# Change Management in Public Sector: A Preliminary Analysis

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**Abstract:** This paper presents a literature review of 64 studies published in the Journal of Organizational Change Management, aiming at examining the current state of research on organizational change and public sector management, with a focus on the use of change management and process optimization in public administrations. The discussion focuses primarily on a keyword analysis, based on the results obtained with bibliographic and bibliometric tools. The keywords were divided into four categories based on their frequency and persistence: intermittent, trendy, core, and emerging topics. The VOSviewer software package was used to identify the relationships between the keywords. The review highlights the importance of organizational change and change management in the public sector, emphasizing the need for careful planning, effective communication, employee involvement, and a supportive organizational culture. The results of the review provide valuable insights into the current state of research in these areas and can inform future research on change management in the public sector. This literature review focuses on change management practices with a specific focus on the public sector, which is rarely investigated in the literature. Also, it provides a detailed analysis of the existing knowledge about this topic. In addition, the use of multivariate statistical techniques provides an in-depth understanding of the relationships among keywords, thus providing an original contribution to the literature on the theme.

**Keywords**: change management, public administration, public sector, literature review, bibliometric tools

## I.   INTRODUCTION

The public sector plays a crucial role in providing services and infrastructure to citizens, and its performance has a significant impact on the well-being and development of society (Glinka and Helsen, 2017). However, public organizations often face complex challenges in adapting to changing environmental and social contexts, such as budget constraints, shifting political priorities, and emerging societal demands (van der Voet et al., 2015). In this context, the implementation of effective change management strategies are crucial for innovating and improving the performance of public organizations.

Change management is a multidisciplinary field that focuses on the processes, tools, and strategies for managing organizational change. It encompasses a range of activities, including (*i*) identifying the need for change, (*ii*) designing, and implementing change initiatives, and (*iii*) evaluating their impact. While change management has been widely studied in the private sector, its application in the public sector has received increasing attention in recent years (Wan et al., 2020). Although the change in the public

sector is not more difficult than the change in the private sector, it is different (Barton Cunningham and Kempling, 2009) and needs to be investigated further.

The literature on change management in the public sector highlights the importance of understanding the unique characteristics and challenges of public organizations. Compared to private companies, public organizations are often characterized by a complex organizational structure, a hierarchical culture, and a focus on bureaucratic processes (Campbell, 2017). These factors can make it difficult to implement effective change initiatives, as they may generate resistance to change, slow decision-making processes, and limit the flexibility and innovation of public organizations. Modern bureaucracies are evolving into post-bureaucratic organizations as a response to changing societal and economic conditions. The concept of the post-bureaucratic organization is seen as a hybrid form that combines elements of traditional bureaucratic structures with more flexible and collaborative approaches to management. However, this transition is not without its challenges, and large

complex organizations face difficulties in adapting to these new models of organization and management (Josserand et al., 2006).

Despite these challenges, the literature suggests that change management could be a critical success factor for innovating and improving the performance of public organizations and it can involve positive effects on innovative behaviour and organizational innovation (Sung et al., 2021). Research has identified a range of strategies and tools that can support effective change management in the public sector, including leadership, communication, stakeholder participation, and the ability to adapt to environmental and social challenges. Leadership is a critical factor in managing change processes, as it can influence the commitment and engagement of employees and stakeholders. Organizational change must be driven by good leadership, so that it can be effectively and efficiently administered (Zainol et al., 2021). Communication is another key factor in managing change, as it can help to build trust and support for change initiatives among employees and stakeholders. Organizational change communication is a crucial element in employees' receptivity to change (Frahm and Brown, 2007). Effective communication involves both conveying the rationale and benefits of the change and listening to feedback and concerns from employees and stakeholders. Finally, the ability to adapt to environmental and social challenges is critical for public organizations, as they must respond to shifting societal demands, emerging technologies, and changing political priorities. Employees' resilience is essential in public sector organizations, particularly when demands are high and difficult to meet and when the environment is uncertain and constantly changing (Franken et al., 2022). Overall, the literature suggests that change management can be a critical success factor for public organizations to improve their performance and responsiveness to societal demands. The insights and strategies identified in the literature can provide valuable guidance for public organizations seeking to implement effective change management initiatives.

Motivated by these considerations, in this paper we present a review of 64 scientific articles that address the topic of change management in the public sector. Through this analysis, we aim to identify the main strategies and tools used by public organizations to manage change processes.

The structure of the paper is as follows. Section II describes the research methodology. In Sections III and IV the results obtained from keywords analysis are presented. Finally, the limitations, implications, conclusions, as well as future research directions are delineated in Section V.

## II. METHODOLOGY

### A. Sample creation

For creating a meaningful sample of papers, this study makes use of the Web of Science database. An appropriate query was made for retrieving the relevant studies, by combining two sets of search keywords, using Boolean operators as shown in (1).

$$(1) \qquad Query = [CM \cap (PA \cup PS)]$$

The first group shown in (1) includes terms related to the research topic (change management, CM), while the second one includes terms relating to the targeted context (public administration, PA or public sector, PS). The query was run in February 2023. An initial set of 321 papers was obtained from the query. The publication source was refined, selecting the documents from the "Journal of Organizational Change Management" only. There are several reasons to prioritize this scholarly journal for our research. Firstly, it has a long-standing history, having been established in 1988, and exclusively focuses on organizational change management. Secondly, it consistently publishes a substantial number of articles each year, presenting research findings from various studies in this field. Lastly, the journal enjoys a strong reputation among both change-management researchers and practitioners, being widely regarded as a primary source for disseminating valuable insights on effective organizational change practices (Lauzier et al., 2020) . A total of 64 papers was thus identified, representing the final sample of documents useful to this study.

### B. Descriptive analysis

Descriptive statistics were conducted on the 64 papers to trace the temporal distribution of the publications. The analysis aimed to provide an overview of the frequency of publications across time.

### C. Keywords analysis

The analysis was performed by dividing the keywords, based on their frequency and persistence, into four categories: intermittent, trendy, well-established, and emerging (Fadlalla and Amani, 2015). Frequency indicates how often the keyword

is used in the sample of papers, while persistence reflects its long-term use. To conduct the keyword analysis, VOSviewer was used a software tool for bibliometric analysis that enables the creation of bibliographic networks based on citation, bibliographic matching, co-citation, or co-author relationships. VOSviewer provides two types of visualizations: overlay and network visualization. The overlay visualization can be used, for example, to show developments over time.

## III. RESULTS: DESCRIPTIVE STATISTICS

Descriptive statistics analyses were conducted on the 64 papers in the sample, including an analysis of the distribution of the publications over time and the institutional affiliation of the authors.

Figure 1 show the distribution of the years of publication of the selected papers. No boundaries were set for the minimum publication year. The distribution of papers on change management in the public sector appears to have undergone several phases of interest and stability over the years. The initial studies, which were published between 1997 and 2000, may be considered pioneering works that introduced new approaches and methodologies to address the challenges of change management in the public sector. The subsequent decrease in the number of publications in the early 2000s may suggest a waning interest in the topic during that period. However, the interest in the topic seems to have resurged in 2006, with a total of four papers published, followed by three in 2007 and four in 2008. This renewed interest could be indicative of significant changes in the public sector environment or an increased awareness of the importance of change management. From 2010 to 2013, the number of publications remained relatively stable, with an average of 2-4 papers per year, indicating a consistent interest towards the topic. In 2015, there was a significant increase in the number of papers published on change management in the public sector, with 14 new studies. This could reflect a heightened attention to change management in the public sector or an increased interest from academics. The following years showed a steady growth in the number of publications, indicating a continued interest in the topic. However, in 2019 and 2020, there was a decrease in the number of papers published, with one and four papers, respectively. External factors, such as the COVID-19 pandemic, have had a notable impact on scientific research within the field of public administration. International scientific journals have dedicated special issues to COVID-19,

resulting in the publication of millions of articles and hundreds of books (Nemec et al., 2020). However, research personnel and resources have been deliberately and intentionally prioritized for COVID-19-related activities above all else, significantly affecting non-pandemic research efforts (Harper et al., 2020). Travel, social, and funding restrictions have had a severe global impact on scientific research. In addition, one must consider that research funding that relies on public fundraising has declined significantly, resulting in reduced funding opportunities for many researchers (Webster, 2020). The immense demands placed on public administration in addressing the pandemic and managing its consequences have led to reduced availability of resources and personnel for administrative research and project development. Additionally, restrictions and lockdown measures have limited access to essential data and information required for research purposes. Nonetheless, in 2021 and 2022, there was a slight increase in the number of papers published on the topic, indicating a potential resurgence of interest. In conclusion, the distribution of papers on change management in the public sector has gone through several phases of interest and stability. While the reasons for this distribution may be multifaceted, the trend over the years suggests a consistent interest in the topic, with renewed attention in recent years.
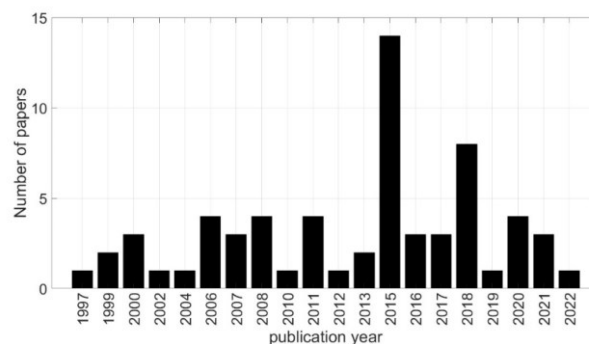


Figure 1. Distribution of papers in time

## IV. RESULTS: KEYWORD ANALYSIS

In this section, the outcomes of the keyword analysis are presented. The keywords were extracted directly from the Web of Science database and only include author's keywords. It is noteworthy that among the sample of papers, only one editorial material titled "Government is US: Public Administration in An Anti-Government Era" (Kramer, 1999) lacks author keywords and was therefore excluded from the analysis.

The analysis aimed to highlight the most relevant and most investigated topics in the field of change management. To do this, keywords were classified based on their frequency ($F_{id}$) and persistence ($P_{id}$). As mentioned above, $F_{id}$ represents the number of times the keyword has been used by the authors, and $P_{id}$ represents the use of the keyword over time. For example, a paper whose first appearance (FA) was in 2000 and last appearance (LA) was in 2021, scores $P_{id}$=22, according to the equation (2).

$$(2) \qquad P_{id} = LA - FA + 1$$

The terms used in the query run on Web of Science (such as "change management", "public sector" and "public administration") were excluded from the analysis, because of their obvious prominence compared to the remaining keywords. Following this exclusion and some modifications to the keywords spelt differently by authors, but expressing the same or similar concept, the total number of keywords was 201. For being more effective, only keywords with $F_{id}$ and $P_{id}$ greater than or equal to 2 were considered for the analyses. Table 1 shows the number of keywords per persistence count, considering the keywords with $P_{id}\geq2$, while Table 2 lists the keywords with $P_{id}\geq2$.

TABLE 1. NUMBER OF KEYWORDS PER PERSISTENCE COUNT

| Number of keywords | $P_{id}$ |
|---|---|
| 1 | 2 |
| 8 | 3 |
| 2 | 4 |
| 2 | 5 |
| 1 | 6 |
| 1 | 7 |
| 2 | 8 |
| 3 | 13 |
| 1 | 14 |
| 1 | 16 |
| 1 | 17 |
| 1 | 19 |
| 1 | 22 |
| 1 | 25 |

TABLE 2. KEYWORDS WITH $P_{id}\geq2$

| Keywords | Persistence |
|---|---|
| Change Agents | 2 |
| New Public Management, Change, United Kingdom, Employee Attitudes, Job Satisfaction, Senior Managers, Structural Equation Modelling, United Arab Emirates | 3 |
| Acceptance Of Change, High Performance | 4 |
| Digitalization, Performance Management | 5 |

| | |
|---|---|
| E-Government | 6 |
| Public Service | 7 |
| Australia, Managers | 8 |
| Public Sector Organizations, Bureaucracy, Central Government | 13 |
| Communication | 14 |
| Leadership | 16 |
| Human Resource Management | 17 |
| Stress | 19 |
| Organization | 22 |
| Organizational Change | 25 |

The average persistence count (APC) is equal to 8.65. Table 3 shows the number of keywords per frequency count, again considering the keywords with $F_{id}\geq2$ only. Table 4 lists the keywords with $F_{id}\geq2$.

TABLE3. NUMBER OF KEYWORDS PER FREQUENCY

| Number of keywords | $F_{id}$ |
|---|---|
| 16 | 2 |
| 5 | 3 |
| 2 | 4 |
| 2 | 5 |
| 1 | 6 |
| 1 | 7 |
| 1 | 14 |
| 1 | 23 |

TABLE 41. KEYWORDS WITH FREQUENCY $\geq$ 2

| Keywords | Frequency |
|---|---|
| Acceptance Of Change; Change Agents; E-Government; Employee Attitudes; Healthcare; High Performance; Job Satisfaction; Organization; Performance Management; Public Service; Qualitative Research; Senior Managers; Stress; Structural Equation Modeling; Systems Theory; United Arab Emirates | 2 |
| Central Government; Communication; Digitalization; Human Resource Management; Managers | 3 |
| Change; United Kingdom | 4 |
| Australia; New Public Management | 5 |
| Bureaucracy | 6 |
| Leadership | 7 |
| Public Sector Organization | 14 |
| Organizational Change | 23 |

The average frequency count (AFC) is 3.96. According to Fadlalla e Amani (2015), combining the above set of data, the keywords were classified into four categories: *intermittent*, *core*, *emerging* and *trendy*.

In our study, we have established the boundaries for ranking keywords as AFC = 3.96 and APC = 8.65. Keywords falling below these thresholds are classified as *emerging topics*, characterized by low $F_{id}$ and $P_{id}$. Specifically, these are topics that have emerged recently or have been the subject of limited studies. In our sample, we have identified 188 such keywords, of which 172 are classified as phantom keywords, i.e., they quickly disappear and are no longer used.

Keywords with $F_{id}$ greater than 3.96 and $P_{id}$ less than 8.65 belong to the category of *trendy topics*. These terms have high $F_{id}$ and low $P_{id}$, pointing to significant interest, despite their relatively short period of investigation. In our study, examples of trendy topics include "Australia" and "United Kingdom", which have high $F_{id}$ as they are both countries with a significant number of papers in our sample (10 out of 64 papers for Australia and 9 out of 64 papers for the United Kingdom). Other examples of trendy topics include "change" and "new public management" (NPM), the latter of which first appears in our sample in 2015, indicating recent interest in this topic.

*Intermittent topics* are defined as those keywords with $F_{id}$ lower than 3.96, but $P_{id}$ greater than 8.65. These topics have been studied for several years but exhibit a low frequency, potentially due to their cyclical usage patterns. In our study, we identified five keywords falling into this category, namely: "central government", "communication", "human resource management", "organization", and "stress".

In the final quadrant of our analysis, we find the *core topics*, which are characterized by high frequency of appearance and persistence, as indicated by their $F_{id}$ and $P_{id}$ values, both greater than 8.65 and 3.96, respectively. These keywords represent well-established and extensively researched topics within the field of public administration. In our study, four keywords fell under this category, with "organizational change" and "public sector organization" being the most frequently occurring ones, highlighting the importance of organizational structures and their adaptablity to changes. Additionally, the keywords "bureaucracy" and "leadership" also fell under the core topics, indicating that improving bureaucratic processes and effective leadership are essential for the functioning and success of public sector organizations.
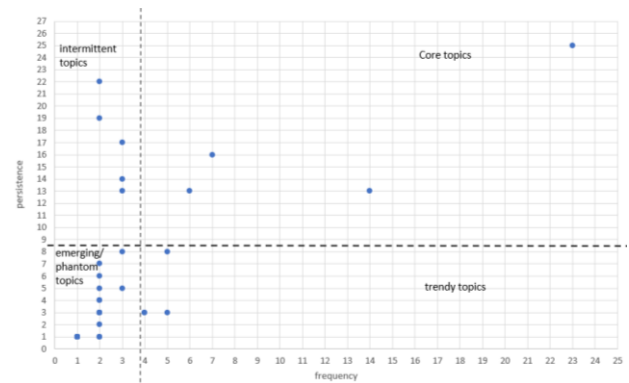


Figure 2. Classification of keywords into classes

Figure 2 and Figure 3 show the results of the analysis carried out.



Figure 3. Results of the keywords analysis

For validating the findings of the keyword analysis, the VOSviewer software was employed to conduct a co-occurrence network analysis of the identified keywords (Figure 4).
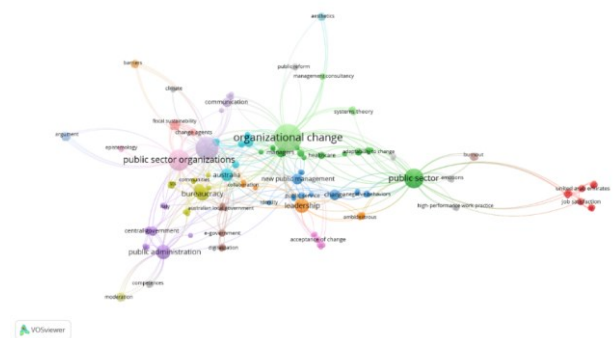


Figure 4. Network visualization of the co-occurrence mapping of author keywords on VOSviewer

The co-occurrence network analysis was carried out, setting appropriate parameter values, to identify the relationships between the keywords found in the sample of papers. The minimum number of co-occurrences was set at 1, and the relatedness between elements was determined by the number of papers in which the terms appear together, with weight determined by the occurrence.

Of the 201 keywords found in the sample, some were not related to each other, while others formed

a set of 170 connected elements, shown in Figure 4. The co-occurrence network was divided into 24 clusters, each recognizable by a different colour. The keyword with the most co-occurrences was "organizational change", which appeared 23 times and had 61 links. This keyword fell within the core topics category, indicating high persistence and frequency. Other frequently co-occurring keywords included "change management" (16 times), "public sector organization" (14 times), and "public sector" (12 times). It is worth noting that "public sector" and "change management" were included in the query performed to create the sample, which explains their high frequency of appearance.

In addition, overlay visualization was used to show the developments over time (Figure 5). Overall, the co-occurrence network analysis provided further insights into the relationships between keywords and highlighted important topics and themes in the field of public sector management.
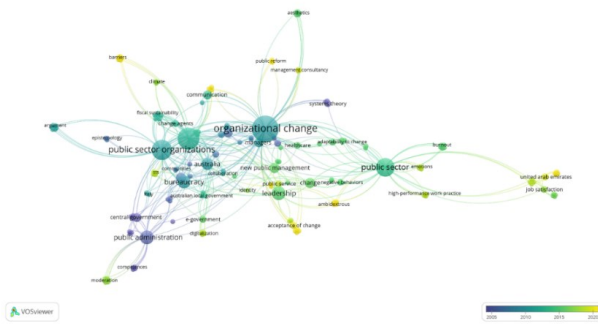


Figure 5. Overlay visualization of the co-occurrence mapping of author keywords on VOSviewer

## V. DISCUSSION AND CONCLUSION

Based on the literature review presented in this paper, organizational change and public sector management are complex and evolving fields that require careful planning and implementation. As a result, many organisations do not achieve the expected results (Errida and Lotfi, 2021). The factors that contribute to successful change initiatives in organizations include effective leadership practice (Dumas and Beinecke, 2018), effective communication, employee involvement and participation, and a supportive organizational culture. Specifically, employee motivation plays an important role in how individuals direct their behaviour in different situations, and also in their efforts to change their behaviour (Salmela-Aro and Nurmi, 2004). In the public sector, the importance of organizational change and change management cannot be overstated, as public administration must

be able to adapt and change in order to remain effective and efficient.

This paper conducted a literature review of 64 studies published by the "Journal of Organizational Change Management" to further explore these considerations. The keyword analysis identified key themes and topics that are currently being explored in the literature, such as change management, leadership, resistance to change, and public sector organization. Leader characteristics influence the outcome of organisational change towards turnarounds (Kumalo and Scheepers, 2021). Studies show that the transformational leader is more effective in increasing trust and acceptance of change (Cai et al., 2018). Organisational change must be implemented with the consensus of all stakeholders because some factors have statistically significant relationships with employee behaviour and job satisfaction (Aslam et al., 2016). Transition can be a stressful phase and can strongly influence employees by causing frustration and a negative working environment (Kleizen et al., 2021), especially when it is managed with poor information or lack of communication (Smollan, 2015). Communication and resistance to change are two factors that influence the organisation and in particular organisational change, on the one hand, the change process is often considered a communication problem (2007), on the other hand, organisations should mechanise ways to minimise the level of resistance, thus promoting a smooth transition of change (Jalagat, 2016). Overall, this review paper highlights the importance of research on organizational change and public sector management, as well as the need for continued exploration of these complex topics. Public administrations must be able to adapt and change to remain competitive and effective. The attitude of employees and leadership is crucial to create a positive working environment and to contribute to long-term success. Therefore, a better understanding of the factors that contribute to successful change initiatives in public sector organisations and management is essential.

In this respect, this study provides valuable insights into the state of research on organisational change and public sector management, highlighting important topics and themes of certain interest to the management engineering area, such as planning, directing, and controlling the successful organizational change. Keyword analysis provides an in-depth understanding of the relationships between these topics, making an original contribution to the literature on the subject.

The findings of this paper can inform future research in these fields and provide a basis for further exploration of their complex and evolving nature, ultimately contributing to the long-term success of public administrations. For example, the collaborations and relationships between countries in the field of public sector management could be considered, as they may provide insights into the global nature of the field and opportunities for future international collaborations. The use of bibliometric tools can also further enhance our understanding of these fields.

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