Determinants of Work Engagement in the Public Sector: A Systematic Literature Review and Future Research Agenda

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Authors' contributions

This research was conducted collaboratively by all authors. Author IMD designed the study, performed statistical analyses, developed the protocol, and drafted the initial manuscript. Authors IGR, MSP and IGAMD provided valuable insights and guidance in the research context, contributed to the analysis, and managed the literature search in accordance with the SLR approach. All authors reviewed and approved the final manuscript.

Systematic Review Article

ABSTRACT

Aims: This systematic literature review describes recent research on factors determining work engagement, especially within the public sector, and explores possible agendas for upcoming studies.
Methodology: This systematic literature review includes 30 articles published from 2000 to 2023, indexed in Scopus Q1. The databases accessed include API Key Scopus from Harzing's Publish or Perish, Science Direct, and Emerald. Articles were chosen according to predefined inclusion and exclusion criteria to analyze and synthesize information to achieve the research objectives.

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Findings: Factors influencing work engagement among public sector employees include job/task-related, individual/personal, and organizational/contextual factors. Leadership factors are also essential for enhancing work engagement across different sectors. Regardless, only a few pieces of literature published in Q1-indexed journals have investigated how leadership influences work engagement.

Research Limitations/Implications: This study highlights the contributions and analyses of several research articles focused on public-sector work engagement. Nevertheless, the sources reviewed are limited in scope. Additionally, identifying research areas that require further exploration can offer a more thorough insight into this topic.

Originality/Value: This research seeks to clarify the development of studies on the public sector that focus on the factors affecting work engagement. It highlights a partial understanding of factors from the perspectives of researchers and the public sector. This study can contribute to the in-depth understanding of public sector research on the determinants of work engagement, thus offering valuable insights for future research.

1. INTRODUCTION

Public sector organizations' services and performance represent a country's image. Therefore, employees with high work engagement are needed to meet society's increasing expectations for public services in various countries. High work engagement is needed in public sector organizations [1]. According to [2] work engagement is a crucial element that significantly enhances organizational performance within the public sector. Work engagement, initially termed "personal engagement" by [3], indicates that employees are deeply committed to their work and influenced by their experiences. This concept gained prominence and spurred the development of various definitions, concepts, measurement techniques, and theories [4]. Employee engagement and work engagement differ slightly, but researchers in this domain generally use the two terms interchangeably. Moreover, most of them use similar measurement tools to assess this phenomenon. Research on work engagement has extensively identified causal factors and their positive impact on organizations, but studies specifically focusing on the public sector are limited, resulting in relatively sparse literature on work engagement in this context [5].

Thorough research on the factors impacting work engagement will deepen our comprehension of this phenomenon. Researchers and practitioners focusing on public sector organizations must identify additional factors influencing work engagement to gain a thorough understanding. Public sector entities play a vital role as service providers to the community. Hence, work engagement management in this sector has great significance. Work engagement can be a major factor in improving public organizations' overall performance and success in providing quality services to the public. Therefore, understanding the factors influencing work engagement and focusing on the public sector is crucial for developing effective management strategies that enhance overall organizational performance and achievements.

There are limited Q1-category journals that focus on the factors influencing employee work engagement, particularly within the public sector. Current research often provides general analyses encompassing both public and private sectors, needing a more focused, in-depth examination of the public sector alone. There remains an urgent need for targeted research to address problems and phenomena in the public sector related to factors influencing employee work engagement.

This systematic literature review focuses on public sector articles that discuss work engagement. It includes an introduction, methodology, and discussion of research advances within public sector organizations addressing work engagement determinants. Organizations owned and managed by the government, referred to in this study as the "public sector," are established to meet citizens' needs. Public sector entities provide a variety of services, including health care, legal services, education, water management, security, and infrastructure, aimed at improving public welfare, ensuring security, and facilitating the stable functioning of society and the domestic economy. Finally, the study concludes by summarizing findings, examining implications, and suggesting future research considerations.

1.1 Work Engagement Previous Research that Focuses on Public Sector Organization

Despite the topic's significance, systematic research reviews on work engagement are infrequent. The need for more reviews or meta-analyses addressing work engagement within a sector-based framework was noted by [6]. Differences in engagement levels are attributed to varying demographic and occupational factors. [7] noted these observations, even though similar factors drive engagement across different organizations. As a result, both public and private sector organizations need to identify the aspects that improve work engagement to meet their purposes. In a meta-analysis, [8] discovered that the relationship between work-related attitudes and work engagement is more significant in the public sector compared to the private sector. These highlight the importance of further research focusing on public sector organizations to bridge this gap and develop a deeper understanding of work engagement.

Work engagement was characterized by [9] in their exploratory research as a favorable psychological state in which employees exhibit commitment, enthusiasm, and dedication. Empirical studies have identified various factors influencing work engagement across different sectors. However, literature reviews are scarce, specifically those that address work engagement in the public sector, especially those published in top-tier journals. Understanding these factors can help public sector organizations develop more effective strategies to enhance work engagement, improving overall organizational performance and public service delivery. This systematic literature review explores the public sector, primarily focusing on the key factors influencing work engagement.

2. METHODS

This literature review adopts a narrative approach, incorporating methods from systematic literature reviews and meta-analyses typically employed in medical research [10]. Unlike medical and technical research, management research is characterized by its ongoing development and evolving research agenda [11]. Acording to [12], Systematic literature reviews are instrumental in understanding the progression of research on a specific topic by gathering a comprehensive collection of relevant studies, irrespective of their publication source. Five stages structure the process of reviewing literature: first, formulating research questions that align with the study's objectives; second, identifying research sources from journal databases; third, relevant journals should be selected based on predefined inclusion and exclusion criteria; fourth, the selected studies should be examined and integrated while assessing their relevance; and fifth, the literature review findings should be reported to facilitate further research on related topics **(**Fig. 1.).

Step 1: Formulation critical question (determine the central objective question of the systematic literature review): This literature review examines articles on the public sector published from 2000 to 2023, specifically focusing on work engagement. It focuses on the variables and theories related to work engagement in this sector to identify research gaps and propose relevant determinants for the current context. This literature review aims to:

1. Examine the evolution of research on the public sector from 2000 to 2023, focusing on the determinants of work engagement.
2. Determine the variables developed by researchers in the public sector that impact work engagement.
3. Explore which theories could be developed to fill the research gaps concerning work engagement within the public sector.

Step 2: Define the place: In this phase, the stages first identify relevant databases, select an appropriate search engine, and determine keywords for the literature review [11]. This study collects literature in the public sector focused on work engagement from Science Direct and Emerald Insight, along with the Scopus API key from Harzing Publish or Perish search engines.

Step 3: Selection and evaluation of studies: Article that met the inclusion criteria were used further, and excluded articles were excluded from further review (Fig. 2). Details of the criteria used in this study are presented in (Table 1). Various articles were identified from the restricted sources using search terms such as "work engagement" and "public sector work engagement" in their titles and keywords. Conference proceedings were excluded, and some identified articles were disregarded if they did not meet the predefined criteria.
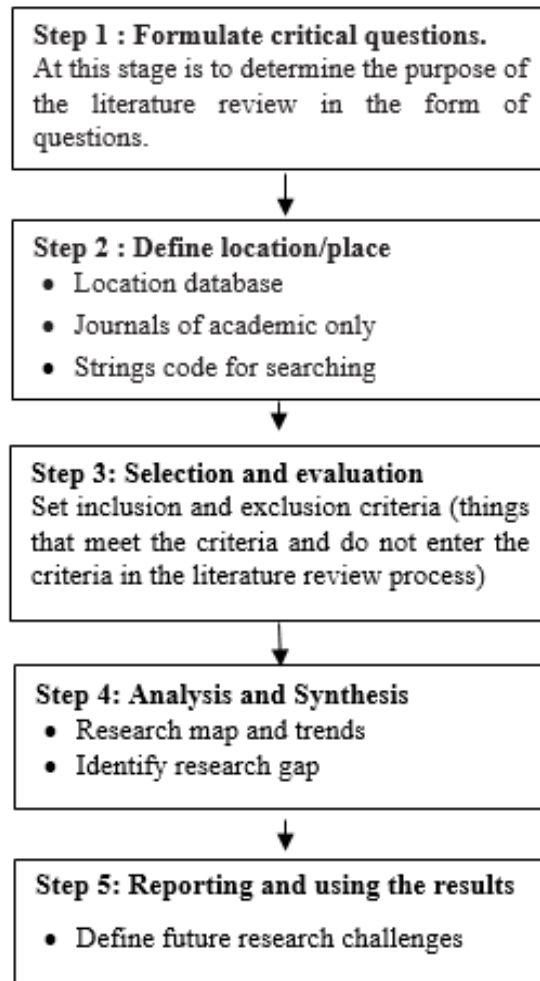
Step 1 : Formulate critical questions.
At this stage is to determine the purpose of the literature review in the form of questions.

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Step 2 : Define location/place
- Location database
- Journals of academic only
- Strings code for searching

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Step 3: Selection and evaluation
Set inclusion and exclusion criteria (things that meet the criteria and do not enter the criteria in the literature review process)

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Step 4: Analysis and Synthesis
- Research map and trends
- Identify research gap

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Step 5: Reporting and using the results
- Define future research challenges

Fig. 1. Systematic literature review roadmap
Source(s): Adapted from [11]

According to the established search criteria, 193 articles were gathered. However, 18 had duplicate titles, bringing the total to 175 articles. Only those indexed as Q1 were selected, excluding 82 articles and leaving 93. Of these 93 articles, due to their irrelevance to the public sector context focusing on work engagement, 63 were excluded, producing a sample of 30 articles for analysis. The final step involved reporting the findings from these articles focused on the public sector to investigate the factors influencing work engagement and identify areas for further research (Fig. 2).

Step 4: Analysis and synthesis of retrieved articles: The analysis stage endeavors to interpret individual research endeavors, dissect them into distinct elements, and establish relationships among these elements [11]. After the analysis, synthesis connects the factors identified in each study. This research focuses on the public sector, identifies key factors influencing work engagement, and proposes potential new determinants.

The analysis begins by pinpointing key factors in the public sector that influence work engagement and investigating how these factors evolve according to existing research. Data is presented in tables and graphs to illustrate the changes in these determinants. The literature trends identify the most frequently studied determinants and the theoretical frameworks employed, allowing for their further development and relevance to current conditions. The main goals are to identify the factors and limitations affecting work engagement among public sector employees and to uncover gaps in previous research to guide future studies.
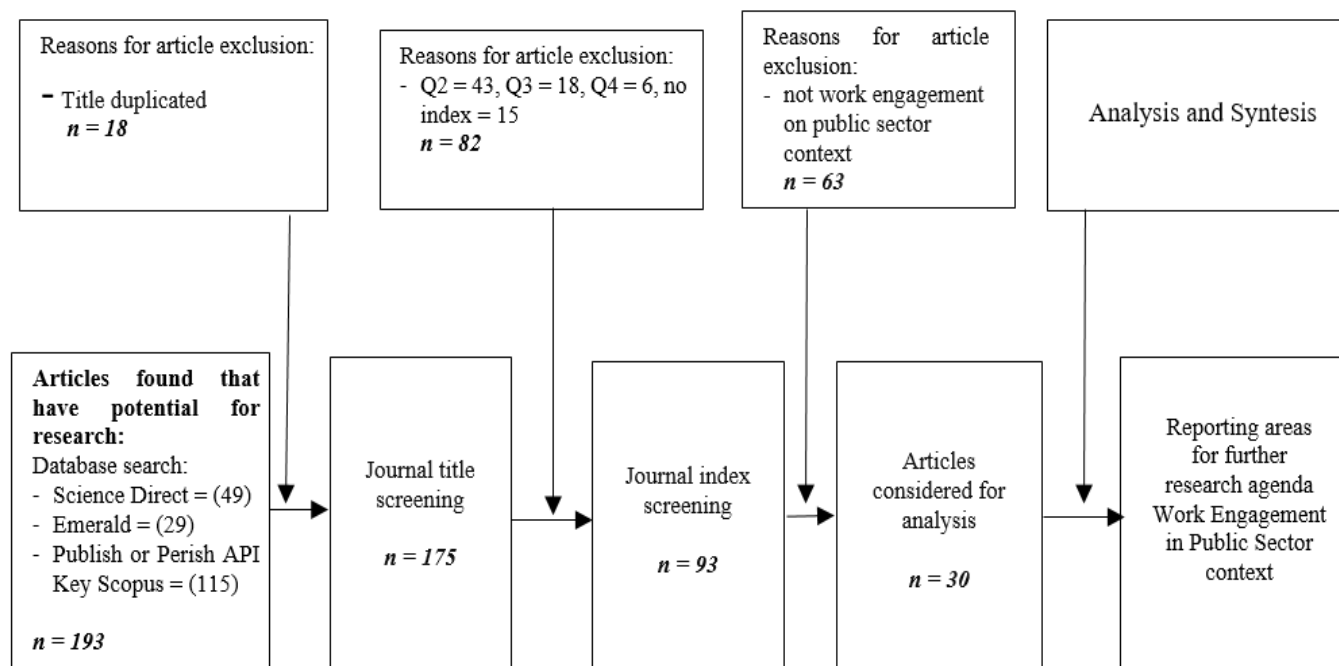
Fig. 2. A systematic process for selecting, analyzing, and reporting articles

Table 1. Criteria for including and excluding selected articles

Inclusion criteria	Exclusion criteria
" Articles with a Scopus Q1 rating published from 2000 to 2023 in academic journals.	Studies conducted and published before 2000 and Articles that rank below Q1.
Journals are chosen based on the study's subject matter.	Journals not relevant to the study's subject matter.
Only discusses employee work engagement in the public sector. With quantitative methods	Methods other than quantitative
Abstract and title containing the keywords work engagement, 'public sector."	Abstracts that do not contain the keywords work engagement, public sector."

Step 5: Reporting: The methods utilized in the review are recorded, and the study findings are comprehensively presented in the final stage of the literature review [11]. This report assesses the progress in research related to variables affecting the work engagement of public sector employees, serving as a reference for developing a conceptual framework for future research.

3. RESULTS

In the literature review, the analyzed articles are empirical studies examining work engagement among public sector employees. As shown in Table 2., research aims to pinpoint the factors influencing work engagement in this group. Most researchers connect public sector employees' work engagement to various variables, typically categorized into three main groups: job/task-related factors including job demands, job resources, work-family conflict, job crafting, workload, job control, job change, role conflict, role ambiguity, innovative work behavior; individual/personal factors such as public service motivation, autonomy, personal resources, mindfulness, honest mistakes, psychopathy, self-efficacy; as organizational/contextual factors include supervisor support, psychological safety, change management practices, cutbacks, coworker support, organizational support for development, support for innovation, and perceived organizational support. Leadership factors were also found but were limited to transformational, ethical, laissez-faire, transactional, spiritual, and authentic.

Contemporary research in the public sector heavily relies on several critical theories to clarify the factors influencing work engagement. These theories encompass the Job Demands-Resources Theory, which investigates how the balance between job demands and resources affects work engagement; the Social Exchange Theory, which looks into the reciprocal relationships and interactions between employees and their organizations; and the Conservation of Resources Theory, which explores how the acquisition and loss of valuable resources impact work engagement. Apart from that, various other theories are applied in research on public sector employees who conduct work engagement research, including leadership theory and self-concept-based theory, theory of purposeful work behavior, Bandura's social cognitive theory, and regulatory focus theory. Studies have yet to be found that combine the theory of job demands and resources with leadership theory. Thus, future

research might investigate the public sector by examining how factors affecting work engagement can be comprehended by integrating the Theory of Job Demands-Resources as the primary framework and Leadership Theory as a supplementary framework.

3.1 Descriptive Analysis

The study's final sample consisted of 30 articles from 25 distinct journals. Table 3 presents a summary of their distribution, classifying the journals by discipline as per the 2024 Scimago Journal Rank. International Journal of Productivity and Performance Management emerged as the leading source, providing three articles that represent 10% of the overall sample. Dedicated to high-quality research, the journal publishes articles that explore various aspects of productivity and performance management. This includes empirical studies, developmental work, and practical applications across industrial sectors. These include productivity improvement strategies, human resource management, innovation in work processes, performance assessment, and analysis of factors influencing organizational and individual effectiveness. All publications (100%) were published in leading journals with the Q1 index.

Since 2000, research in the public sector of organizations focusing on work engagement has continued to progress. As of 2023, the 11 articles on this subject reflect continuing research interest in the public sector, particularly regarding work engagement. From 2000 to 2023, 30 articles met the standards for inclusion in a systematic literature review, indicating growth compared to prior years (Fig. 3). The publication of these articles occurred in various academic journals, which differ in scope and focus (Fig. 4). The distribution of articles across the journals used in this study highlights the diversity of research distributed and publication trends in this field.

4. DISCUSSION

Research themes in the public sector centered on work engagement have received significant attention from researchers expanding the literature. Work engagement is vital for public sector organizations' performance and service delivery. Employees with high work engagement are crucial in meeting the increasingly high public expectations regarding services in various countries. Considering that the services and

performance of public sector organizations reflect the nation's image, it is very important to maintain and employee work engagement. With a work environment that requires rapid response, the public sector is very dynamic. Therefore, organizational leaders must promptly address these needs to sustain and even improve employee engagement, ensuring the effectiveness and efficiency of the organization. This is vital for delivering high-quality services and achieving comprehensive organizational goals.

The main factors in the public sector influencing work engagement arise from Job/Task-Related Factors, Individual/Personal Factors, and Organizational/Contextual Factors. Numerous researchers have examined work engagement specifically within the public sector, advancing the field of management science, particularly in human resource management [13-15]. According to a review of the literature, research within the public sector that focuses on factors that influence work engagement has been carried out on various aspects 19 studies (63%) focused on the government-related public sector. There were six studies (20%) focused on employees in the health sector and five studies (17%) concentrated on employees in the education sector.

Results show that in the public sector, the main factors influencing employee work engagement include job/task-related, individual/personal, and organizational/contextual factors. Apart from that, there is a need for more research published in Q1, which is indexed in Scopus journals and investigates the public sector, focusing on work engagement influenced by leadership variables. Research conducted by [16-18] aimed to explore work engagement with transformational leadership as a determinant. Other researchers have examined work engagement in ethical leadership as a determining factor [17-21]. Additionally, various studies have investigated how transactional and laissez-faire leadership styles influence work engagement. Other leadership styles, such as servant leadership [13], leader-member exchange [22], spiritual leadership [23], and authentic[14], have also been explored for their impact on work engagement among public sector employees.

Based on an analysis of 30 articles selected as samples, four factors were found that determine work engagement in public sector employees: job/task-related factors, individual/personal factors, organizational/contextual factors, and leadership factors. Several studies have examined how work/task-related factors and individual/personal factors interact to determine work engagement among public sector employees [14]; [15]; [24].

In addition, [25] highlighted how factors influence collaboration between organizational or contextual factors and job-related factors in work engagement that focus on the public sector. Furthermore, [16] underscores the impact of individual/personal factors and leadership as determinants of work engagement focusing on public sector organizations. Additionally, both [13]; [15] has determined that the interplay between organizational/contextual factors and public sector leadership significantly impacts work engagement levels.

Based on these four factors, job/task-related factors are the most frequently used by researchers cited in 18 articles. Individual/personal factors were used in 14 articles, organizational/ contextual factors in 12 articles, and leadership factors in 9 articles. This shows that there is still limited research exploring the public sector with leadership factors as a determining factor in work engagement.

The factors influencing work engagement levels vary significantly between the public and private sectors. Private sector companies typically adhere to higher ethical standards than public institutions [26]. While the private sector has extensive research on work engagement, studies in the public sector are less common, with fewer focusing on performance outcomes [27]. This gap provides a chance for future research in the public sector to delve into the determinants of work engagement, examining factors related to job/tasks, individual/personal aspects, organizational/contextual factors, and leadership. Future investigations in the public sector could utilize the Job Demands-Resources (JDR) theory and Leadership theories to understand better the factors affecting work engagement.

Based on a review of articles on the public sector, eight essential theories were employed to explore the factors impacting work engagement (Table 4). The most commonly applied theory is the JDR Theory, followed closely by the COR and SET theories. The Self-Concept-Based Theory, the Theory of Purposeful Work Behavior, Leadership Theory, Bandura's Social Cognitive Theory, and Regulatory Focus Theory have also been applied. Together, these theories offer a comprehensive insight into the factors affecting work engagement in the public sector.

Table 2. Summary recapitulation of the article

No	Author's/Year	Journal	Type	Objective	Findings
1.	[28]	American Review of Public Administration	Empirical	This research concentrates on the effects of implementing cuts within the Dutch public sector and examines how these cuts affect work engagement and organizational commitment.	In the public sector, factors that influence work engagement among employees include two main variables: public sector reductions and changes in management practices.
2.	[24]	Australian Critical Care	Empirical	To explore the link connecting work engagement with advantageous personal resources in intensive care units.	Three main variables influence work engagement among ICU nurses: personal resources, job demands and job resources.
3.	[29]	Public Personnel Management	Empirical	This study investigates the connections among the factors leading to and resulting from work engagement, with a particular emphasis on variations within the public sector, including contexts of institutional and specific job tasks.	This study identifies the key factors affecting work engagement: public service motivation, autonomy, and bureaucracy.
4.	[30]	Australian Journal of Public Administration	Empirical	To examine the relationship between cynical attitude toward organizational change (CAOC) and two specific employee attitudes: job limitations and job satisfaction	The study's results showed that administrative stressors, workload, job control, and cynicism about organizational change (CAOC) significantly influence work engagement.
5.	[23]	SAGE Open	Empirical	This study was conducted among faculty and staff at public universities across Pakistan with the aim of examining the relationship between job demands, spiritual guidance, and their combined effects on work engagement.	The research results found that spiritual leadership, job demands, and fatigue were the main determinants of work engagement.
6.	[31]	*Sustainability*	Empirical	This study explored the links between creativity, work engagement, affective commitment, and ethical leadership in China's public sector employees. Using a multiple mediation approach, it explores the interaction effects between these variables.	Affective commitment and ethical leadership are key factors influencing work engagement in China's public sector.
7.	[32]	Computers & Education	Empirical	This research explores how ICT factors, such as digital teaching self-efficacy, institutional support, emotions, and concerns, influence teachers'	According to the research results, factors influencing work engagement include autonomous motivation, satisfaction with

No	Author's/Year	Journal	Type	Objective	Findings
				motivation and work engagement.	support, positive emotions towards ICT, self-efficacy in digital teaching, and support for innovation.
8.	[33]	International Journal of Public Sector Management	Empirical	This study examines the influence of public sector employees' office location on their levels of work engagement, considering how job resources related to support—such as organizational support for development and support from superiors—affect this relationship.	Two main factors influencing work engagement in this study are support from superiors and organizational support for career development. This support helps to increase employee motivation and commitment to their work.
9.	[21]	Review of Public Personnel Administration	Empirical	This study investigates how levels of work engagement are influenced by ethical leadership and views on the meaning of work and how these factors contribute to employee motivation and participation in the public sector.	The study revealed significant impacts on work engagement from ethical leadership and work meaningfulness.
10.	[34]	Personnel Review	Empirical	This study explores how psychopathy affects employee creativity, with work engagement and Negative Social Emotional Behavior as mediators, and examines the role of abusive supervision in these relationships.	The main factor influencing work engagement is the negative relationship between psychopathy and levels of work engagement, with individuals who have higher psychopathic traits tending to have lower work engagement.
11.	[18]	Public Management Review	Empirical	This research investigates how leadership styles among middle managers enhance work engagement in public administration.	The study identified that work engagement is affected by various leadership styles (including Laissez-Faire, Transformational, and Transactional) and organizational climate.
12.	[35]	Australian Journal of Public Administration	Empirical	This study investigates the impact of job demands and resources on work engagement among middle-level managers, with public service motivation acting as a moderating factor.	This study underscores that public service motivation significantly moderates the impact of job demands and resources on work engagement.
13.	[14]	Heliyon	Empirical	This study focuses on how authentic leadership improves work engagement in Indonesian public service organizations with psychological capital as a mediator.	Authentic leadership, characterized by positive and supportive behaviour, is anticipated to positively predict psychological capital, which mediates authentic leadership's impact on work

No	Author's/Year	Journal	Type	Objective	Findings
					engagement.
14.	[17]	Humanities and Social Sciences Communications	Empirical	The study was conducted on staff at the departmental level in the Vietnamese public sector, focusing on the differential impact of leadership styles on work engagement.	The study found that transactional leadership, task performance, innovative work behaviour, laissez-faire leadership, and transformational leadership all influence work engagement.
15.	[36]	Journal of Public Affairs	Empirical	This study examines how challenging job demands impact work engagement, with self-efficacy serving as a mediator.	This study was conducted among employees in the power sector in India and found that job challenges positively influence self-efficacy, which ultimately contributes significantly to increased work engagement.
16.	[37]	PSU study Review	Empirical	This study investigated how work-family conflict and work engagement affect role stressors and turnover intentions among medical doctors in a Malaysian public hospital.	The study found that stressors like role conflict and ambiguity significantly impact work engagement among these doctors.
17.	[15]	Sustainability	Empirical	This research was conducted in the public sector at the state and city levels in Brazil, with a focus on psychological factors influencing work engagement.	The study found that work engagement is shaped by eight key psychological factors: strategic clarity, trust, appreciation, autonomy, psychological safety, clear expectations, a caring environment, and acceptance of mistakes.
18.	[38]	International Journal of Productivity and Performance Management	Empirical	This study aims to understand how support from superiors and coworkers affects the level of work engagement among university employees. It focuses on the impact of both types of social support on employees' motivation and active participation in their work.	The results showed that while support from superiors influenced work engagement, coworker support, through assistance, collaboration, and positive interactions, was a more significant predictor. This emphasizes the crucial role of social relationships in boosting employee motivation and participation.
19.	[39]	Sustainability	Empirical	This study examined how informal mindfulness practices, work engagement, and electronic calendar use affect the quality of life for obese university employees.	The research results found that mindfulness activities are the main factor influencing work engagement. Integrating mindfulness practices with work

No	Author's/Year	Journal	Type	Objective	Findings
					engagement can improve the engagement and quality of life of university employees, highlighting the importance of these factors for overall well-being.
20.	[40]	International Journal of Productivity and Performance Management	Empirical	This study investigates how work-family conflict relates to turnover intention, with work engagement as a potential mediator and supervisor support as a moderating factor.	This study found that work-family conflict and supervisor support influenced work engagement, mediating the relationship between work-family conflict and the intention to leave the job.
21.	[41]	Journal of Asia Business Studies	Empirical	This study investigates the elements that enhance performance in the healthcare sector, focusing on nurses' work engagement and performance as influenced by job characteristics and organizational factors.	This study identified two important variables, job demands and resources, that significantly influence work engagement.
22.	[42]	International Journal of Productivity and Performance Management	Empirical	This study evaluates how HR practices impact talent turnover intentions, with work engagement mediating and self-efficacy moderating the effect.	Several key points, such as satisfaction with pay, empowerment, participation, and communication, influenced work engagement. Employees who feel fairly compensated, empowered, involved in decision-making, and receive effective communication are more engaged in their work.
23.	[43]	Teaching and Teacher Education	Empirical	This research seeks to identify trends in work engagement and burnout among middle school teachers in Finland, emphasizing how teacher efficacy and inter-professional collaboration contribute to increasing work engagement and reducing burnout.	This study centers on work engagement, highlighting the vital roles of self-efficacy and interprofessional collaboration in influencing it. This study also highlights the complexity of teacher well-being.
24.	[44]	Government Information Quarterly	Empirical	This study evaluates how using social media for work outside of office hours affects the work engagement of Chinese civil servants, focusing on the roles of work-family conflict and public service motivation.	The research found that using social media for work outside regular hours negatively impacts work engagement among Chinese civil employees. This effect is not only influenced but deeply rooted in the dynamics of work-family conflict and public

No	Author's/Year	Journal	Type	Objective	Findings
					service motivation, adding depth to our understanding of this issue.
25.	[45]	Applied Psychology	Empirical	This research investigates how public-sector employees handle their fears related to COVID-19 while maintaining their motivation and work engagement.	This study found essential factors that influence work engagement, including two key variables: fear of COVID-19 and job crafting.
26.	[16]	Leadership & Organization Development Journal	Empirical	This study aims to investigate whether the effect of transformational leadership on work engagement is more potent when public service motivation is higher, as well as to test the mediating role of promotion focus in this relationship.	The main factors influencing work engagement include critical variables such as transformational leadership, promotion focus, and public service motivation.
27.	[46]	Public Administration	Empirical	This study analyzed 11 public sector organizations in Italy using observational and experimental data to uncover how performance appraisal system characteristics and fairness perceptions affect work engagement.	The study found that performance appraisal systems with feedback sessions and calibration mechanisms lead to better fairness perceptions, positively linked to work engagement.
28.	[22]	European Management Review	Empirical	This study explores how leader-member exchange affects work engagement across various public sector settings and employee groups.	The study found that psychological safety and job design mediate the link between leader-member exchange and work engagement, while employee optimism moderates this relationship.
29.	[47]	International Journal of Law and Psychiatry	Empirical	This study investigates how job demands and personality traits impact fatigue and work engagement among Dutch judges.	The study found that five key personality dimensions and job demands significantly influence work engagement. Notably, conscientiousness boosts work engagement during overtime.
30.	[13]	Management Communication Quarterly	Empirical	This study aims to understand how servant leadership affects street-level bureaucrats' work engagement, focusing on the roles of leader motivational language and perceived organizational support as mediators.	The study found that servant leadership boosts work engagement by mediating through leader motivational language and perceived organizational support.

Table 3. Article distribution

Journal	SJR (2024)	Index	References
International Journal of Productivity and Performance Management	0.88	Q1	[48]; [49];[42]
Australian Journal of Public Administration	0.77	Q1	[30]; [50]
Sustainability	0.67	Q1	[19]; [39];[15]
Computers & Education	3.65	Q1	[32]
Applied Psychology	2.66	Q1	[51]
Government Information Quarterly	2.17	Q1	[44]
Public Management Review	2.07	Q1	[18]
Review of Public Personnel Administration	1.93	Q1	[21]
European Management Review	1.79	Q1	[22]
Public Administration	1.75	Q1	[46]
Teaching and Teacher Education	1.66	Q1	[52]
American Review of Public Administration	1.58	Q1	[28]
Personnel Review	1.23	Q1	[53]
Public Personnel Management	1.23	Q1	[29]
Leadership & Organization Development Journal	1.16	Q1	[16]
Humanities and Social Sciences Communications	0.87	Q1	[17]
International Journal of Law and Psychiatry	0.86	Q1	[47]
Australian Critical Care	0.83	Q1	[54]
International Journal of Public Sector Management	0.71	Q1	[55]
Journal of Asia Business Studies	0.67	Q1	[41]
PSU Research Review	0.65	Q1	[37]
Heliyon	0.62	Q1	[14]
Journal of Public Affairs	0.57	Q1	[36]
SAGE Open	0.51	Q1	[23]

Job Demands-Resources (JD-R) Theory: The review shows that ten studies in the public sector used the Job Demands-Resources Theory to link job demands and resources with work engagement. Borst (2018) affirms its effectiveness in addressing engagement challenges in this sector. This model has been used to study changes affecting nurses [30], explore the links between job demands, burnout, and work engagement [23], and emphasize institutional support's role in teacher motivation [32]. [33] applied the JD-R theory to work engagement, incorporating Bakker's Public Service Motivation [50] and examining the impact of leadership and psychological capital[14]. The model highlights self-efficacy as a critical resource for boosting motivation and work engagement [36]. It has also been utilized to examine job characteristics, organizational factors, and performance in UAE nurses [41] and to investigate work-family conflict, engagement, and turnover intentions [49].

Conservation of Resources Theory: A review reveals six studies using the Conservation of Resources (COR) Theory to examine work engagement in the public sector. [37] analyzed role stress and turnover among Malaysian doctors, focusing on work-family conflict. [38]

highlighted how resources, like social support, improve engagement in high-stress jobs. [44] applied COR Theory to explore how social media use outside of work impacts civil servants' engagement in China, including mediating mechanisms and boundary conditions. [45] investigated how individuals are motivated to protect and build valuable resources, particularly under stress or threat. [22] employed COR Theory to explore how work engagement varies across various types of public sector employees. [47] explored how job demands, personality traits, burnout, and work engagement are interconnected in judges using the theory.

Social Exchange Theory (SET): The literature review indicates that two studies utilize Social Exchange Theory (SET) as the primary framework within the public sector for investigating issues related to work engagement. SET is employed to explore work engagement, fairness in performance appraisals, performance appraisal system satisfaction, and the potential relationships among these variables [46]. According to [13], SET provides a framework for understanding how servant leadership influences work engagement through exchange processes between leaders and subordinates, providing the public sector with a comprehensive

understanding of leader-subordinate dynamics in order to improve work engagement.

Leadership Theory: The literature review identifies two studies in the public sector that utilize leadership theory as the foundational framework for explaining work engagement. This theory emphasizes the significance of leader behaviour in influencing employee outcomes, including work engagement and creativity, by incorporating mediating factors such as affective commitment and work engagement [19]. Research shows that in the public sector, transformational leadership significantly impacts work engagement [18], highlighting its effect on employee engagement levels.

The review of the public sector articles highlights four critical theories on factors influencing work engagement. [21] used the **Self-Concept-Based Theory** to link ethical leadership, work meaning, and engagement. [34] explored the theory of purposeful work behaviour, which connects personality traits and creativity in paramedics.[43] applied Bandura's social

cognitive theory to understand how experiences influence engagement. They investigated this as a motivating factor connected to overall well-being, indirectly assessing teacher work engagement and burnout. Finally, [16], on research in the public sector, used Regulatory Focus Theory to illustrate how a progressive focus mediates the link between transformational leadership and work engagement.

Theoretical Gap and Proposition: Previous research emphasizes the significance of work engagement in enhancing public sector performance [2]. As societal expectations increase, highly engaged employees have become crucial for organizational success [16]; [56]; [57]. While existing studies primarily focus on job/task-related, individual/personal, and organizational/contextual factors, there needs to be more exploration of how leadership influences work engagement [58];[59]. he Job Demands-Resources (JD-R) theory [60] is a critical framework in work engagement studies. However, a need remains to investigate further the role of leadership in driving engagement.
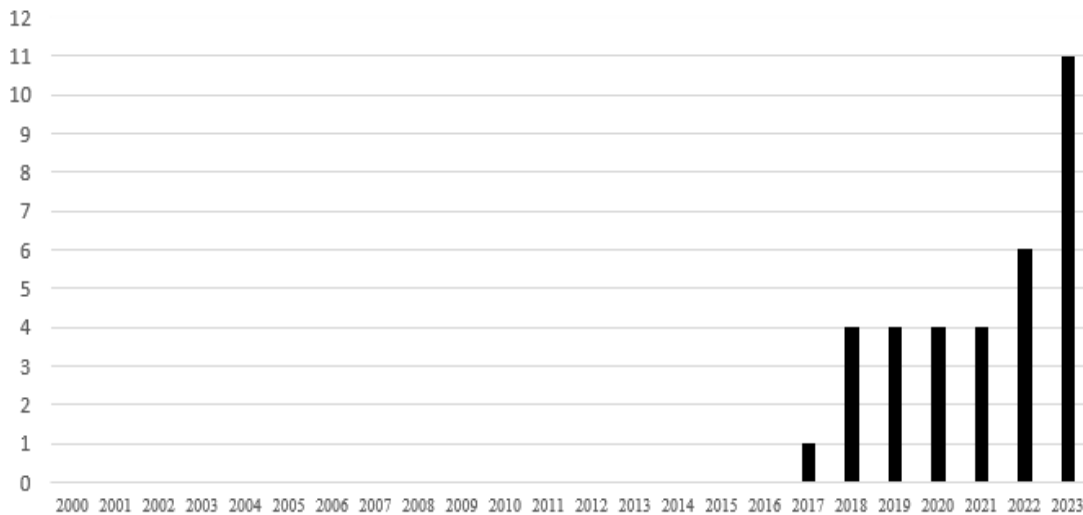

Fig. 3. Documents published in *work engagement on the public sector* by year (2000–2023)

Table 4. Theories on work engagement research in public sector

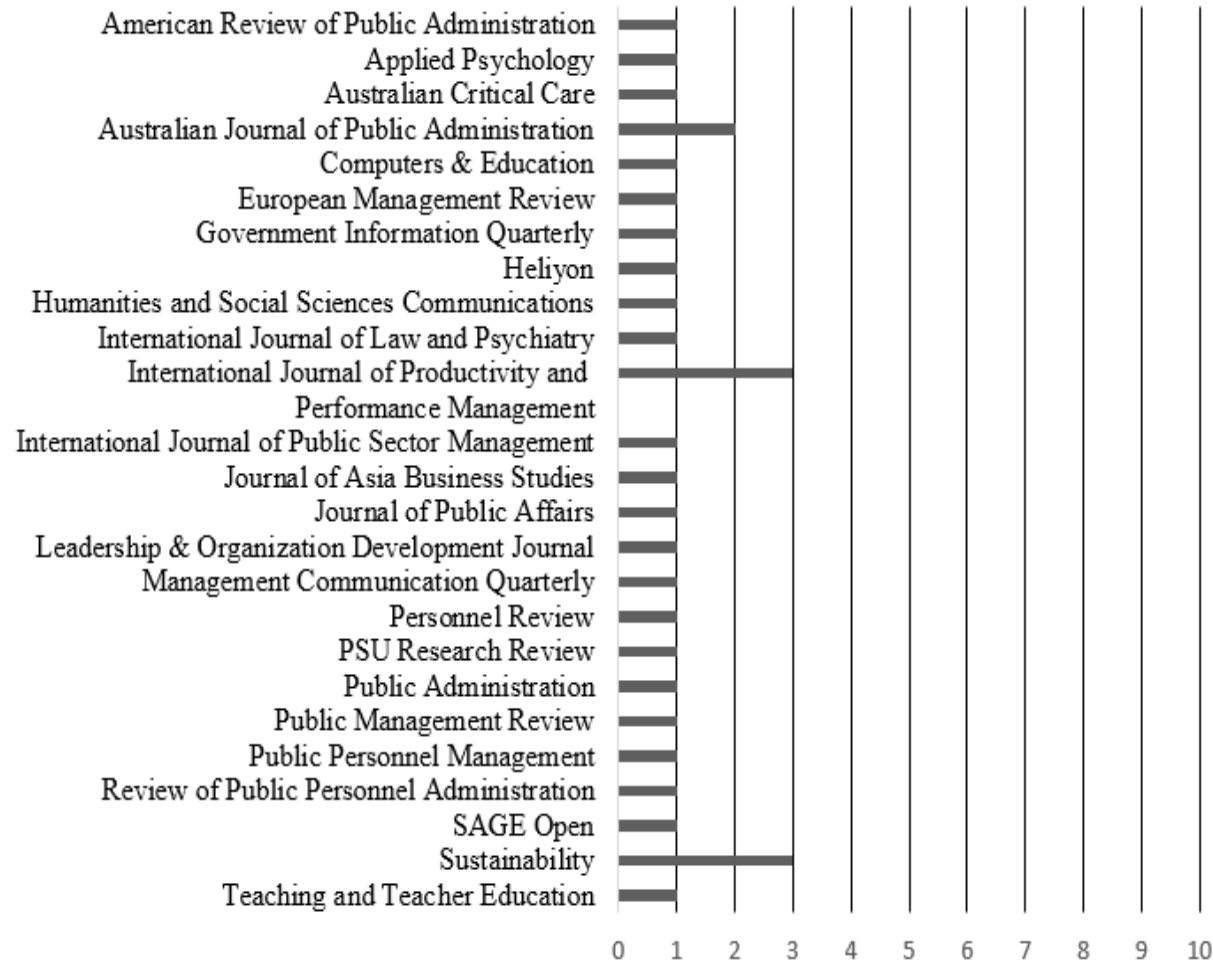| Grand Theory	References
Job Demands-Resources (JD-R)	[14]; [23]; [29]; [30]; [32]; [36]; [41]; [49]; [50]; [55]
Conservation of Resources (COR) Theory	[22]; [37]; [44]; [47]; [48]; [51]
Social Exchange Theory (SET)	[13]; [46]
Leadership Theory	[18]; [19]
Self-Concept–Based Theory	[21]
The Theory of Purposeful Work Behavior	[53]
Bandura's Social Cognitive Theory	[43]
Regulatory Focus Theory	[16]

Fig. 4. Distribution of articles by journal name

Table 5. Key determinants of work engagement in the public sector

Resources Researched In Studies / Articles	Articles	Author/Researcher
Job/Task-Related Factors Job Demands (n=5); Job Resource (n=3); Work–Family Conflict (n=2); Job Crafting (n=2); Work Load (n=1); Job Control (n=1); Job Change (n=1); Role Conflict (n=1); Role Ambiguity (n=1); Innovative Work Behavior (n=1); Work Appreciation (n=1); Red Tape (n=1); Adminstressor (n=1); Cynicism About Organisational Change (n=1); Task Performance (n=1); Job Characteristics (n=1); Interprofessional Collaboration (n=1); Social Media Use For Work During Non-Work Hours (n=1); Satisfaction With Performance Appraisal System (n=1); ICT Information And Communication Technologies (ICT) Positive Emotions (n=1); Satisfaction With Support. (n=1).	18	[15]; [17]; [22]; [23]; [29]; [30]; [32]; [36]; [37]; [41]; [43]; [44]; [46]; [47]; [49]; [50]; [51]; [54]
Individual/Personal Factors Public Service Motivation (n=3); Autonomy (n=2); Personal Resource (n=1); Mindfulness (n=1); Honest Mistakes (n=1); Psychopathy (n=1); Self Efficacy (n=1); Digital Self-Efficacy (n=1); Promotion Focus (n=1); Fear Of Covid-19 (n=1); Sense of Efficacy (n=1); Psychological Capital (n=1); Burnout (n=1); Big Five Personality Factors (n=1); Autonomous Motivation (n=1).	14	[14]; [15]; [16]; [23]; [29]; [32]; [36]; [39]; [43]; [44]; [47]; [51]; [53]; [54];
Organizational/Contextual Factors Supervisor Support (n=2); Psychological Safety (n=2); Change Management Practices (n=1); Cutbacks (n=1); Coworker Support (n=1); Organizational Support For Development (n=1); Support For Innovation (n=1); Perceived Organizational Support (n=1); Organizational Climate (n=1); Clear Expectations (n=1); Trust (n=1); Caring Environment (n=1); Strategic Clarity (n=1); Work Meaningfulness (n=1); Empowerment (n=1); Participation (n=1); Communication (n=1); Pay Satisfaction (n=1); Motivating Language (n=1); Performance Appraisal Justice (n=1); Affective Commitment (n=1); Money (n=1).	12	[13]; [15]; [18]; [19]; [21]; [22] [28]; [32]; [42]; [46]; [48]; [55]
Leadership Factors Transformational Leadership (n=3); Ethical Leadership (n=2); Laissez-Faire Leadership Style (n=2); Transactional Leadership (n=2); Spiritual Leadership (n=1); Authentic Leadership (n=1); Leader-Member Exchange (n=1); Servant Leadership (n=1).	9	[13]; [14]; [16]; [17]; [18]; [19]; [21]; [22]; [23]

Table 6. Research gaps and contributions in work engagement

Research Gaps	Contributions of This Research	Theories Used & Sources
Integration of JD-R and LMX Theories in the Public Sector: Existing Scopus Q1 articles mainly discuss **JD-R** or **LMX** theory separately, but only some integrate both in the public sector context.	**Integration of JD-R and LMX Theories**: This study proposes an integration of **JD-R** and **LMX** to address the gap in Q1 literature by combining both theories in public sector work engagement.	[29]; [36]; [37]; [44]; [49]; [61]
Limited Focus on Leadership Styles: Scopus Q1 research focuses more on **transformational and ethical leadership**, with limited exploration of other leadership styles, such as **servant** and **spiritual leadership**.	**Diverse Leadership Styles**: This study explores various leadership styles, such as **servant** and **spiritual leadership**, in enhancing work engagement, which needs to be addressed in Q1 research.	[18]; [19]
Theories Not Fully Applied to the Public Sector Context: Many Scopus Q1 articles must apply work engagement theories to the public sector's unique challenges, such as **red tape** and **administrative stress**.	**Theory Adjustment for the Public Sector**: This research aims to adapt **JD-R** and **LMX** theories to better address the specific challenges faced in the public sector, such as bureaucracy, **red tape**, and **admin stressors**.	[18]; [19]; [22]; [23]; [32]; [36]; [41]; [48]; [51]; [55]
Lack of Exploration of Mediation Mechanisms Linking Leadership and Work Engagement: Scopus Q1 articles typically focus on the direct relationship between leadership and work engagement without examining mediation mechanisms.	**Mediating Mechanisms:** The identified gap is the need to explore the mediating mechanisms between leadership and work engagement further. Future research could explore organizational support, trust, and psychological safety factors.	[17]; [19]; [22]; [23]; [36]

Thanh [17] proposed that various leadership styles, such as credible, servant, transformational, and transactional leadership, can significantly enhance work engagement and organizational success[59]; [62]. Additionally, according to the Leader-Member Exchange (LMX) theory [61], high-quality leader-follower relationships are integral to improving work engagement, trust, and loyalty [63]. Given these insights, future research should integrate JD-R and LMX theories to understand better how leadership influences work engagement and contributes to organizational performance.

Proposition: Work engagement among public sector employees is influenced not only by job/task-related factors, individual/personal factors, and organizational/contextual factors but also by leadership factors, which ultimately have significant implications for the organization's overall success.

5. CONCLUSION AND FUTURE RESEARCH DIRECTIONS

This literature review in the public sector examines the factors influencing work engagement, offering an extensive summary of research developments in this area over the last twenty years. It critically examines various articles to identify disparities. Two key findings emerge from this study. Firstly, most research on the public sector has concentrated on the effects of Job/Task-Related Factors, Individual/Personal Factors, and Organizational/Contextual Factors on work engagement. While numerous studies attempt to assess the combined influence of these factors on work engagement, no definitive conclusions can be drawn about their collective effect. Secondly, current research does not sufficiently address leadership factors as determinants of work engagement and their effect on overall organizational performance. Key leadership variables, such as transformational, ethical, laissez-faire, transactional, spiritual, authentic, leader-member exchange, and servant leadership, need further investigation into their impact on work engagement.

Future research should examine work engagement determinants in both the public and private sectors to identify unique influencing factors. Given their significant impact on outcomes, public sector studies should also consider leadership variables. Combining JD-R theory with LMX theory provides new insights into how leadership affects work engagement.

Although this study is rigorous, its findings are constrained by the criteria applied. However, this study provides important insights for researchers and practitioners interested in public sector research with a focus on work engagement. This study outlines the current state of knowledge and suggests implications for future research on the factors influencing work engagement in this sector. Researchers and practitioners may find the proposed determinants useful for examining these factors.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/127446