The Indonesian Journal of Computer Science
www.ijcs.net
Volume 14, Issue 1, February 2025
https://doi.org/10.33022/ijcs.v14i1.4648

Knowledge Management Strategies for Optimizing Help Desk Operations: A Systematic Literature Review

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Article Information

Received : 14 Jan 2025
Revised : 31 Jan 2025
Accepted : 24 Feb 2025

Keywords

Knowledge Management Strategy, Help Desk, Factors, Systematic Literature Review, PRISMA

Abstract

In today's digital era, effective knowledge management (KM) is vital for businesses, especially in public sector help desks where user interaction is critical. This systematic literature review (SLR) explores factors influencing KM implementation and identifies strategies to optimize help desk operations. Using PRISMA criteria and the PICO model, 25 studies from 2019 to 2024 were selected after screening 5,490 publications. Key factors impacting KM include organizational culture, leadership support, and technological infrastructure. Recommended strategies involve fostering a knowledge-sharing culture, developing knowledge bases, and utilizing AI for knowledge capture. The findings contribute theoretically by consolidating a framework for KM in help desks and practically by guiding public sector organizations. However, reliance on secondary data limits the study, as it may not fully reflect real-world KM practices. Future research could empirically validate these findings and explore emerging technologies like AI to enhance KM effectiveness.

A. Introduction

In the current digital era, information has become one of the most valuable assets for organizations. With the explosion of data and information, many businesses face significant challenges in effectively collecting, managing, and disseminating knowledge [1]. These challenges directly impact innovation, decision-making, and competitive advantages. Knowledge Management (KM) has emerged as a systematic approach that helps organizations capture, distribute, and leverage knowledge to create value [2].

Despite the increasing awareness of knowledge management's significance, many organizations still find it difficult to successfully apply it, especially in specialized areas like the help desk. The help desk or service desk is a critical point of interaction between an organization and its users or customers. Yet, without effective KM strategies, help desks often suffer from inefficiencies such as redundant problem-solving efforts, inconsistent service quality, and slow response times. In the public sector, the implementation of Knowledge Management (KM) systems is crucial for efficient service delivery. For instance, a study conducted at the Ministry of Finance in Indonesia highlighted how the Integrated Contact Center HAI (Help, Answer, Improve) was developed to address inefficiencies in service quality. However, the absence of a standardized knowledge management framework led to challenges such as redundant issue handling, slow response times, and difficulties in accessing relevant information, emphasizing the need for a structured KM strategy [3]. Similarly, a study on the evolution of a KM system within a large organization emphasized that without proper KM practices, help desks faced difficulties in codifying and reusing knowledge, leading to redundant problem-solving efforts and inconsistent service quality [4]. These problems are particularly urgent in the public sector, where help desks are essential for providing services to stakeholders and citizens, yet they are frequently hindered by antiquated procedures and insufficient methods for knowledge-sharing mechanisms [5].

In order to gather, examine, and pinpoint the elements that influence knowledge management in help desk operations, this study used a systematic literature review (SLR). The goal is to develop strategies for implementing effective knowledge management practices. The SLR methodology provides a structured approach to exploring and summarizing findings from previous studies on knowledge management in public sector organizations. This review will specifically focus on how knowledge management practices, particularly those related to help desks, service desks, and user services, can enhance service delivery and improve overall organizational performance.

This paper investigates the following research questions:

RQ1: What are the factors involved in implementing a knowledge management strategy in public sector help desks?

RQ2: What knowledge management strategies are recommended for public sector help desks?

This research contributes both academically and practically. Academically, it provides a consolidated framework for understanding KM practices in help desks,

an area that remains underexplored in KM literature. Practically, the findings will help organizations implement KM solutions that improve help desk efficiency and service quality.

While there have been numerous studies on KM implementation in private sector organizations, the application of KM in help desks is less documented. This review fills that gap by focusing specifically on help desks, offering insights into the current state of KM practices and proposing strategies tailored to their unique challenges and needs.

This systematic literature review is divided into several sections: a literature review, a description of the research methods, a presentation of the results and discussion, and a conclusion.

B. Literature Review

1. Knowledge Management

Making the required adjustments to optimize the utilization of knowledge resources is known as knowledge management (KM). Although knowledge management is also applicable to individuals, companies have just lately shown an interest in it. Knowledge management, or KM, is seen as an increasingly important area that promotes the creation, sharing, and application of an organization's knowledge [2].

Knowledge organization and accessibility are the main goals of knowledge management (KM), regardless of the location or time of demand. Knowledge that has already been acknowledged and expressed in some way has always been the focus of knowledge management. This includes details about procedures, techniques, best practice records, predictions, lessons learned, and solutions for recurring problems. Knowledge management today places more attention on managing important knowledge that may only be held by an organization's experts [2].

Knowledge management is strongly related to the concept of intellectual capital, which is often considered to be the most significant corporate resource. Intellectual capital is the sum of an organization's knowledge resources, whether they are located inside or outside the business. The three types of intellectual capital are human capital, which is the knowledge, skills, and abilities that every employee possesses; organizational capital, which is the institutionalized knowledge and codified experience found in databases, manuals, culture, systems, structures, and processes; and social capital, which is the knowledge embedded in interpersonal relationships and interactions. According to a recent study, leveraging knowledge management abilities and intellectual capital can improve a business's performance and encourage innovation [2].

2. Knowledge Management Strategy

Strategy is a set of steps aimed at achieving the organization's long-term goals in the future. With this strategy, the organization designs an action plan to drive initiatives and growth. In terms of knowledge management (KM), strategy enables organizations to create sustainable competitive advantages by adopting

KM methods that support and align with their main strategies. Additionally, strategy also serves as a guideline for KM investment and usage [6].

Knowledge management strategy is a series of processes and infrastructure used by organizations to manage and optimize the knowledge they possess. This strategy plays a role in improving performance, supporting new initiatives, increasing revenue, enhancing process efficiency, and boosting human resource capabilities [7]. The main focus of KM is to identify the organization's knowledge needs and evaluate the existing capabilities. Simply put, KM involves setting goals in knowledge management and establishing conditions that enable that knowledge to be applied effectively [8].

Knowledge management (KM) strategies serve as a guide to achieving organizational goals, with the primary focus on the application of KM within the organizational environment. There are three main approaches in KM strategy. First, a strategy that focuses on the creation and development of new knowledge. Second, a strategy that prioritizes the distribution and sharing of knowledge throughout the organization. Third, a strategy that aims to maintain and protect the knowledge held by the organization to keep it safe and secure [9].

3. Help desk

A help desk is defined as a resource for gathering user questions, processing them, and then providing responses [10]. Help desks are a crucial resource for providing IT support, serving as the primary point of contact for users experiencing issues. Speed and efficiency are key to effective help desk operations, and knowledge-based expert systems have emerged as a vital tool for achieving these objectives. These systems enable the collection and storage of information that can be readily accessed by multiple agents, minimizing information loss when agents leave the team and facilitating the application of knowledge from past cases to resolve current problems [10], [11], [12].

A knowledge management (KM) strategy is essential for ensuring the effective utilization of knowledge within help desk operations. KM in a help desk environment aims to maximize the availability of information and knowledge for the employees directly interacting with users seeking support. Defining a clear KM strategy ensures that the appropriate methods are chosen and implemented to support the diverse activities performed by service desk personnel [5].

C. Research Method

This study carried out a systematic literature review (SLR), making sure the publications accurately and consistently described the evidence by using strict, specific methodologies to collect and synthesize study findings that address a clearly defined subject [13]. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria and the PICO (Population, Intervention, Comparison, Outcome) model were used to screen the papers. PRISMA was applied to ensure transparency and rigor in the literature selection process, providing a structured approach for identifying, screening, and including relevant studies systematically. Its use helps to minimize bias and improve reproducibility in

systematic reviews [14]. Meanwhile, the PICO model was employed to formulate research questions in a structured manner, particularly within the SLR framework. By defining the key elements—Population, Intervention, Comparison, and Outcome—PICO aids in setting clear inclusion and exclusion criteria and guides the search strategy for relevant literature [15]. Figure 1 describes the process for performing a literature review.

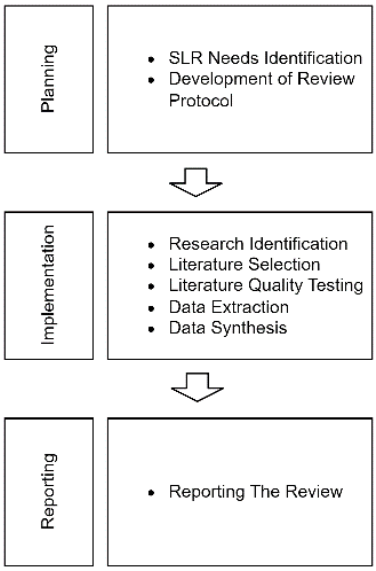

Figure 1. The Process for Performing A Literature Review

1. Planning

Creating the review methodology and determining the SLR needs are part of the planning phase. It is anticipated that this study would provide light on the variables involved in putting a knowledge management strategy into practice at public sector help desks. The PICO model's requirements for creating research questions are shown in Table 1.

Table 1. Structure of Research Question

Population	Factors of Knowledge Management Strategy Implementation
Intervention	Public Sector, especially related to help desk services
Control/Compare	N/A
Outcome	1. Factors of implementing knowledge management strategies in government 2. Recommendations for knowledge management strategies at the help desk

To find the expected outcome, we apply the SLR protocol as described in Table 2.

Table 2. SLR Protocol

SLR Protocol	Description
Sources searched	Emerald Insight, Scopus, ACM Digital Library, SpringerLink, Science Direct, ProQuest, and Taylor & Francis
Boolean search	"Knowledge" OR "KM" OR "Strategy" OR "Factor" AND ("help desk" OR

SLR Protocol	Description
	"Service Desk" OR "IT Support")
Inclusion	written in English, journals or conferences, and the focus of research related knowledge management implementation and strategy in help desk.
Exclusion	paper cannot be accessed, written non-English, and duplicated paper.
Quality assessment criteria	• contains a literature review, background, and research context • describe the proposed architecture or methodology used • clarity of research objectives • have research results • show relevant conclusions
Data extraction strategy	To extract each document, we utilize a form with some information on it, such as databases, year, Article type, title, keywords, research questions, factors affecting KM Implementation, strategies of KM, and research result.
Data synthesis strategy	In synthesizing data related to the implementation of knowledge management strategies in government, the approach used is the Data-Driven Approach, namely synthesis based on the papers found at the literature selection stage.

2. Implementation

Research Data collected during the implementation phase comes from reliable sources such as Emerald Insight, Scopus, ACM Digital Library, SpringerLink, Science Direct, ProQuest, and Taylor & Francis. In this study, articles published from January 2019 to September 2024 are systematically reviewed. The following inclusion requirements had to be fulfilled by the articles: (1) English-language articles; (2) journals or conferences; (3) full-text article accessibility; (4) articles discussing knowledge management and strategy in help desk.

To guarantee focus and relevance, the following exclusion criteria were strictly followed: (1) books and magazine articles; (2) systematic literature reviews (SLR); (3) duplicate articles; (4) articles without full-text accessibility; (5) non-English-language articles and; (6) articles unrelated to knowledge management and strategy in help desk.

The quality assessment includes five criteria: (1) contains a background, literature review, and research context, (2) describes the proposed architecture or methodology used, (3) clarity of research objectives, (4) has research results, and (5) shows relevant conclusions. Each article is assigned a score from 1 to 5, depending on how well it meets these criteria. Articles that fully satisfy all five criteria receive the highest scores, while those that only partially meet them receive lower scores. To ensure the inclusion of high-quality studies, only articles with a minimum score of 3 out of 5 are considered eligible for further analysis.

All of the paper's authors participated in this process, which also included an inter judge agreement process to assess the appropriateness, relevance, and acceptability of the chosen papers. The analytical tools of the various databases were used to pick the articles, which were then imported into Mendeley® for in-depth reading, comparison, and analysis. Figure 2 shows how the search strategy was carefully planned using the PRISMA Flow Diagram template [16].

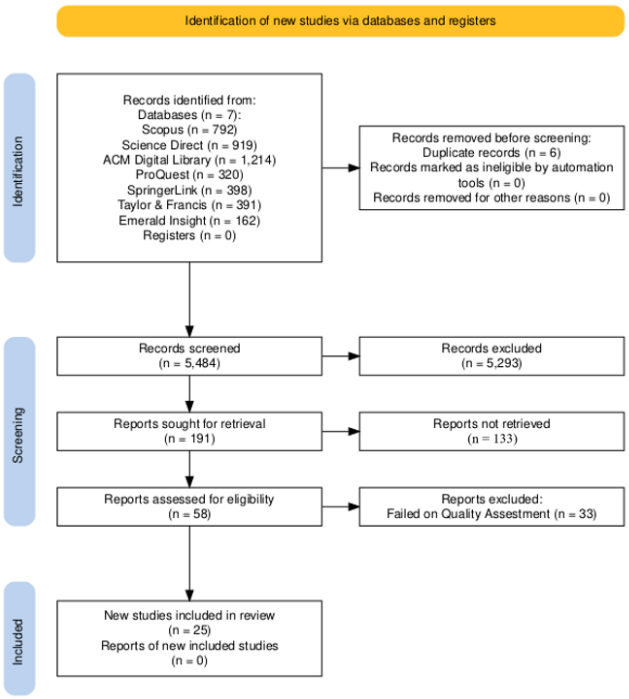

Figure 2. the PRISMA Flow Diagram template

A systematic review that began with a thorough search across seven databases yielded 5,490 items of literature, as shown in the flowchart. After removing 6 duplicates, 5,484 items were screened by title and abstract, resulting in 5,293 being excluded due to irrelevance to the research questions or poor alignment with the scope of the study. For example, many articles focused on generic IT systems rather than help desk-specific KM practices. Out of the 191 works of literature retrieved for full-text review, 133 were disqualified because the full texts were inaccessible or the content lacked depth on KM implementations. During the eligibility phase, 58 studies were subjected to quality assessment, which involved evaluating methodological rigor, relevance to public sector help desks, and the clarity of reported findings. Thirty-three of these studies failed to meet the quality criteria due to insufficient data or lack of focus on KM-related aspects, leaving 25 studies for final analysis. After 25 works of literature were chosen as shown in Table III, data extraction and synthesis were the next steps.

Table 3. Primary Studies After Quality Assessment

No	Sources	Articles	Total
1	Scopus	[5], [11], [17]	3
2	ACM Digital Library	[10], [12], [18], [19], [20]	5
3	Emerald Insight	[21], [22], [23], [24]	4
4	ScienceDirect		3
5	IEEE	[9], [25]	2
6	Proquest	[26], [27], [28], [29], [30], [31]	6

No	Sources	Articles	Total
7	Taylor & Francis		2
		Total	**25**

3. Reporting

The primary objective of the reporting stage was to use a Microsoft Excel template to extract and synthesize data from 25 carefully chosen publications. Essential information from each study, including databases, year, Article type, title, keywords, research questions, factors affecting KM Implementation, strategies of KM, and research results, were recorded in this template. Data synthesis used Data-Driven techniques.

As shown in Figure 3, the articles were gathered based on the distribution of the years. There are six articles from 2019, 2020 and 2022, three from 2021, two from 2023 and 2024.

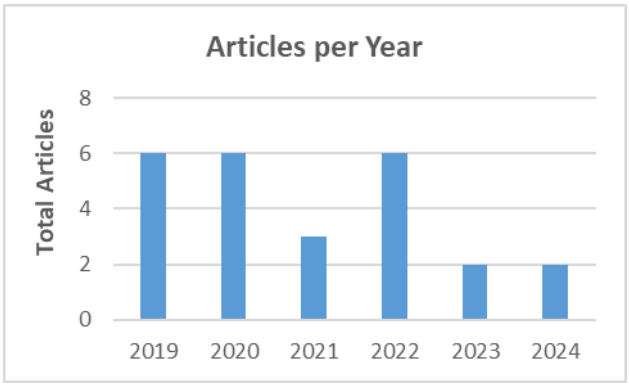

Figure 3. Articles by Year

In the meantime, Figure 4 shows the distribution of article acquisition by database source. The findings show that IEEE and Taylor & Francis had two articles, ACM had five, ProQuest had six, Scopus and Science Direct had three, and Emerald Insight had four.

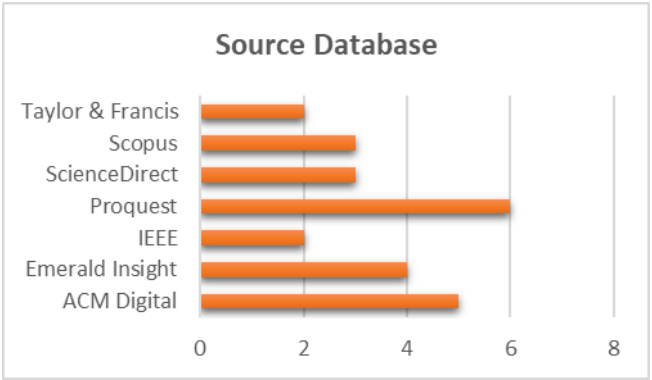

Figure 4. Source Database

Figure 5 shows previous studies in the literature have been conducted across various continents, with a notable distribution of research locations. Specifically, 4 studies were carried out in Africa, 2 in America, 8 in Asia, and 2 in Europe. Additionally, 9 studies did not specify their geographical context. This diverse range of research locations indicates a global interest in the subject, though some regions appear to be more prominently represented than others.

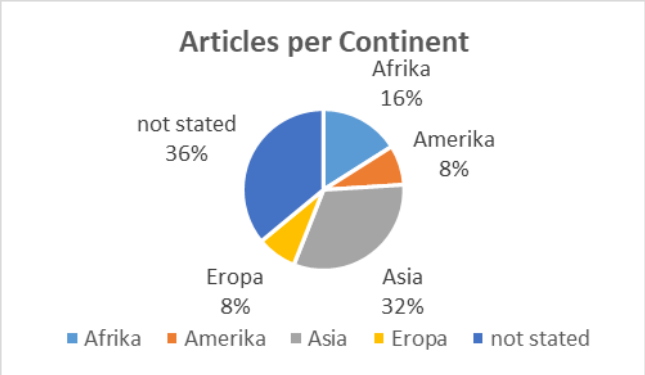

Figure 5. Articles by Continent

Several research methodologies are used, as shown in Figure 6. The widely used approach is qualitative and is mostly used to test the implementation model.

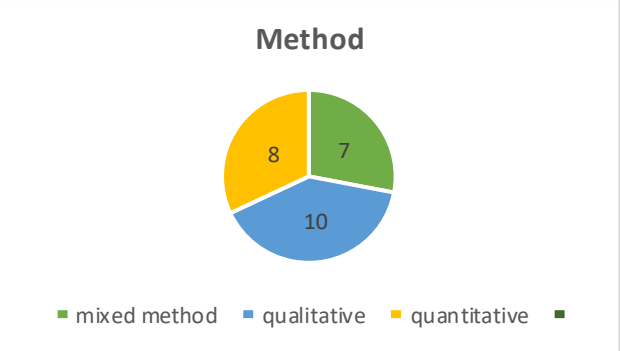

Figure 6. Articles by Method

The review's findings demonstrated the use of various models and frameworks across different studies, each tailored to address specific research objectives. Table IV presents a detailed summary of these findings. By mapping the function of each paper to the model it employed, the table provides a clear overview of how different approaches have been implemented in the literature, highlighting the diversity of methodologies used to tackle similar challenges.

Table 4. The Model Used In The Reference Paper Research

No	Research objectives	Model/Framework	Reference
1	Improve efficiency and effectiveness Helpdesk	Expert System and Fuzzy Logic	[10]

No	Research objectives	Model/Framework	Reference
2	Optimizing IT services using cognitive technologies	Semantic Analysis, Text Mining, Natural Language Processing (NLP), Machine Learning (Support Vector Machines), Virtual Agents, Expert Systems, Human-in-the-Loop	[11]
3	Focusing on knowledge acquisition, dissemination, and application	Dual-framework Approach: Combining models from Hansen et al. and Bierly and Chakrabart	[26]
4	Modeling Relationships Between ITSM and KM Concepts	Fuzzy Cognitive Map (FCM), Fuzzy Analytic Hierarchy Process (FAHP)	
5	Exploring factors affecting e-government adoption	Online Survey, Validity Assessments, Pathway Analysis	[21]
6	Exploring KM implementation	interpretivism research philosophy, survey questionnaire and personal Internet-based interviews, DATAtab	[32]
7	Identifying Knowledge Management Strategies in a Specific Organization	Applied Descriptive Study, Purposive Sampling, One-Sample T-tests, Kolmogorov-Smirnov Test	[33]
8	Integrating a knowledge base and developing a web platform	SDLC (Software Development Life Cycle)	[12]
9	Investigating KM in Public Sectors	Rasch Measurement Model, WINSTEPS software	[19]
10	Analyzing the Isaacus project and its impact on public sector knowledge management	Document Analysis, Semi-structured Interviews, Qualitative and Descriptive Analysis	
11	Improving practices in the Service Desk Environment	Literature-based Approach, Method Analysis	[5]
12	Understanding Knowledge Management Practices in the Public Sector	Inductive Approach, Purposive Sampling, Online Interviews, Thematic Analysis	
13	Evaluating the impact of KM Strategies	Structural Equation Modeling (SEM) and Confirmatory Factor Analysis (CFA)	[22]
14	Analyze and develop a Knowledge Management (KM) strategy	Zack Framework, SWOT analysis	[9]
15	Understanding the relationship between KM and organizational growth	Historical Case Studies Method, Thematic Analysis, Cross-Case Analysis	[23]
16	Automating IT Incident Management	Decision Trees, Naive Bayes, K-Nearest Neighbors, Support Vector Machines and Logistic Regression	[25]
17	Improving the onboarding process for service desk employees	Design Science Methodology, Expert Insights	[17]
18	Examining how teams manage disparate activities	Organizational Ambidexterity	[24]

No	Research objectives	Model/Framework	Reference
	simultaneously		
19	Knowledge-Centered Service (KCS) Methodology	Solve Loop and Evolve Loop	[20]
20	Analyzing Knowledge Management Practices	Literature Review, Qualitative Analysis, Case Studies, Comparative Analysis	[27]
21	Enhancing software user support	Case-Based Reasoning (CBR), search and learning techniques, recommender systems, LAVA model	[28]
22	Exploring factors impacting KM effectiveness	Literature Survey	[32]
23	Analyzing the relationships among social media, KM, and service quality.	Decision Tree (DT) Method	[29]
24	Investigating KM Strategies to Prevent Knowledge Loss	Case Study Design, Semi-structured Interviews, Data Triangulation, Thematic Analysis using ATLAS.ti version 9	[30]
25	Improving IT Service Desk Implementation	IDEAL Model	[31]

D. Result and Discussion

The outcomes of the data extraction and synthesis will be described in this section. The information will be utilized to address the research questions identified in this study. RQ 1 and RQ 2 are addressed in Table V. RQ 1 is answered in the "*Factor*" column of Table V, while RQ 2 is answered in the "*Strategies*" column of the same table.

A thorough synthesis of factors that involved in implementing a KM strategy in public sector help desks is provided in Table V, which is the outcome of the systematic literature review (SLR) research. It highlights how various elements, including Leadership Support, Organizational Culture, Organizational Structure, IT Support, Knowledge Base, Knowledge Capture, Knowledge Sharing, Knowledge Utilization, Industry Dynamics, User Characteristics, Government Regulations and Policies, Trust, Motivation, Choice of KM Strategy, Knowledge Loss Mitigation Strategies, are interrelated

Table 5. Factors and Strategy in Implementing A Knowledge Management Strategy in Help Desks

No	Factor Category	Factor (RQ 1)	Description of Factor	Indicators	Strategies (RQ 2)
1	Organizational	Leadership Support	Active engagement of organizational leaders in promoting, advocating for, and providing resources for KM initiatives [21].	1. Leaders allocate resources and budget for KM implementation . 2. Leaders actively participate in knowledge sharing activities [18]. 3. Leaders communicate the importance of KM to the organization [21].	1. Establish clear KM objectives that align with organizational goals [18]. 2. Develop a comprehensive KM strategy outlining implementation steps [23]. 3. Secure and demonstrate leadership commitment to foster a knowledge-sharing culture .
		Organizational	A workplace	1. Employees readily	1. Implement incentives

No	Factor Category	Factor (RQ 1)	Description of Factor	Indicators	Strategies (RQ 2)
		Culture [18],	environment that values knowledge sharing and collaboration among employees [18].	share their knowledge and expertise [10]. 2. Open communication channels facilitate knowledge flow [18]. 3. Collaboration is encouraged and rewarded .	and recognition programs to encourage knowledge sharing [18]. 2. Promote open communication and collaboration through team-building activities and communication platforms [17]. 3. Provide training on KM principles and practices to cultivate a knowledge-sharing mindset .
		Organizational Structure [19], [20], [26], [32]	The formal structure of the organization, which can facilitate or hinder knowledge flow and collaboration [19]	1. Flat organizational structures allow for easier knowledge sharing across levels [15]. 2. Dedicated KM roles or teams are responsible for managing KM initiatives [16]. 3. Cross-functional teams promote knowledge exchange between different departments [23].	1. Establish a dedicated KM team or assign KM responsibilities to specific roles [15]. 2. Implement cross-functional teams to break down silos and facilitate knowledge sharing [16]. 3. Consider restructuring towards flatter hierarchies to improve knowledge flow [23].
2	Technological	IT Support	Availability and effective utilization of appropriate technology to support various KM activities [24].	1. Presence of knowledge base systems for storing and retrieving knowledge [11]. 2. Use of text mining and AI techniques for automated knowledge discovery [10]. 3. Integration of social media platforms for knowledge sharing [29].	1. Implement a knowledge base system as a central repository for help desk knowledge [11]. 2. Utilize text mining and AI algorithms to analyze incident data and identify solutions [10]. 3. Integrate social media platforms to facilitate knowledge sharing and collaboration among help desk staff [24], [28].
		Knowledge Base	A centralized, easily accessible repository for storing and retrieving help desk knowledge, including solutions to common problems, troubleshooting guides, and FAQs [11].	1. Presence of a comprehensive and up-to-date knowledge base [11]. 2. Easy search and retrieval functionality for users [12]. 3. Regular updates and maintenance of the knowledge base .	1. Develop a comprehensive knowledge base populated with relevant help desk information [11]. 2. Design a user-friendly interface for easy navigation and knowledge retrieval [12]. 3. Establish a process for regular updates and maintenance of the knowledge base to

No	Factor Category	Factor (RQ 1)	Description of Factor	Indicators	Strategies (RQ 2)
					ensure accuracy and relevance .
3	Process-Related	Knowledge Capture	Effective mechanisms for capturing knowledge from various sources, such as incident reports, expert insights, and best practices [5].	1. Formal processes for documenting incident resolutions and best practices [12]. 2. Regular knowledge elicitation sessions with subject matter experts [17]. 3. Use of tools like screen recording, audio voice-overs, and keylogging to capture tacit knowledge [17].	1. Implement standardized procedures for documenting incident resolutions and best practices [12] 2. Conduct regular knowledge elicitation sessions with experienced staff [17] 3. Utilize technology to capture tacit knowledge, such as screen recording and expert walkthroughs [11], [17].
		Knowledge Sharing	Processes for disseminating knowledge among help desk staff and making it readily accessible to users [17], [18].	1. Regular knowledge sharing sessions or meetings [22]. 2. Use of communication platforms for knowledge dissemination . 3. Implementation of knowledge-centered service (KCS) principles [20]. 4. Development of training materials based on captured knowledge [17].	1. Establish regular knowledge sharing sessions or forums for staff to exchange information [22]. 2. Implement a knowledge-centered service (KCS) approach to encourage knowledge sharing during incident resolution [20]. 3. Develop and deliver training programs on KM and help desk procedures [5], [17].
		Knowledge Utilization	Effectively applying captured knowledge to solve incidents, improve service delivery, and enhance help desk operations [17], [20].	1. Increased first-call resolution rates [20]. 2. Development of self-service resources based on knowledge base content [11]. 3. Improved user satisfaction with help desk services[12].	1. Integrate the knowledge base into help desk workflows to facilitate knowledge access during incident resolution [20]. 2. Develop self-service resources like FAQs and troubleshooting guides based on knowledge base content [11]. 3. Track and analyze KM metrics to measure effectiveness and identify areas for improvement [20].
4	External	Industry Dynamics	The specific industry a help desk serves can influence the type of knowledge needed and the speed at which it becomes obsolete. Fast-	1. Rate of technological change in the industry [11]. 2. Complexity of products/services supported by the help desk[11]. 3. Frequency of updates and new	1. Develop a flexible KM strategy that adapts to the industry's pace of change . 2. Implement continuous learning programs to keep help desk staff updated on industry advancements . 3. Prioritize capturing

No	Factor Category	Factor (RQ 1)	Description of Factor	Indicators	Strategies (RQ 2)
			paced industries require more dynamic KM strategies .	releases [10].	knowledge related to frequent issues and new product/service releases .
		User Characteristics [10], [11], [28]	The demographics, technical proficiency, and knowledge-seeking behaviors of users impact the effectiveness of KM strategies [5], [10].	1. User demographics (age, tech savviness, etc.) [21]. 2. Preferred communication channels for seeking help [10]. 3. User feedback on knowledge base content [20].	1. Tailor knowledge resources and communication to user demographics and preferences [20]. 2. Offer multiple channels for accessing help desk support (phone, email, chat, self-service portal) [28]. 3. Gather and analyze user feedback to improve knowledge base content and usability [20].
		Government Regulations and Policies [21], [32]	Legal and regulatory frameworks related to data privacy and security can impact knowledge capture, storage, and sharing practices, especially in sensitive industries [21].	1. Presence of data protection laws . 2. Organizational policies on data confidentiality and access control [21].	1. Ensure KM practices comply with all relevant data privacy and security regulations . 2. Put access control and data encryption into practice to safeguard private data [21]. 3. Provide training to help desk staff on data handling policies and procedures .
5	Individual	Trust [19], [30]	Staff's belief in the accuracy and reliability of knowledge sources and processes is essential for knowledge sharing [19].	1. Staff willingness to use and contribute to the knowledge base [19]. 2. Openness to feedback and suggestions for improvement . 3. Perception of the knowledge base as a valuable resource [29].	1. Promote transparency in knowledge capture and validation processes [17]. 2. Recognize and reward employees who actively contribute to knowledge sharing [24]. 3. Ensure the knowledge base content is regularly reviewed and updated for accuracy and relevance .
		Motivation	Employees' willingness and enthusiasm to participate in KM initiatives is vital for success [19].	1. Active participation in knowledge sharing activities [24]. 2. Proactive contribution of new knowledge and insights [20]. 3. Enthusiasm for continuous learning and improvement [22].	1. Align KM goals with individual professional development objectives [22]. 2. Implement incentive and recognition programs for knowledge sharing contributions [18]. 3. Foster a positive work environment that values learning and knowledge creation [18].

No	Factor Category	Factor (RQ 1)	Description of Factor	Indicators	Strategies (RQ 2)
6	Strategic	Choice of KM Strategy	Different KM strategies exist, like codification and personalization. The optimal choice depends on factors like the type of knowledge, organizational structure, and growth stage [23].	1. Predominant type of knowledge used (tacit vs. explicit) [30]. 2. Organizational structure (centralized vs. decentralized) . 3. Organizational growth stage (startup, growth, maturity) [20], [23].	1. Conduct a thorough analysis of organizational needs and context to select the most suitable KM strategy [23]. 2. Consider a hybrid approach combining elements of different strategies [22]. 3. Regularly evaluate and adapt the KM strategy based on organizational changes and feedback [20].
		Knowledge Loss Mitigation Strategies [30]	Knowledge loss can occur due to factors like employee turnover and retirement [30].	1. Formal knowledge transfer processes during employee transitions [30]. 2. Mentorship programs to connect experienced staff with new hires . 3. Documentation of critical knowledge held by key personnel [30].	1. Establish formal processes for capturing knowledge from departing employees [30]. 2. Establish mentorship programs to help new hires and seasoned employees share information . 3. Develop knowledge retention strategies to preserve valuable organizational knowledge [30].

E. Conclusion

In conclusion, this systematic literature review has successfully identified key factors and strategies for implementing effective knowledge management (KM) in help desk operations within public sector organizations, addressing the research objectives. The findings underscore the significance of leadership support, organizational culture, technological infrastructure, and knowledge-sharing processes as essential components for the successful implementation of KM initiatives. These elements were consistently highlighted across the literature as pivotal in enhancing the performance and effectiveness of help desks.

Review consolidates and analyzes research on KM in public sector help desks, providing a clearer understanding of the key factors influencing KM effectiveness. It also addresses a gap in the literature by offering a structured framework that future researchers can use to study KM practices in different contexts.

From a practical perspective, the review offers actionable strategies for public sector organizations aiming to optimize their help desk services. A notable example includes the Ministry of Finance in Indonesia, which implemented the Integrated Contact Center HAI (Help, Answer, Improve) system to streamline knowledge sharing and reduce redundancies in problem-solving. This practical implementation demonstrates how structured KM systems can improve response

times, enhance service quality, and increase overall organizational efficiency. Key recommendations include fostering a knowledge-sharing culture, implementing knowledge bases, and leveraging technology to efficiently capture and disseminate knowledge. These strategies can enhance the operational efficiency of help desks, reduce response times, and improve overall service quality, ultimately leading to better organizational performance.

However, the review has limitations. It relies on available literature, which may not fully represent KM practices across all organizations. Additionally, the use of secondary data limits the depth of analysis that could be achieved through primary research, such as interviews or case studies.

Future research could validate these findings through empirical studies in various settings. Exploring the role of emerging technologies like machine learning and artificial intelligence (AI) in KM and developing quantitative models to measure KM's impact on organizational performance in public sector help desks, would be valuable areas for further study.

F. Acknowledgment

This research was supported by the Directorate General of Treasury, which provided me the opportunity to pursue my studies, and by the Indonesia Endowment Fund for Education Agency, whose financial assistance made this educational journey possible.

G. References

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