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Organizational Memory – an effective Knowledge Management practice in Sustainable Public Administration?

Memória Organizacional – uma prática efetiva de Gestão do Conhecimento na Administração Pública Sustentável?

Memoria Organizacional: ¿una práctica eficaz de Gestión del Conocimiento en la Administración Pública Sostenible?

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Abstract

Research Objective – To map, in the south Brazilian Public Administration - states of Paraná, Santa Catarina and Rio Grande do Sul, the actions and practices of Organizational Memory that contribute to Organizational Sustainability.

Theoretical framework: Knowledge Management actions and practices are supportive elements of systemic processes, capable of optimizing Organizational Sustainability and ensuring the construction of an Organizational Memory based on an integrative and relational theoretical model - uniting people, information technologies and management.

Methodology: Bibliographic and documental research, with descriptive purpose and interpretive paradigm. Data gathering was based on primary documents, with mixed treatment, built on Systematic Literature Review, with Content Analysis procedures.

Results: The authors established an overview of Knowledge Management practices and Organizational Sustainability actions in the South of Brazil, describing correlations between the empirical and conceptual fields and validating the real distance between both, despite the strong academic and management discussion reported around the subject.

Originality: Knowledge Management and Organizational Sustainability entice constant discussion, including in Public Administration. However, there is still a lack of practical studies that correlate the two themes. The establishment of a real framework between the themes, with an extensive study of the southern region of Brazil, establishes the originality of this study.

Theoretical and practical contributions: The scenario surveyed serves as a base reference for generating data, allowing new analyses and propositions such as the real situation of Data and Information Management in the Public Administration sector, as well as Organizational Sustainability and its current gaps.

Keywords: Knowledge Management Practices, Public Administration, Organizational Sustainability, Organizational Memory, South region of Brazil.

Resumo

Objetivo da pesquisa: Mapear na Administração Pública do sul do país – estados do Paraná, Santa Catarina e Rio Grande do Sul, as ações e as práticas de Memória Organizacional que contribuem com a Sustentabilidade Organizacional.

Enquadramento Teórico: As ações e as práticas de Gestão do Conhecimento são entendidas como elementos apoiadores de processos sistêmicos, capazes de otimizar a Sustentabilidade Organizacional e garantir a construção da Memória Organizacional, fundamentadas em um modelo teórico integrativo e relacional unindo pessoas e tecnologias de informação e gestão.

Metodologia: Pesquisa bibliográfica e documental, com propósito descritivo e paradigma interpretativista. A coleta de dados foi em documentos primários, com tratamento misto, fundamentada na Revisão Sistemática da Literatura, com procedimentos de Análise de Conteúdo.

Resultados: Estabeleceu-se um panorama das práticas de Gestão do Conhecimento e das ações de Sustentabilidade Organizacional na Região Sul do país, estabelecendo-se correlações entre o campo empírico e o conceitual, verificando o distanciamento real entre ambos, apesar da existência de uma forte discussão acadêmica e gerencial relatada.

Originalidade: A Gestão do Conhecimento e a Sustentabilidade Organizacional são espaços de constante discussão, inclusive na Administração Pública, no entanto ainda carecem de estudos práticos que relacionem as duas temáticas. O

establecimiento de un cuadro real entre os dois temas, com estudo extensivo da Região Sul do país estabelece a originalidade deste estudo.

Contribuições teóricas e práticas: O cenário levantado serve como referencial de base gerador de dados, permitindo novas análises e proposições a exemplo da real situação da Gestão de Dados e Informações na Administração Pública setorial, bem como da Sustentabilidade Organizacional e suas atuais lacunas.

Palavras-chave: Práticas de Gestão do Conhecimento, Administração Pública, Sustentabilidade Organizacional, Memória Organizacional. Região Sul.

Resumen

Enfoque Teórico: Las acciones y prácticas de Gestión del Conocimiento son entendidas como elementos de apoyo para los procesos sistémicos, capaces de optimizar la Sostenibilidad Organizacional y garantizar la construcción de la Memoria Organizacional, mediante un modelo teórico integrador y relacional que une personas y tecnologías de información y gestión.

Metodología: Análisis bibliográfico y documental, con propósito y paradigma interpretativo. La obtención de los datos se basó en documentos primarios, con tratamiento mixto, fundamentada en la Revisión Sistemática de la Literatura, mediante procedimientos de Análisis de Contenido.

Resultados: Se estableció un panorama de las prácticas de Gestión del Conocimiento y de las acciones de Sostenibilidad Organizacional en la Región Sur del país, estableciéndose correlaciones entre el campo empírico y el conceptual, las cuales constatan el distanciamiento real entre ambos, a pesar de la existencia de una fuerte discusión académica y gerencial relatada.

Originalidad: La Gestión del Conocimiento y la Sostenibilidad Organizacional constituyen espacios de constante discusión, incluso en la Administración Pública, sin embargo, aún carecen de estudios prácticos que relacionen ambas temáticas. La definición de un marco real entre estos temas, cuyo alcance comprende la Región Sur del país determina la originalidad de este estudio.

Contribuciones teóricas y prácticas: El escenario diagnosticado sirve como referencial de base para la generación de datos, permitiendo nuevos análisis y propuestas como ejemplo de la situación real de la Gestión de Datos e Informaciones en la Administración Pública setorial, así como de la Sostenibilidad Organizacional y sus actuales deficiencias.

Palabras clave: Prácticas de Gestión del Conocimiento, Administración Pública, Sostenibilidad Organizacional, Memoria Organizacional. Región Sur.

Introduction

Knowledge Management – KM – began to be discussed at the end of the 70s as an instrument to support decision-making, minimizing the harmful effects of the lack of organization and processing of data and information in the most diverse types of organizational environments, whether private or public (Strauhs & Victório, 2019; Wiig, 1997).

However, during the first two decades of the 2000s, KM reached the apex of organizational discussion, with the prevalence of the use of what is conventionally called Best Practices linked to management to the detriment of the amplified concept of this discipline. The private sector, via different types of organizations, especially industries, was one of the first adherents to the principles and practices of Knowledge Management. Public Administration – PA followed the same path, seeing this domain as a way of facing the challenges of implementing innovative management actions (Batista, 2012), with possibilities of expanding the benefits generated by sharing the extensive use of data and information to society in general (Denhardt & Catlaw, 2017), improving its performance – efficiency and effectiveness (Schlesinger et al., 2008).

From Knowledge Management practices, Organizational Memory – OM – aroused the interest of many, particularly management scholars, allegedly because it allows standardization of the way of recording some functions related to knowledge such as collection, capture, organization, codification, dissemination, measurement, and evaluation of data and information (Schlesinger et al., 2008). However, for Batista (2012, p. 60), OM allows "the recording of organizational knowledge about processes, products, services, and relationships with citizen-users".

Despite the interest aroused, and after almost two decades of national Public Administration adhering to this management practice, the question remains whether Knowledge Management practices, especially Organizational Memory, effectively contribute to improving this sector, helping Organizational Sustainability, a new topic of management discussion.

In this context, this article maps the Public Administration of the south of the country – states of Paraná, Santa Catarina, and Rio Grande do Sul, from a documentary perspective, actions and practices that refer to Organizational Memory and, in a second moment, whether they meet to the disciplinary concepts of Knowledge Management, contributing to Organizational Sustainability. Documents published in the Electronic Journals of the Court of Auditors of these states were scrutinized, considering them to be repositories of information that comply with the Transparency Law (LC 131/2009), disclosing the actions of public entities on online platforms in real-time. The period of analysis was from 2019 to 2022.

Meeting the objectives of the article, it initially presents concepts and applications of Organizational Memory, followed by Organizational Sustainability related to OM, with some indicators. The methodology for collecting and processing data, its analysis, and the results are presented sequentially.

Organizational Memory – from concepts to sustainable application

In the view of Antunes and Pinheiro (2020), Organizational Memory is a process that includes acquiring, preserving, maintaining, and recovering information resources. It corroborates the view of Walsh and Ungson (1991), who understood Organizational Memory as a process in which people define which relevant facts and which information retained by the history of an organization deserve to be recorded for reuse.

In three decades of discussion, starting with Walsh and Ungson (1991), until the positions of Antunes and Pinheiro (2020), the concept of OM evolved but maintained the idea of collecting, recording, disseminating, sharing, and reusing data, information, and knowledge brought by Watson (1997), Conklin (1997) and Abecker, Bernardi, Hinkelmann, Kühn and Sintek (1998). It stands out, from the meaning of Santos and Valentim (2021), that OM, based on the recording of data, information, and knowledge (in printed, digital, and electronic form) or shared in contexts (values and culture), enables the preservation and access to information and knowledge created by the individual in their social activities.

In this scenario, the motivations for building Organizational Memory range from bypassing the departure of employees with great experience and institutional knowledge to reusing and preserving institutional processes and culture (Dieng, 2000; Menezes, 2006; Damian & Cabero, 2020).

However, the obstacles to establishing OM involve technical and cultural barriers, especially in organizations where the understanding that knowledge is power prevails (Massingham, 2018) and when there are no established processes for acquiring, preserving, maintaining, and recovering informational assets.

Nonato and Perez (2018) point out that in environments without strategic concern with OM, there are limitations that lead to the non-integration of the different organizational systems, with a resulting and natural increase in the organization's operational cost, in addition to the lack of adherence to the systems -standards determined by senior management. These authors point out that short-term solutions can generate harmful effects in the medium and long term; using electronic mail and data spreadsheets is not enough for Organizational Memory; a strategic vision of their use is needed.

In private organizations, the understanding and importance of using the above organizational strategies are more widely adhered to. However, public organizations tend to be slower in management change processes due to the peculiarities of a bureaucratic, hierarchical, and structurally rigid administration, which is not always committed to results (Schlesinger et al., 2008).

On the other hand, however, Bitencourt Neto (2017, online) highlights that the new challenges of Public Administration are found in the obligation "to act, increasingly, as a general shaper of the economic and social order, in addition to a topical and individualized action". This position had

already been perceived by Fresneda and Gonçalves (2007, p. 11), based on studies by Wiig (1997), when they pointed out that the "viability of any society depends on the quality of the provision of public services and that this quality is influenced by factors such as government structure, responsibilities, capabilities, information, specialization of staff and available knowledge".

Mendonça and Holanda (2016) use the principle of efficiency, which could optimize state action, especially in improving the well-being of citizens, but also in resolving various public interests, this being the state's primary duty. To be exercised via administrative entities, such a duty would fulfil its demands with efficiency and perfection in the search for the best performance and promote sustainability, especially organizational sustainability (Barbosa, 2008; Munck, Munck & Souza, 2011).

Organizational Sustainability – OS – is understood here as "[...] the ability of organizations to leverage their economic, social and environmental capital to contribute to sustainable development in their political domain" (Kuzma, Doliveira & Silva, 2017, p. 431) in organizations, whether public or private, social capital is represented by actions with a determined purpose (Lin, 2001) but also by interpersonal relationships ranging from individual, family and social (Mizumoto, Artes, Lazzarini, Hashimoto & Bedê, 2010).

Socially sustainable organizations, in the view of Bansi (2013), Dyllick and Hockerts (2002), add value to the communities in which they are inserted by increasing Human Capital represented by the set of personal knowledge and skills, but also Social Capital, expressed in individuals, its relational partners and insertion communities.

For Souto and Pizzol (2019), OS currently focuses on different types of institutions, including governmental ones. However, far from being a "trivial task", it is a complex, multifaceted activity, ranging from economic to normative analyses, including scientific studies and philosophical epistemologies (Munck & Souza, 2009, p. 198).

From this approach, KM appears as a strategic means, in the view of Braun and Mueller (2014), contributing to management activities and presenting a set of practices and processes, including OM, which allows "internal learning and [...] institutional development", oriented towards results management (Schlesinger et al., 2008) and the construction of a living memory (Klein, Pereira & Cogo, 2021).

The literature lists practices based on concrete examples observed in organizations worldwide, encompassing different techniques, processes, and tools, such as knowledge and skills mapping, documents, content, and capital management.

For example, Knowledge Management, mediated by its "processes and instruments, can contribute to enhancing the use of Intellectual Capital, aiming for better organizational performance" (Paiva, 2012, p. 29) and can extensively assist in Organizational Sustainability through a multiplicity of practices, which are not restricted to Organizational Memory, the focus of this article. One of the pillars of the model proposed by Nascimento and Souza Junior (2019) is the positive relationship between Knowledge Management and OS.

In the specific area of national PA, studies developed by Batista (2004, 2012) and Batista and Quandt (2015), among others, exemplify some of these procedures – Table 1.

From the literature's reasoning, it can be inferred that KM and its practice of Memory can provide benefits to different types of environments, including Public Administration, considering founding principles such as transparency, accountability (evaluation of results), and focus on the citizen (Pimenta, 1988), supported by the need to register and publicize actions and the search for efficiency (Paludo, 2013).

Table 1

Knowledge Management Practices in Public Administration

KM PRACTICES	CHARACTERISTICS	FOCUS	AUTHORS
Organizational Memory	Management, storage, and retrieval of organizational knowledge. Retention of organizational knowledge that contributes to learning: past experiences support future decision-making processes.	Sharing and Reuse.	Batista e Quant, (2015), Conklin (1997), Menezes (2006), Stein (1995), Schweitzer (2020)
Forums and Meetings for Discussions	Spaces are for sharing information and discussing ideas and experiences that contribute to developing skills and improving the organization's processes and activities.	Sharing and Reuse.	Batista e Quant, (2015), Raupp e Beuren (2007), Laurindo (2013), Nadal, Ferreira e Franco, (2021)
Corporate Knowledge Portals or Collaborative Environments.	Access point for organizations to their employees, partners, and customers. Environments in which information necessary for processes is available in an application that integrates other information in the organization. They aggregate the organization's internal and external information, optimize resources, establish unified standards and methodologies, and minimize costs.	Sharing and Reuse.	Batista e Quant (2015), Nadal, Ferreira e Franco, (2021), Terra (2005), Werner e Werner (2020)
Social media	Technological collaborative tools – networks, corporate blogs, chats, wikis, intranets	Sharing and Reuse	Laurindo (2013), Sampaio, Behr, Medeiros e Bandeira, (2021), Terra (2005).

Source: Prepared by the authors.

It remains, however, to scrutinize whether the ontological and epistemological discussion and institutional practice are coherent, the object of the present study. To this end, in addition to concepts and constructs, some action indicators are necessary and will be discussed in the following Section.

From Organizational Sustainability to Memory – some indicators

In the view of Meadows (1998), indicators refer to values that help in the perception of reality; they are not always exact and, in general, created from imperfect and subjective models. However, indicators are necessary to evaluate reality based on established information units (Meadows, 1998; Van Bellen, 2004).

"The image captured in the indicator is also a reduction of reality, that is, a simplified representation of an aspect of it". The better, the more specific the aspect of interest is "and the more reliable and precise the information used to calculate the indicator" (Baeninger, 2010, p. 171).

In matters of Organizational Sustainability, indicators are based on three pillars – (i) social, (ii) environmental, and (iii) economic, based on the understanding of Elkington (1999), Savitz and Weber (2007), but above all Sachs (1993), constituting the discussed Triple Bottom Line concept; this will not be the topic of this article, but rather the constructs that emerged from this tripod.

Oliveira, Barbosa, Nunes, Correa and Souza (2020) refer to six elements when analyzing OS: (i) eco-efficiency; (ii) socio-environmental justice; (iii) social inclusion; (iv) Economic Organizational Sustainability; (v) Environmental Organizational Sustainability and (vi) Social Organizational

Sustainability.

The resulting indicators include acquiring equipment with sustainable characteristics, environmental inspection and characteristics of the work environment, ethics, employment and income, and information transparency (Abreu & Borges, 2013; Paludo, 2013, online).

In KM, considered a systemic organizational process, the indicators start from observing practices that demonstrate the use and reuse of data and information in decision-making and, therefore, effective organizational knowledge, examples of which are in Table 1.

Once the epistemological bias and the analysis constraints are set, the research methodology is sequentially shown.

Research Methodology - from problem to scope and strategies

Through its practices, Knowledge Management (KM) contributes to the improvement and efficiency of institutions. However, the deleterious effects and consequences of its lack, more specifically of Organizational Memory (OM), imply what Pollit (2000) approximates to Alzheimer's disease. – unhealthy forgetfulness with loss of Memory in organizations. This lack of Memory mainly leads to rework due to rapid organizational forgetfulness (Pollit, 2000; Nascimento, 2013).

It is thus assumed that there are Organizational Memory (OM) procedures in the structuring of Public Administration (PA), which may be informal and not defined, structured or not, diluted in institutional practices, but existing, as well as, it is assumed that there are actions of Organizational Sustainability (OS).

The literature then raised which actions and practices refer to OM and whether they meet Knowledge Management and OS concepts. Thus, the initial design was bibliographic, supported by Systematic Literature Review – SLR, with Inductive Content Analysis as a research technique, as this allows the establishment of conceptual models of categorization and analysis (Elo & Kingäs, 2007), complemented by inferences (Bardin, 2011). Documentary research followed with data collection in the Electronic Journals of the Court of Auditors of the states of the Southern Region – Paraná, Santa Catarina, and Rio Grande do Sul.

It is highlighted that this research's main purpose is descriptive, with mixed data treatment (Creswell & Clark, 2013), whose procedures are detailed sequentially.

Systematic Literature Review and its Procedures

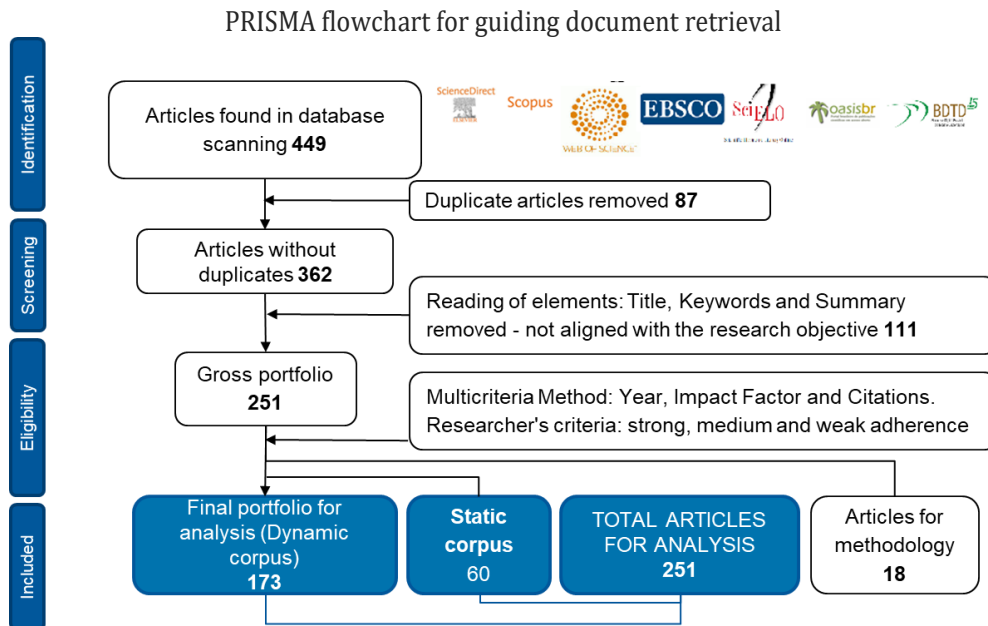
Systematic Literature Review (SLR) observed three stages: (1) Planning, with definition of the leading research parameters and completion of the protocol, via Preferred Reporting Items for Systematic Reviews and Meta-Analyses – PRISMA – objectives, the definition of consistent search, filtering, and document inclusion for the analysis portfolio; (2) Literature review with bibliometric survey and (3) Final documentary selection of information items.

The researchers conducted an isolated and combined search for the terms Organizational Memory, Organizational Sustainability, Knowledge Management Practices, and Public Administration in the Web of Science, Scopus, Science Direct, and Oasis.BR databases. The search was limited to journals included in Qualis scores A1 to A4 and other publication indicators such as JCR, SJR, and SNIP from the last ten years 1.

Theses and Dissertations made available in the Brazilian Digital Library of Theses and Dissertations – BDTD – comprised the research corpora. It should be noted that previously known documents that met the epistemological bias of the research and researchers were added to the final portfolio – dynamic corpus – static corpus.

Figure 1 shows the number of documents recovered, selected, and filtered for the SLR, with a theoretical corpus of 251 articles, 18 of which stand out in the methodological part.

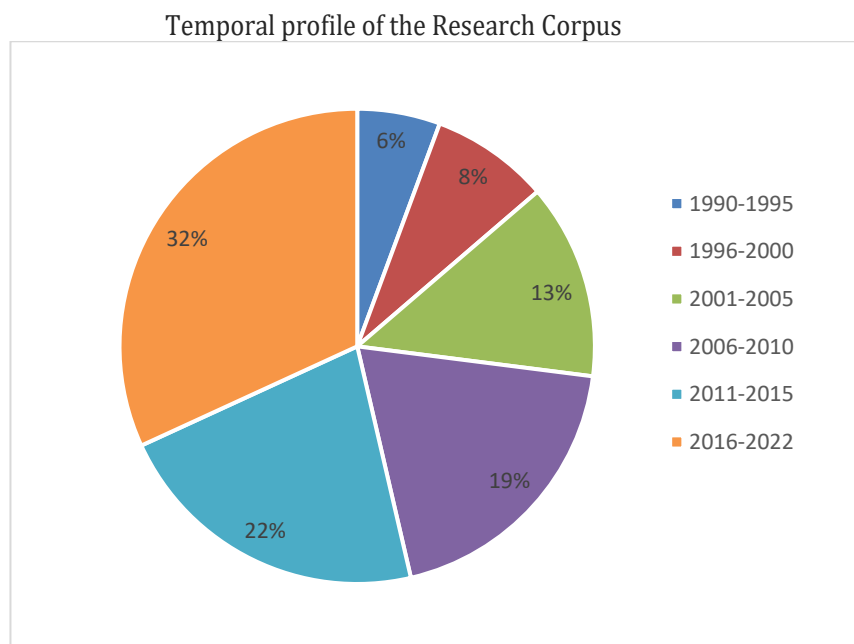
Figure 1



Source: Adapted from Moher, Liberati, Tetzlaff J. and Altman (2015).

The temporal profile of the research corpus is represented in Graph 1, presenting 54% of documents above 2010, 32% above 2000, and 14% before 1999, revealing the current argumentative nature.

Graph 1



Source: Own authorship (2023).

The theoretical foundation of this article ultimately included 64 items of information filtered from the final portfolio, considering adherence to isolated and combined research terms, but also to primary documents – documentary research, the empirical field, as well as respecting the timeliness – approximately 25% of the last five years – and the consistency of published results – H index, about 60% of the articles used.

Documentary research and its methods

The empirical field was constructed from a documentary collection in the Electronic Journals of the Audit Courts of the country's Southern Region, based on the Transparency Laws Complementary Law nº 131/2009 and Access to Information Law nº 12527/ 2011.

Reports from the Audit Courts are made available daily in the three states, recording actions and initiatives carried out by governments, making it possible to map OM and Organizational Sustainability actions and practices in the field of Public Administration. The actions were identified by comparison with a conceptual matrix prepared from SLR via Inductive Content Analysis – ICA. The search for data in the Diaries was carried out by surveying context units – representative textual fragments – extracted from the SLR and selected from recording units defined by quantitative criteria.

A heuristic analysis – word cloud – performed using NVivo Software – version 12, in SLR identified two context categories: (i) Knowledge Management Practices and (ii) Organizational Sustainability, both analyzed within the scope of Public Administration.

The categorical subdivisions – analysis categories found for OS were six: (i) Social Sustainability, (ii) Environmental, (iii) Economic, (iv) Social Inclusion, (v) Socio-environmental Justice and (vi) Eco-efficiency. For Knowledge Management Practices, there were 17 subdivisions – Table 2.

Table 2

Context and Analysis Categories

Context Categories	Organizational Sustainability	Knowledge Management Practices
<p>Analysis Categories</p>	<ol style="list-style-type: none"> 1. Social Sustainability; 2. Environmental Sustainability; 3. Economic Sustainability; 4. Social inclusion; 5. Socio-environmental Justice; 6. Eco-efficiency; 	<ol style="list-style-type: none"> 1. Organizational Memory 2. Communities of Practice; 3. Benchmarking; 4. Lessons Learned; 5. Forums and Meetings for Discussions; 6. Skills Bank; 7. Organizational Knowledge Maps; 8. Intellectual Property Management; 9. Content Management; 10. Electronic Document Management; 11. Intellectual Capital Management; 12. Innovation Centers; 13. Competitive Intelligence; 14. Business Intelligence; 15. Best Practices; 16. Corporate Knowledge Portals; 17. Social Media.

Source: Own authorship (2023).

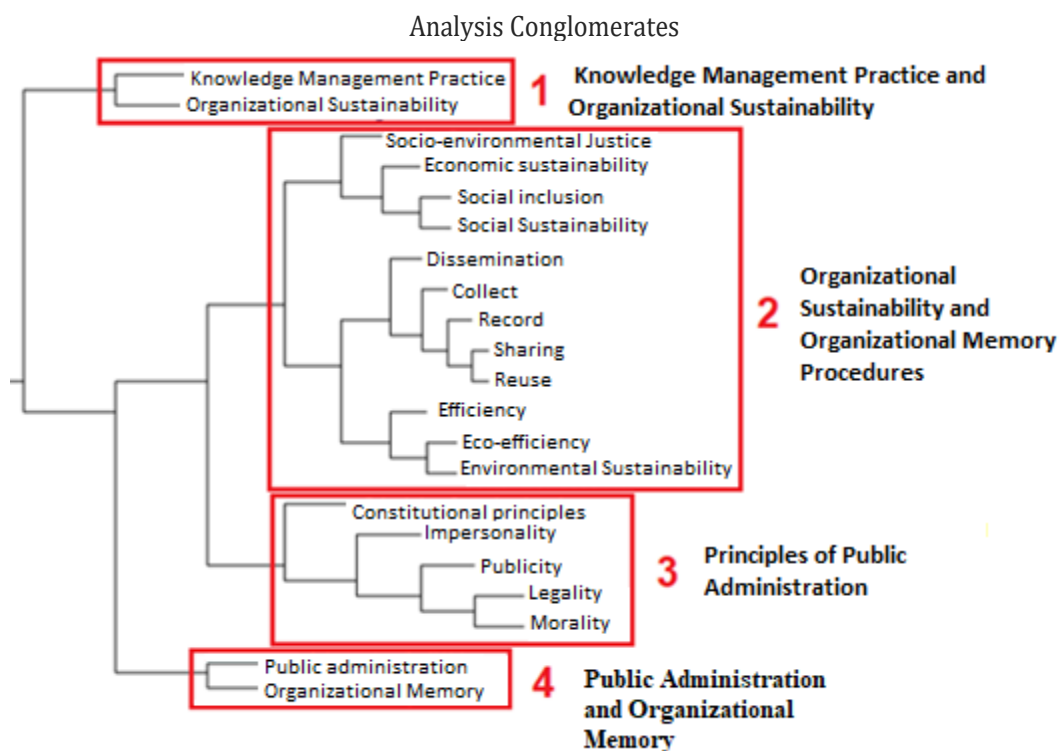
The analysis categories were scrutinized with 118 registration units that were identified with the following:

- Social Sustainability - 32 registration units (examples: Courses and Lectures);
- Environmental Sustainability - 22 registration units (examples: Pollution and Solid Waste);
- Economic Sustainability - 5 registration units (examples: Equipment Acquisition and Environmental Inspection);
- Social Inclusion - 5 registration units (examples: Income and Employment);
- Socio-environmental Justice - 13 registration units (examples: Housing and Human Rights);
- Eco-efficiency - 9 registration units (examples: Selective Collection and Energy Efficiency);
- Knowledge Management Practices - 32 record units (examples: Organizational Memory and Portal).

Data retrieval and analysis resulted from the creation and scrutiny of cluster analysis, which, according to Bem, Giacomini and Waismann (2015, p. 28), is "a multivariate classification technique that groups data according to similarities between them". It is reinforced by Marôco (2018), for whom a cluster is a grouping of data that brings together those with a smaller Euclidean distance as a measure of similarity, resulting in metric spaces that are easily recoverable through the use of Content Analysis software; in this article NVivo 12, mentioned previously. NVivo allows the creation of nodes – context units – and subnodes – analysis categories, making it possible to manage even the diversity of recording units.

The literature identified four clusters through similarity, proximity, and terminological correlation – Figure 2: 1 – KM Practices and Organizational Sustainability; 2 – Organizational Sustainability and Organizational Memory Procedures; 3 – Principles of Public Administration; and 4 – Public Administration and Organizational Memory.

Figure 2



Source: Own authorship (2023) with the help of NVIVO12 Software (2023).

The detailing will focus on elements with high correlation, that is, proximity and similarity between terms, revealing association without necessary causality; high correlation indicates a

perfect linear relationship, with values close to or equal to + 1 (Mukaka, 2012). One graphic evidence of this correlation is that Organizational Sustainability and Knowledge Management Practices appear together in the same bracket of the dendrogram. Another example is that Socio-Environmental Justice is related to Economic Sustainability and Social Inclusion and elements of Organizational Memory – Dissemination, Collection, Recording, Sharing, and Reuse of data – presenting the same colour in the graphic record. Therefore, the prevalence was for clusters 1 and 2.

In a simplified way, the Pearson Correlation Coefficient values, NVivo12's form of correlation calculation, found in the composition of the clusters in Figure 2, which directed the collection and analysis of primary data, are shown in Table 3, correlating the practices from Knowledge Management and the forms of Organizational Sustainability to Organizational Memory.

Table 3

Organizational Sustainability, KM Practices, and Organizational Memory – correlation

Code A	Code B	Pearson correlation coefficient
Reuse	Organizational Memory	0,979678
Sharing	Organizational Memory	0,894599
Record	Organizational Memory	0,882872
Dissemination	Organizational Memory	0,871226
Collect	Organizational Memory	0,869871
Sharing	Organizational Memory	0,866127
Environmental Sustainability	Organizational Memory	0,80575
Eco-efficiency	Organizational Memory	0,801416
Social Sustainability	Organizational Memory	0,797992
Social inclusion	Organizational Memory	0,79383
Economic Sustainability	Organizational Memory	0,785351
Efficiency	Organizational Memory	0,779931
Reuse	Organizational Memory	0,771561
Socio-environmental Justice	Organizational Memory	0,731075
Morality	Organizational Memory	0,553591
Legality	Organizational Memory	0,552413
Advertising	Organizational Memory	0,529309
Impersonality	Organizational Memory	0,524033
Constitutional principles	Organizational Memory	0,483754

Source: Own authorship (2023) with the help of NVIVO12 Software (2023).

Once the research procedures have been established, the analytical discussion of the collected data begins.

Data – collection, presentation, and analysis

The empirical data collection was established between January 2019 and May 2022 in the documents available in the Electronic Diaries of the Audit Courts of the Southern Region. The Electronic Diaries, as open data repositories, gathered in different forms (meeting records, accountability reports, acts carried out by municipal and state governments), comply with the Transparency Law (LC 131/2009) and the Access to Information Law and can record knowledge and information regarding Public Administration (Abecker et al., 1998; Batista, 2012; Conklin, 2001). On the other hand, the National Archives Law nº 8,159 (1991), highlights the duty of the Public Power with document management as an instrument to support administration, culture, and scientific development.

The documentary research recovered 1,751 documents, considering the three states, with Santa Catarina presenting the most extensive set of documents - Table 2. The states of Rio Grande do Sul and Paraná have no records in 2019 and 2022, respectively, due to the non-availability of documents on public access platforms. It was decided to maintain the temporal interval for the three states in a complete analysis of the four years within an exploratory data analysis –

descriptive statistics – considering the existence of missing or lost data, those not available due to different recording errors, inconsistent, discrepant values, or random circumstances, but still guaranteeing possible inferences (SILVA, 2015). Missing data are acceptable in longitudinal studies such as this research, despite the introduction of analysis biases and potential inefficiencies, resulting in an apparent limitation but bringing the possibility of analyzing this absence.

A first consideration concerns the need to reinforce the protection of digital data-sharing platforms, both from a technological and legal perspective, taking into account that the unavailability of data during the period was due to an illicit action against the Website of the State Audit Court of Paraná (TCE-PR) – unexpected or random circumstance. In the state of Rio Grande do Sul, there is a real lack of detailed data, which are presented differently from those available in the states of Paraná and Santa Catarina and are much less organized, which suggests the need for document standardization, especially when dealing with public and open data.

At the same time, a low return of allusions with semantic meaning consistent with the literature was found, regardless of the number of publications per year and state.

Table 2

Documents selected for analysis

States analyzed	Number of documents selected for analysis				Total documents analyzed by state
	2019	2020	2021	2022	
Paraná	203	210	137	0	550 documents
Santa Catarina	222	219	195	96	732 documents
Rio Grande do Sul	0	189	166	114	469 documents
Total documents per year	425	618	498	210	1751 documents

Source: Own authorship (2022).

Seventy-five registration units were found in the documents, among the 118 identified in the SLR, considering the number of allusions found - (repetitions + loose words + allusions outside the analyzed context) = Total of allusions selected for analysis. It is noted that the appearance of all categories of context and analysis was observed in the three southern states. Sequentially, the two Context Categories will be analyzed separately.

Organizational Sustainability and Its Nuances in Electronic Diaries

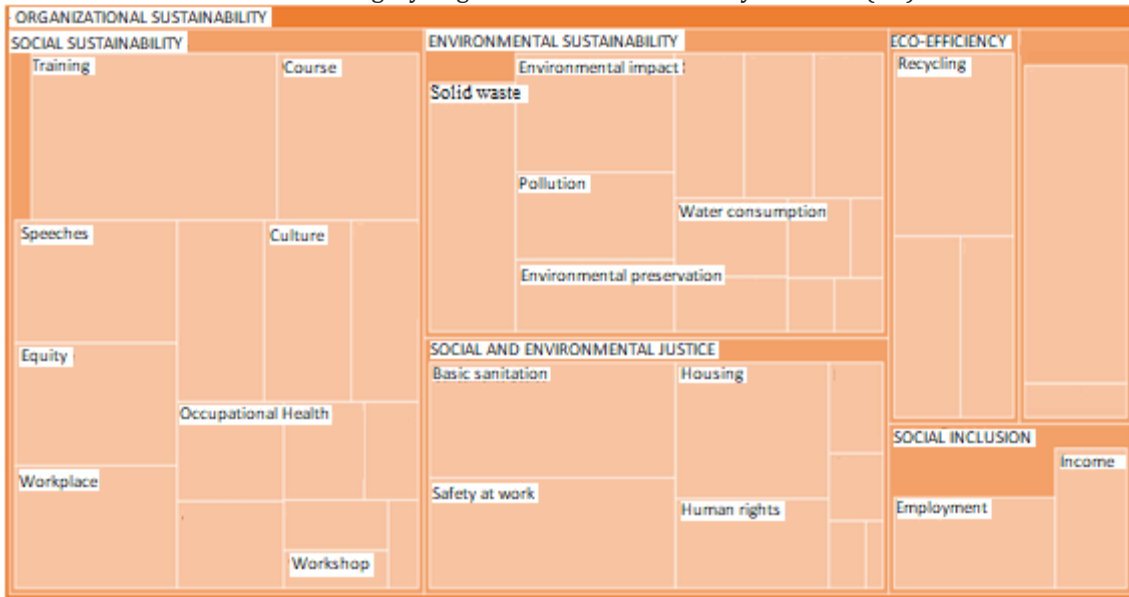
OS, in the sense of Souza and Munck (2017) and Kuzma, Doliveira and Silva (2017), makes it possible to bring together interconnected organizational activities with the aim of maximizing their positive impacts on society and in each management initiative through specific organizational skills, the Organizations must be able to respond to the economic, environmental and social causes they wish to engage in. This vision should permeate society and its actors, regardless of whether they are public or private actors.

Once the research data was collected, the TreeMap graph was the privileged tool for representing these, as it presents a hierarchy of the actions raised within the analysis categories.

When observing public actions in Paraná, the analysis categories Social Sustainability and Environmental Sustainability stood out, with the recovery of the following registration units: Training, Pollution, Basic Sanitation, Recycling, and Equipment Acquisition. The most significant number of registration units surveyed was in the Social Sustainability category, with 15 occurrences. The analysis category with the fewest occurrences was Social Inclusion, with two occurrences – Graph 2.

Graph 2

Context Category Organizational Sustainability – Paraná (PR)

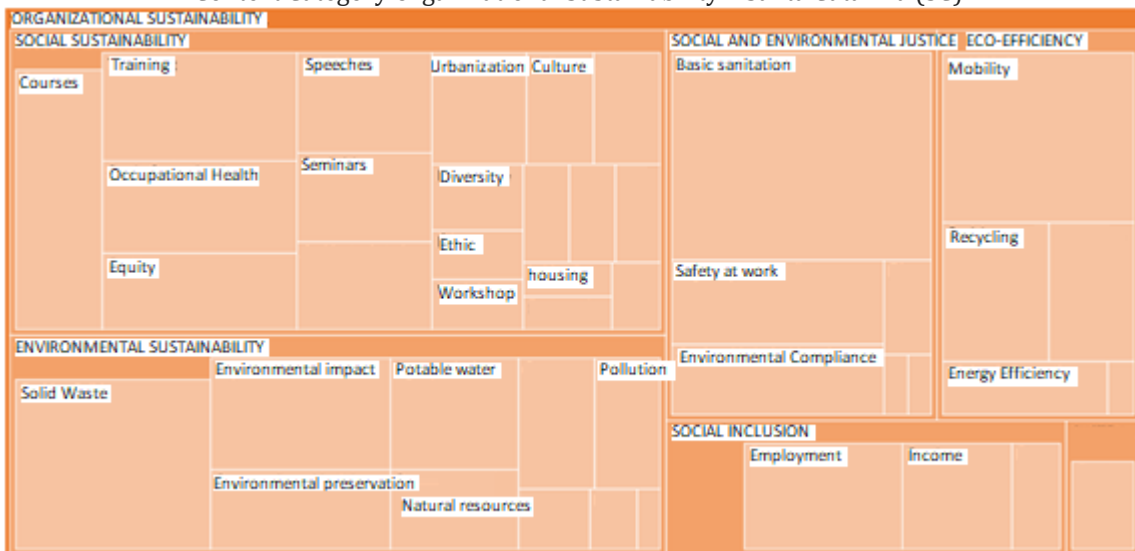


Source: Own authorship (2022) with the help of NVIVO12 Software (2022).

In Santa Catarina, all analysis categories represented by the actions were found: Courses, Environmental Preservation, Basic Sanitation, Mobility, Inspection, and Income – Graph 3. Social Sustainability, with 19 occurrences, had the most extensive set of records, followed by Environmental Sustainability, with 10 occurrences; the lowest occurrences were in Social Inclusion, with 3, and Economic Sustainability, with 1 occurrence.

Graph 3

Context Category Organizational Sustainability – Santa Catarina (SC)



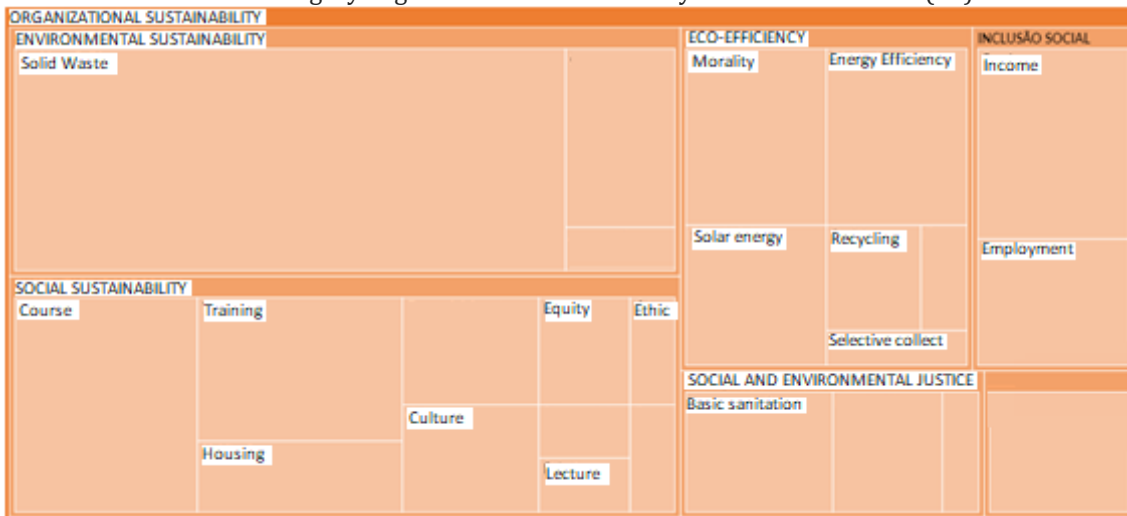
Source: Own authorship (2022) with the help of NVIVO12 Software (2022).

All categories of analysis were found in Rio Grande do Sul, with the most relevant actions being Solid Waste, Courses, Solar Energy, Basic Sanitation, Income and Acquisition of Equipment – Graph 4. The category with the highest number of occurrences was Social Sustainability, with 10, followed by Environmental Sustainability, with 4, and the lowest proportion of records was Economic

Sustainability, with one occurrence.

Graph 4

Context Category Organizational Sustainability – Rio Grande do Sul (RS)



Source: Own authorship (2022) with the help of NVIVO12 Software (2022).

A smaller proportion regarding the variety and quantity of registration units identified in Rio Grande do Sul, with 26 occurrences, stands out compared to Paraná, with 43 occurrences, and Santa Catarina, with 44. The quantitative variation may be related to the non-recovery of data for that state in 2019. However, Paraná, despite having a year of uncollected data, maintained a record balance with Santa Catarina.

The number of analysis categories was raised within the context of Organizational Sustainability, which appeared evidenced by the allusions and excerpts, having to:

- In the state of Paraná, the largest number was identified – five: (i) Social Sustainability, (ii) Economic Sustainability, (iii) Environmental Sustainability, (iv) Eco-efficiency, and (v) Social Inclusion.
- In Santa Catarina, two categories of analysis were identified: (i) Social Sustainability and (ii) Socio-environmental Justice.
- In Rio Grande do Sul, two categories of analysis were identified: (i) Social Sustainability and (ii) Socio-environmental Justice.

The recovered numbers show that the lack of data in 2019 for RS and 2022 for PR does not present a difference in the recovery of shares. For example, the Courses, Training, and Lectures actions, all related to Social Sustainability, appear in the three states. When analyzing the context in which such actions appear, considering the excerpts from the Diaries and privileging the extremes with greater and lesser allusion, it is clear that Courses, Training, and Lectures are aligned with the theoretical concepts related to training, such as: "[...] promote periodic training of public servants (City Hall and City Council) through **online courses** made available by the School of Public Management – SPM of the Court of Auditors of the State of Paraná" (Electronic Gazette of the Court of Auditors of Paraná, 2021 p.8, 01/25/2021, emphasis added – research data).

Corroborating, Abreu and Borges (2013) point out that investment in training programs, especially those that promote the training of employees, helps to improve organizational results and can increase the effectiveness of actions in the society served.

Considering, however, the cultural action, which also appears in the three states, there is an allusion, but related to a record of Cultural Heritage and another to the National Culture System, without being able to establish the meaning of the use of this element. In this case, in the analytical description, culture became just data without information, not allowing inferences (Bardin, 2013).

Social Sustainability stands out, therefore, in Paraná and Santa Catarina with the highest number

of mentions recorded. In Rio Grande do Sul, the prevalence was for Environmental Sustainability.

From the excerpts, it is possible to provide evidence of an effective relationship with conceptual issues addressed, such as:

[...] the contracting of socio-environmental services, consisting of carrying out socio-environmental education actions, seeking the social, economic and environmental sustainability of the enterprise, encouraging the adoption of new values and practices by the population of the intervention area, so that they contribute to environmental conservation and the development of the area surrounding the Miringuava River Dam, in São José dos Pinhais. (Electronic Journal of the Court of Auditors of Paraná, 2021. p. 24, 01/15/2021, emphasis added – research data).

[...]As for the so-called State Competitiveness Ranking, based on ten thematic pillars of great social relevance – infrastructure, social sustainability, public security, education, fiscal solidity, efficiency of the public machine, human capital, environmental sustainability, market potential, and innovation [...] (Electronic Journal of the Court of Auditors of Santa Catarina, 2020. p.38, 07/30/2020, emphasis added – research data).

Munck, Munck and Souza (2011) recall when they mention that Social Sustainability involves broad issues related to other aspects of OS. Issues of human development are exemplified – addressed in Barbosa (2008) – and issues of equity, these as indicators of Social Sustainability, which imply the adoption of distributive social measures and universalization of health and education actions, indicators of Social Inclusion, and complementary housing – indicator of Socio-Environmental Justice, among other related actions.

Transcending literature, these are necessary actions for society, which must leave discourse orality and become explicit, concrete, and measurable actions, alongside actions of Social Sustainability, Environmental Sustainability, and Social Inclusion itself, the last two with low quantitative recovery in research.

Organizational Sustainability, in this scope, and under the conceptual vision of Munck, Munck and Souza (2011), is understood as a set of policies linked to organizational activities and decision-making aiming to ensure that organizations maximize the positive impacts of their activities concerning society, is found in the three states, however, not in a structured or intentional way, but sparsely and occasionally.

Knowledge Management Practices in Electronic Diaries

Knowledge Management Practices are part of organizational functions, and when interconnected, they generate results to achieve corporate objectives. In this context, they can also be seen as the application of good practices – or Best Practices – in Public Administration, making management efficient and sustainable (Klein, Pereira & Cogo, 2021; Munck, Galleli & Souza, 2013; Pies & Graf, 2015, Schlesinger et al., 2008).

In the empirical field, 22 practices were raised based on those raised in the records of Batista (2004, 2012) and Batista and Quandt (2015) – Table 4.

Organizational Memory, Portal, and Website were identified in the three states. It is noteworthy that these registration units, in light of the literature, aim to provide access to information to users in the form of tools using, above all, the Internet (Batista & Quant, 2015; Nadal et al., 2021; Terra, 2005, Werner & Werner, 2020).

Table 4

Knowledge Management Practices

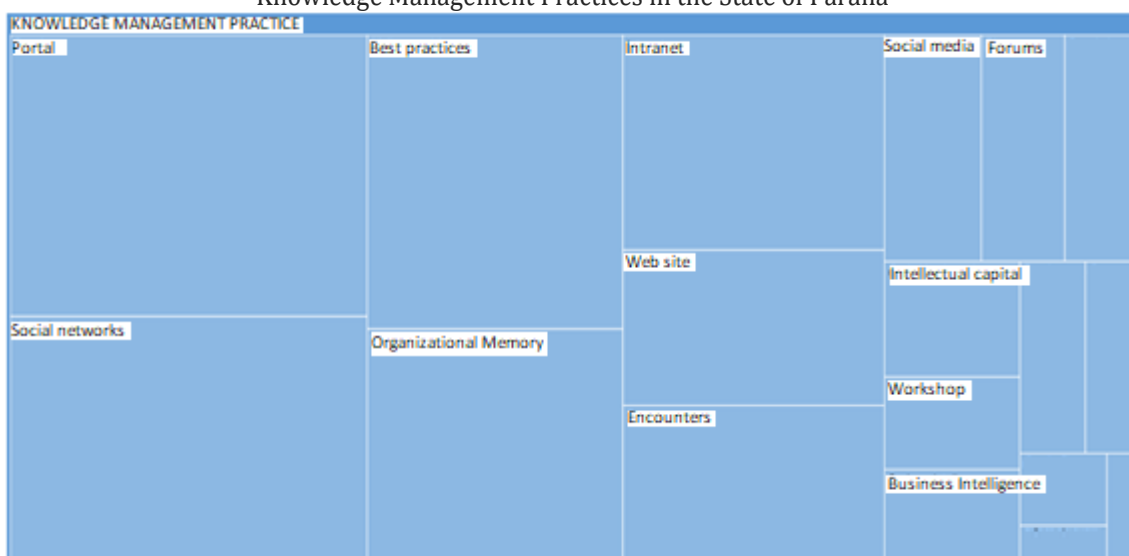
Registration Unit	Paraná	Santa Catarina	Rio Grande do Sul
Benchmarking	X	X	-
Blog	X	-	-
Business Intelligence	X	X	-
Intellectual capital	X	X	-
Innovation Center	X	X	-
Meetings for discussions	X	X	-
Forums	X	X	-
Content management	-	X	-
Document management	X	-	-
Electronic Document Management	X	-	-
Intellectual Property Management	-	X	-
Intranet	X	-	-
Lessons Learned	X	-	-
Mapping	-	X	-
Best Practices	X	X	-
Organizational Memory	X	X	X
Social media	X	X	-
Portal	X	X	X
Intellectual property	X	X	-
Social network	X	X	-
Web site	X	X	X
Workshop	X	-	-

Source: Own authorship with research data (2022).

In Paraná, a greater proportion of allusions refer to the Portal registration units with 31 allusions, Social Networks with 27, Best Practices with 24, and Organizational Memory with 19 allusions. The smaller allusions refer to the Business Intelligence registration units – 3, Electronic Document Management – 2, and Lessons Learned - 1. The result of the search for KM Practices in the Electronic Journals of the Audit Courts of the State of Paraná is represented in Graph 5, accounting for 18 practices. In the Chart, for better reading, we have, in short, Electronic Document Management, Document Management, and Blogs.

Graph 5

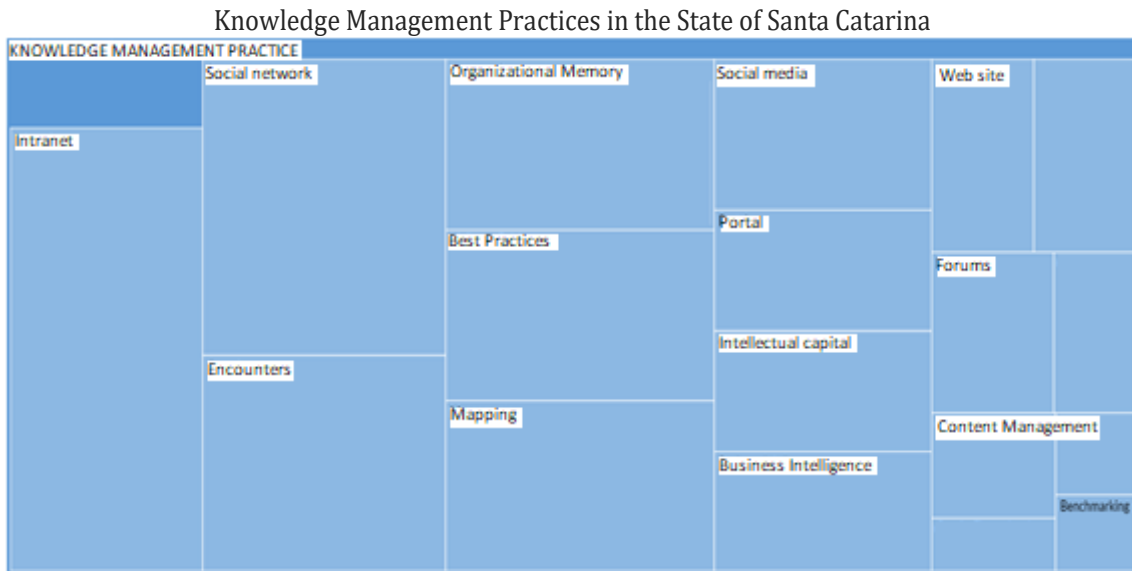
Knowledge Management Practices in the State of Paraná



Source: Own authorship (2022) with the help of NVIVO12 Software (2022).

In Santa Catarina, a higher proportion of registration units was identified for Intranet – 12, Social Network – 11, and Meetings with seven mentions and a lower proportion for Benchmarking, Electronic Document Management, and Innovation Center with one mention each – Graph 6. The total number of practices was 18 – Intellectual Property Management appears abbreviated in the graph.

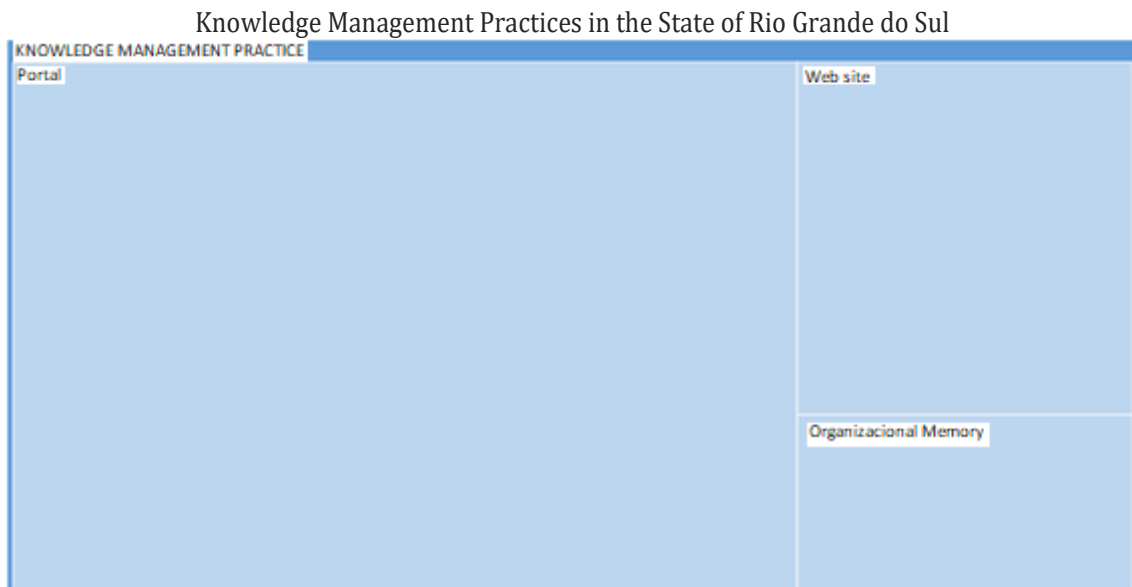
Graph 6



Source: Own authorship (2022) with the help of NVIVO12 Software (2022).

In Rio Grande do Sul, three actions with registration units were identified: Portal with seven references, Website with two, and Organizational Memory with one reference – Graph 7.

Graph 7



Source: Own authorship (2022) with the help of NVIVO12 Software (2022).

A correlation was then established, via Pearson's Correlation Coefficient, between the recovered KM Practices and Organizational Memory to select the most relevant practices, considering the examples identified in the three states. Three practices had low or zero rates – Innovation Center, Portal, and Website. It should be noted that these practices have few direct actions identified via

allusions to the states on-screen – Table 9. However, all recorded practices support Knowledge Management processes, as evidenced in the literature (Batista & Quant, 2015; Nadal et al., 2021; Terra, 2005; Werner & Werner, 2020), whether or not there is a significant statistical correlation.

Table 9

KM practices in relation to OM – correlation measurement

Registration Unit	Paraná	Santa Catarina	Rio Grande do Sul
Benchmarking	0,61174	0,51519	-
Blog	0,5507	-	-
Business Intelligence	0,75221	0,65507	-
Intellectual capital	0,5718	0,678654	-
Innovation Center	-	0,25297	-
Meetings for discussions	0,77658	0,58351	-
Forums	0,69545	0,46805	-
Content management	-	0,59145	-
Document management	0,66193	-	-
Electronic Document Management	0,69566	0,59903	-
Intellectual Property Management	-	0,54785	-
Intranet	0,60427	0,67767	-
Lessons Learned	0,53671	-	-
Process mapping	-	0,67693	-
Best Practices	0,7723	0,706255	-
Social media	0,75345	0,67195	-
Portal	0,65614	0	0,211337
Intellectual property	0,73081	0	-
Social network	0,75896	0,60362	-
Web site	0,59444	0,28958	0,108257
Workshop	0,71082	-	-

Source: Own authorship (2022) with the help of NVIVO12 Software (2022).

It is important to highlight that the use of the Organizational Memory practice, based on the excerpts, is very close to the conceptual elements of creating, recording, disseminating, sharing, and reusing organizational knowledge, despite receiving other names such as meeting memory, Memory of the institution and administrative Memory, for example:

- [...] in the **Memory of the meeting**, only the presentation of the numbers of the State Education Network and the discussion on ongoing protocols that deal with the hiring of civil servants took place (Electronic Gazette of the Court of Auditors of Paraná, 2021. p. 24, 02/06/2021 – search data).
- [...] be responsible for the production, maintenance, and storage of files of photos, videos, and other materials of interest to the Public Ministry of Accounts and that contribute to the constitution and preservation of the **Institution's Memory**; (Electronic Journal of the Santa Catarina Court of Auditors, 2021. p. 41, 03/01/2021, emphasis added – research data).
- [...]and must maintain positions in the legal area effectively staffed, to safeguard **administrative Memory** and, consequently, efficiency in the provision of legal services, [...] – DCF (Electronic Journal of the Court of Auditors of Rio Grande do Sul, 2022. p. 24, 07/03/2022, emphasis added – research data).

Therefore, it is inferred that, in this data extract, the identification of KM practices presents itself as an alternative for analyzing and implementing institutional strategies from different perspectives, including compliance with Organizational Sustainability, through an evident approximation of concepts.

Approximation between concepts – Organizational Sustainability and Organizational Memory

Abecker et al. (1998) and Conklin (2001) already highlighted that the structuring of organizational processes works as a facilitator of Organizational Memory; the systematization of organizational processes can benefit from the use of Best Practices via Benchmarking, data collection via Social Networks and Document Management, some of the elements mentioned in Table 9, also considering formal and specific collection procedures, registration, sharing and reuse of data and information – Table 5.

Such elements of Knowledge Management are based on the participatory inclusion of the so-called Human Capital, with the effective applicability of its Intellectual Capital; this corroborates with Nascimento and Sousa Junior (2019, p. 92), who connect through a conceptual model, three propositions: (i) "the mutual relationship between Intellectual Capital and Knowledge Management"; (ii) "the existence of a positive relationship between the dimensions of Intellectual Capital" and the adoption of sustainability; and (iii) "the presence of a positive relationship between Knowledge Management processes and the adoption of sustainability".

Organizational Sustainability, therefore, incorporates actions related to human development (income, education, training and training, health, among others), equity (fair wages and benefits, equal opportunities, and absence of discrimination in the workplace) and ethical considerations (human rights, cultural values, socio-environmental justice) (Munck; Munck & Souza, 2011), forming a network of relationships and making the boundaries between the two concepts permeable, the context categories of this study.

Final considerations

Organizational sustainability in the context of public administration suggests that effectiveness and good practices in its processes enable an environment of sustainable development as long as the aspects of environmental, social, and economic sustainability, social inclusion, socio-environmental justice, and eco-efficiency are considered. Sustainable organizations demonstrate that they cause less environmental impact in their operational activities, focusing on organizational development in an articulated and strategic way without neglecting the members of society; this is what the theoretical rescue points out. On the other hand, conceptually, Knowledge Management allows the systematization of data, information, and knowledge to support the organizational environment, as has long been discussed and accepted, especially with established memories.

In the practical field, however, gaps were identified, with the following being the deficiencies identified in this study concerning Knowledge Management practices and Organizational Sustainability Actions in Public Administration: **the apparent lack of data and information reuse** procedures in a structured way, although there are sharing procedures, mainly related to Organizational Memory; a low rate of **Data Records** actions was also noted, despite these being considered pertinent and important actions in the rescued excerpts. On the other hand, there is a record of initiatives such as an **Innovation Center, Intellectual Property Management, and Process Mapping**, which induce knowledge creation, but these are few and specific references.

In the details of the OS, actions are aimed mainly at Social and Environmental Sustainability. However, the term Economic Sustainability has few allusions, referring only to the acquisition of equipment and environmental inspection, without connections with economic policies, support for efficient management of flow, and use of resources. In Social Inclusion, Employment and Income are highlighted, but, again, in specific allusions. **Basic Sanitation**, an Eco-efficiency indicator, is the highlight, bringing us closer to improving the quality of life in cities.

However, the compiled results do not allow the pointing out of policies to support Organizational Memory, even less Knowledge Management and its practices for Organizational Sustainability, as what is evident in the analysis on screen, in this momentary portrait raised, is that there is no evidence of KM, but rather preambular evidence of Data and Information Management, which were

not discussed within the scope of this article.

Concerning a possible limitation of the research related to missing data from the years 2019 – Rio Grande do Sul – and 2022 – Paraná –, it is essential to highlight the relevance of addressing issues of standardization and structuring of open data made available, with a view to Data Management, in support of governance and sustainability, which is a possibility for future work.

Furthermore, in the field of future studies, it is suggested to explore the deepening of dynamic forms of OM, such as Culture and Organizational Strategy, and the analysis of participatory models of Public Administration, considering the direct survey with public agents, linking these new studies to issues of Organizational Sustainability, a field little explored and without great evidence of integration with the discipline of Knowledge Management.

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