen the study's theoretical underpinnings.

Context (How do we know it?)

The research context refers to the industrial and or geographical conditions where it is conducted. According to Paul et al. (2017), context is related to the environment in which the research was conducted. This review focuses on two key contexts: the country and industry. Our bibliometric analysis suggests that the existing research on knowledge hiding (KH) has been predominantly conducted in the Asia-Pacific region. Approximately half of the articles included in this review were from the following five countries: China, Pakistan, India, Malaysia, and the UAE. China alone contributed to over 30 percent of the studies in this field. Approximately 38 percent of the studies were conducted in

Table 7

Contextual coverage of KH.

Context	n Articles	Populations/Industries	n Articles
China	24	Multiple industries	21
Multiple countries	7	IT firms	13
India	4	Students	7
Two countries	2	Manufacturing units	5
Germany	2	SMES	5
USA	2	Education sector	4
France	2	Financial institutions	3
Italy	2	Health sectors	3
Pakistan	2	Knowledge workers	3
Saudi Arabia	2	Hospitality industry	2
Spain	2	Online shopping stores	2
Non-empirical contexts	8	Telecommunication sector	2
		Transportation companies	2

Note: This table presents the geographical and industrial contexts of two or more studies. Other countries with one study include: Brazil, Canada, Croatia, Cyprus, Finland, Iran, Jordan, Lebanon, New Zealand, North America, Poland, Russia, Slovenia, South Korea, Turkey, the UAE, the UK, Greece, and Vietnam. Other industries/populations in one study: Ethnic communities, family frame, meat industry, guanxi culture, and forest services.

Europe (Table 7). Most of the selected studies involved a general sample comprising both domestic and international populations, and many studies did not specify the exact population. We also found that most previous studies focused on examining KH in multiple industries (n = 21). Moreover, 13 articles used IT firms, five articles used the manufacturing sector, and seven studies used students as key participants.

Methods (How do we know it?)

Our review of extant KH research indicates that prior studies have mostly utilised quantitative techniques (72 %), while few studies (n = 9; 12 %) have also used qualitative methods (interviews and case studies), conceptual frameworks (n = 2), and literature reviews (n = 6) (see Table 8). Although the application of mixed methods in empirical investigations provides a more robust understanding of this phenomenon, we found little evidence in the context of KH research (n = 3). Of the 68 empirical studies, most were cross-sectional (n = 64), and only few (n = 4) were longitudinal. The data analysis tools used in quantitative studies mainly rely on structural equation modelling, correlation and regression analyses, and ANOVA. As qualitative research can capture the evolution of knowledge addressing a specific issue or phenomenon, it is important for researchers in the KH domain to undertake more qualitative research.

Conclusion

This study aimed to provide a comprehensive review of KH literature. Therefore, a two-phase hybrid methodology was adopted. The first phase presents state-of-the-art research profiling through quantitative bibliometric analysis to provide a bird's eye view of the intellectual, social, and conceptual structure of this topic. In the second phase, this review employed a combination of ADO and TCM framework-based systematic review techniques (ADO-TCM) to provide a literature synthesis and future research agenda for KH. In this regard, this study reveals 'what do we know' and 'how do we know' and highlights 'where should we be heading' and 'how can we get there'. The development of the ADO-TCM framework for literature synthesis and proposal of future research trajectories are the key contributions of this review. Table 9 discusses the knowledge gaps and limitations in the current literature, followed by suggestions for future research directions. A key contribution of this study is the development of specific RQs to aid the future development of knowledge on this topic.

Using a combination of the TCM and ADO frameworks, this review presents comprehensive insight that will help scholars and future researchers take stock of existing knowledge and advance knowledge development in the field of knowledge hiding at work. The ADO framework presents an organised synthesis of previous studies and future research agendas as micro-, meso-, and macro-level antecedents, decisions, and outcomes. This analysis revealed the complex nature of

Table 8

Methodological choice of KH.

Methods	Techniques	# of Studies	%
Design	Quantitative Research	55	72 %
	Qualitative Research	09	12 %
	Conceptual	02	3 %
	Mix Method	03	4 %
	SLR	06	8 %
	QCA	01	1 %
	Total	76	100 %
Time Horizon	Cross-sectional	64	94 %
	Longitudinal	04	6 %
	Total	76	100 %
Setting	Local Culture	66	87 %
	Cross-cultural	10	13 %
	Total	76	100 %

Table 9

Future research agenda.

TCM-ADO Elements	Gaps and Limitations in Existing Research	Future Research Questions (FRQs)
Antecedents (Micro-level)	<ul style="list-style-type: none"> - Limited research on the association between positive/negative personality traits and KH in different contexts. - Insufficient understanding of the nuanced concept of 'mattering' in the context of the Dark Triad traits and subordinate KH behaviours. - Lack of exploration into the moderating effects of personality traits such as neuroticism and conscientiousness on the relationship between workplace incivility and KH. - Limited investigation into individual concerns like privacy and revenge attitudes as motivators for KH. - Insufficient understanding of how intensive ICT use, empathy, and failed attempts at technology usage impact KH behaviours. 	<ul style="list-style-type: none"> FRQ- How do positive and negative personality traits influence KH in various organisational contexts? FRQ- What role does the concept of 'mattering' play in the relationship between Dark Triad traits and KH? FRQ- How does neuroticism and conscientiousness moderate the relationship between workplace incivility and KH? FRQ- What are the impacts of privacy concerns and revenge attitudes on KH motivations? FRQ- How does technology usage interact with personal and psychological factors to influence KH or sharing behaviours?
Antecedents (Meso-level)	<ul style="list-style-type: none"> - Limited research on the association between interpersonal relationships and KH. - Insufficient understanding of how interpersonal justice, employee silence, and power dynamics influence KH behaviours. - Lack of exploration into the mediating role of interpersonal distrust between organisational justice and KH. - Limited investigation into the interplay between workplace incivility, organisational justice, and KH. - Insufficient understanding of the effects of negative reciprocity and disengagement on KH. 	<ul style="list-style-type: none"> FRQ- How does interpersonal and informational injustices as well as employee silence influence KH behaviours? FRQ- What is the role of distrusts and power dynamics in shaping KH behaviours in interpersonal relationships? FRQ- How do workplace incivility and organisational justice interact to influence KH behaviours? FRQ- What are the effects of negative reciprocity and disengagement on KH behaviours?
Antecedents (Macro-level)	<ul style="list-style-type: none"> - Limited research on the impact of organisational culture and environment on KH behaviours. - Insufficient understanding of how workplace bullying affects KH and organisational dynamics. - Lack of exploration into the effects of negative workplace gossip and organisational politics on KH behaviours. - Limited investigation into the impact of VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) and workplace status dynamics on KH motivations and behaviours - Insufficient understanding of how organisational environment factors like negative feedback, violence, deceiving behaviour, and internal competition contribute to KH. 	<ul style="list-style-type: none"> FRQ- How do organisational culture and environment influence KH, particularly in relation to workplace bullying? FRQ- How does negative feedback, violence, deceiving behaviour, and internal competition affects KH behaviours? FRQ- What are the impacts of negative workplace gossip and organisational politics on KH behaviours? FRQ- How does VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) and workplace status dynamics influence KH motivations and behaviours?
Decisions (Micro-level)	<ul style="list-style-type: none"> - Limited research on the moderating and mediating roles of perceived over-qualification 	<ul style="list-style-type: none"> FRQ- How do perceived over-qualification and ego depletion moderate and

Table 9 (continued)

TCM-ADO Elements	Gaps and Limitations in Existing Research	Future Research Questions (FRQs)
	<ul style="list-style-type: none"> and ego depletion in shaping KH behaviours. - Lack of understanding of the impact of feedback-seeking (vs. avoidance) behaviour and demographic variables on KH. - Insufficient exploration of gender dynamics in association with psychological contracts and KH - Limited research on the effects of resilience and transformational leadership on knowledge-sharing cultures and resilience in adverse organisational climates. - Dominance of 'evasive hiding', 'playing dumb', and 'rationalised hiding' dimensions without exploration of additional indicators of KH. 	<ul style="list-style-type: none"> mediate KH behaviours? FRQ- What is the impact of feedback-seeking (vs. avoidance) behaviour and demographic variables on KH? FRQ- How do gender dynamics influence psychological contracts and KH? FRQ- How do resilience and transformational leadership affect knowledge-sharing cultures and resilience in adverse organisational climates? FRQ- What additional indicators can delineate the presence and absence of KH within organisations?
Decisions (Meso-level)	<ul style="list-style-type: none"> Limited research on gender differences and interpersonal dynamics in relation to KH behaviours. - Insufficient understanding of the impact of employee silence and feedback avoidance behaviour on team-level dynamics. - Lack of exploration into the effects of psychological safety and interpersonal trust on KH behaviours. - Limited investigation into the role of interpersonal trust and relational identification in fostering knowledge-sharing environments. - Insufficient understanding of the moderating effects of psychological safety and interpersonal trust on KH behaviours. 	<ul style="list-style-type: none"> FRQ- How do gender, employee silence, and feedback avoidance behaviour influence KH at the team level? FRQ- What is the impact of psychological safety and interpersonal trust on KH behaviours? FRQ- How do interpersonal trust and relational identification moderate KH behaviours and foster knowledge sharing environments?
Decisions (Macro-level)	<ul style="list-style-type: none"> Limited research on the impact of organisational governance and support mechanisms on KH behaviours. - Insufficient understanding of the influence of knowledge governance structures, forgiveness climates, and HR practices on KH. - Lack of exploration into the interplay between data-driven capabilities, HRM practices, and KH. - Limited investigation into the role of HRM interventions and leadership trust in mitigating KH behaviours. - Insufficient understanding of how organisational support mechanisms can promote knowledge-sharing cultures and organisational resilience. 	<ul style="list-style-type: none"> FRQ- How do knowledge governance structures, forgiveness climates, and HR practices influence KH behaviours? FRQ- What is the interplay between data-driven capabilities, HRM practices, and KH, and how do they mitigate knowledge concealment? FRQ- How do organisational support mechanisms and HR practices mitigate KH behaviours?
Outcomes (Micro-level)	<ul style="list-style-type: none"> - Limited understanding of the phenomenon of future withholding and its implications for individual behaviours and organisational dynamics. - Insufficient exploration of the emotional dynamics, such as emotional arousal and 	<ul style="list-style-type: none"> FRQ- What are the implications of future withholding on individual behaviours and organisational dynamics? FRQ- How do emotions like guilt and shame impact KH behaviours and their outcomes?

(continued on next page)

Table 9 (continued)

TCM-ADO Elements	Gaps and Limitations in Existing Research	Future Research Questions (FRQs)
Outcomes (Meso-level)	responses to KH, and their differential impacts on constructive vs. destructive emotions. - Lack of research on the positive or negative impacts of KH on interpersonal relationships. - Insufficient understanding of the intersection of KH with workplace deviant behaviour and organisational politics. - Limited research on the impact of KH on team dynamics and employee loyalty. - Insufficient understanding of how KH behaviours influence perceptions of team loyalty and organisational commitment. - Lack of exploration into the mechanisms through which KH affects team cohesion, trust, collaborations, and performance. - Lack of exploration into the mechanisms through which KH affects team cohesion and performance.	FRQ- How do constructive emotions like guilt and destructive emotions like shame differentially impact KH and its outcomes? FRQ- How does KH intersect with workplace deviant behaviour and organisational politics? FRQ- What factors determine the positive or negative impacts of KH on interpersonal relationships? FRQ- Examine team dynamics and leadership practices in shaping perceptions of loyalty related to KH behaviours. FRQ- What role do team dynamics and leadership practices play in shaping perceptions of loyalty in relation to KH behaviours?
	- Limited research on the broader organisational implications of KH, particularly in relation to workplace deviant behaviour and organisational politics. - Insufficient understanding of the negative impact of KH behaviours on extra-role behaviour and the role of organisational support in mitigating its effects. - Limited investigation into the role of organisational support systems in promoting employee well-being and mitigating the adverse effects of KH. - Insufficient understanding of how KH behaviours influence organisational culture and overall workplace dynamics.	FRQ- How does KH interact with workplace deviant behaviour and organisational politics, and what are the implications for task performance? FRQ- What mechanisms link KH to work overload, and how can organisational support systems mitigate its effects? FRQ- What are the broader organisational implications of KH for task performance and workplace behaviour?
Outcomes (Macro-level)	- Heavy reliance on social exchange theory in KH research, with limited exploration of other theoretical perspectives. - Lack of application of system approaches, including complexity theory and configuration theory. - Limited understanding on the reasons/motivations behind KH through the lens of behavioural reasoning theory (BRT) - Limited development of new theoretical models of KH using these theories. - Insufficient investigation of the factors forming configurations for the presence or absence of KH using configuration theory. - Lack of exploration of the underlying reasons behind KH from a perpetrator perspective using behavioural reasoning theory.	FRQ- How can configurational and contingency approaches be applied to KH research? FRQ- What new theoretical models can be developed to explain KH behaviours using these theories? FRQ- What factors form configurations for the presence or absence of KH as per configuration theory? FRQ- What underlying reasons behind KH can be uncovered using behavioural reasoning theory?
Theories		

Table 9 (continued)

TCM-ADO Elements	Gaps and Limitations in Existing Research	Future Research Questions (FRQs)
Contexts	- Overrepresentation of the Asia-Pacific region and Europe in KH research, with limited representation of Africa, South America, and countries like Germany. - Lack of comparative studies on individual KH behaviours across different countries. - Limited exploration of the impact of religious beliefs and cultural differences on KH at individual, team, and organisational levels. - Insufficient understanding of the differences/similarities between collectivist and individualistic societies in approaching KH within organisations.	FRQ- How do KH behaviours vary across different countries and cultures? FRQ- What is the impact of religious beliefs and cultural differences on KH at various organisational levels? FRQ- How do collectivist (vs. individualistic) societies differ or align in their approach to KH within organisations? FRQ- What insight can be gained from studying KH behaviours in underrepresented regions such as Africa and South America?
Methods	- Heavy reliance on traditional statistical methods such as regression analysis, ANOVA, and factor analysis in KH research. - Limited use of qualitative research methods to bridge methodological gaps and understand KH in service provider settings. - Lack of diverse research approaches, such as multiphase methods and fuzzy set qualitative comparative analysis (fsQCA), in KH studies. - Insufficient longitudinal research to explain causal links between antecedents, decisions, and outcomes in KH. - Limited development of contextualised KH indicators aligned with the values of service providers.	FRQ- How can qualitative research methods enhance our understanding of KH in service provider settings? FRQ- What insight can fsQCA provide in understanding the multiple interventions for KH behaviours? FRQ- How can longitudinal research better explain the causal links between antecedents, decisions, and outcomes in KH? FRQ- What contextualised KH indicators can be developed to align with the values of service providers? FRQ- How can a deeper understanding of KH help managers develop appropriate interventions and strategies to manage it?

KH behaviours and various mediating or moderating factors that may influence or regulate their occurrence and effects across all three levels. In particular, by uncovering various individual, interpersonal, and organisational factors such as psychological safety, leadership styles, and organisational justice, this review sheds light on how and why KH occurs and its various impacts across different levels of analysis. Another theoretical contribution of this review is the application of the TCM framework to highlight the current trends and future perspectives on the theories, context, and methods used in KH research. Specifically, our review emphasises the need to utilise new theoretical lenses (e.g. complexity theory and configurational approaches) to uncover the complex interactions of the various factors that cause KH. In addition, our review highlights the underexplored contexts (geographical and industrial) and provides a rationale for further exploration of emerging topics, such as the role of digital technologies in navigating KH behaviours and how factors such as remote work environments, cultural diversity, and evolving workplace practices influence KH.

This study offers valuable insight for practitioners and managers in various industries. Managers can benefit from understanding the causes of KH (e.g. employee personality traits, team dynamics, leadership styles, and the organisational environment) to address this issue within their organisations. By addressing these causes, managers can foster a more open, collaborative, and knowledge-sharing culture within their organisation. It also emphasises the importance of understanding and addressing KH behaviour to foster employee support systems and

cultivate a positive organisational culture that values the workforce. Finally, insight into how the motivation and outcomes of KH differ across different KH strategies (such as playing dumb, evasive, and rationalised) provide guidance for practitioners by enabling them to navigate KH dynamics from the perspectives of both knowledge seekers and hiders, taking into consideration the work context and job characteristics. Organisations may gain insight from this review to enhance knowledge sharing and management efforts, ultimately contributing to their overall success and reputation.

This study has some limitations that should be considered when evaluating its implications. First, our selection of studies for inclusion in this review was based on a keyword search in two scientific databases: Scopus and Web of Science. There is a possibility of missing relevant studies for which our selected keywords were not used in their titles, abstracts, or keywords. Second, our review included only articles and review studies on this topic and excluded books, conference papers, essays, perspectives, and letters. Third, despite a thorough search for studies to be included in our review, it is possible that some relevant studies were missed because of the dynamic nature of the field of study and/or because they were published after December 2023. Finally, to develop the ADO-TCM framework in the second phase, we applied quality criteria, selecting only studies that were published in ABS 3-, 4-, and 4*-ranked journals. There is a possibility of missing key insights from other sources. Despite these limitations, this review serves as a knowledge base that provides both a quantitative and qualitative overview of the KH literature.

Ethics statement

This research ensures to maintain the anonymity of individuals and ensures no personal data or personally sensitive data are identifiable.

CRediT authorship contribution statement

Hafiz Muhammad Usman Khizar: Writing – review & editing, Visualization, Supervision, Software, Methodology, Data curation, Conceptualization. **Rashid Khurshid:** Writing – original draft, Investigation, Formal analysis. **Mohammed Al-Waqfi:** Writing – review & editing, Supervision, Data curation.

Declaration of competing interest

The authors declare that there is no financial and non-financial conflict of interest.

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