



## **Teleworking in public administration: a systematic review of the literature**

### **Teletrabalho na administração pública: uma revisão sistemática da literatura**

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#### **1 INTRODUCTION**

In 2020 we experienced a pandemic caused by SARS-CoV-2, which caused the disease COVID-19. The World Health Organization (WHO) declared the outbreak of the disease a Public Health Emergency of international concern. At that time, the emergency committee considered that the spread of COVID-19 could be halted by early detection, isolation, immediate treatment, and implementation of a robust system to track contacts as the virus spread rapidly through the air. So "*lockdown*", i.e. total isolation, was recommended.

Given this situation, in the Federal Public Administration, several bodies, agencies, courts, among others, had to adapt to the reality of working from home, thus calling it remote work. This means working outside the work environment to comply with ORDINANCE No. 356, OF 11 MARCH 2020 and also NORMATIVE INSTRUCTION No. 19, OF 12 MARCH 2020, which established the measures to deal with the public health emergency of international importance caused by the coronavirus (COVID-19),

INSS medical examinations and public hearings began to be held remotely; at universities, classes were held *online*. Something that was already possible, but little discussed, quickly became a reality. And, as a consequence, a debate started about the possibility of continuing the remote working method, since many agencies were already making their guidelines about the theme internally, through resolutions, ordinances and regulations.

According to the presentation made by the Ministry of Economy, "New Rules for Telework in Federal Public Administration", although there are advantages and



disadvantages in relation to this type of work, it is undeniable the need to reflect on the new forms of work and how to prepare for these changes. Given the above, it is understood that a systematic review of the literature on telework is important in order to understand its evolutionary process so far and next steps after the pandemic context.

In view of this, this study aims to carry out an updated systematic review of the literature concerning theoretical and empirical research on telework in the Public Administration, seeking to understand what happened to telework in the period between 2020 and 2023 (pandemic and post-pandemic), and what are the next steps to be applied arising from this possible new work reality.

To achieve this goal, a systematic literature review was conducted, inspired by the *Knowledge Development Process-Constructivist* (ProKnow-C) method. First, the bibliographic portfolio for the period 2020-2023 was selected from the *Emerald Insight*, *INFORMS PubsOnline*, *SAGE Journals*, *ScienceDirect (Elsevier)*, *Springer Link*, *Wiley Online Library*, *Scielo*, *EBSCO*, *Oxford Journals*, *Scopus* and *Web of Science* databases. Next, bibliometric and content analysis of the bibliographic portfolio was performed.

The article is structured as follows: introduction, objective, methodology, development, final considerations, and references.

## **2 OBJECTIVE**

This paper aims to conduct a systematic review of the literature about telework in the Public Administration during the period 2020-2023, in order to understand its evolutionary process during and after the pandemic period and contribute to the understanding, evaluation and discussion about its future.

## **3 METHODOLOGY**

To achieve the proposed objective, a systematic literature review was conducted using the Proknow-C method by Ensslin, Ensslin and Lacerda (2010). This method, widespread in the academic community, is composed of three main steps: selection of the portfolio of articles, bibliometric analysis, and systemic analysis. This research analyzes the literature of telework in public administration in the period between 2020 and 2023, a period related to covid-19, where there was a profusion of studies involving remote work, "home office" and telework.

For the selection of the bibliographic portfolio, articles were selected based on the terms "*teleworking*" or "*telecommuting*" combined with "*public administration*". That is,



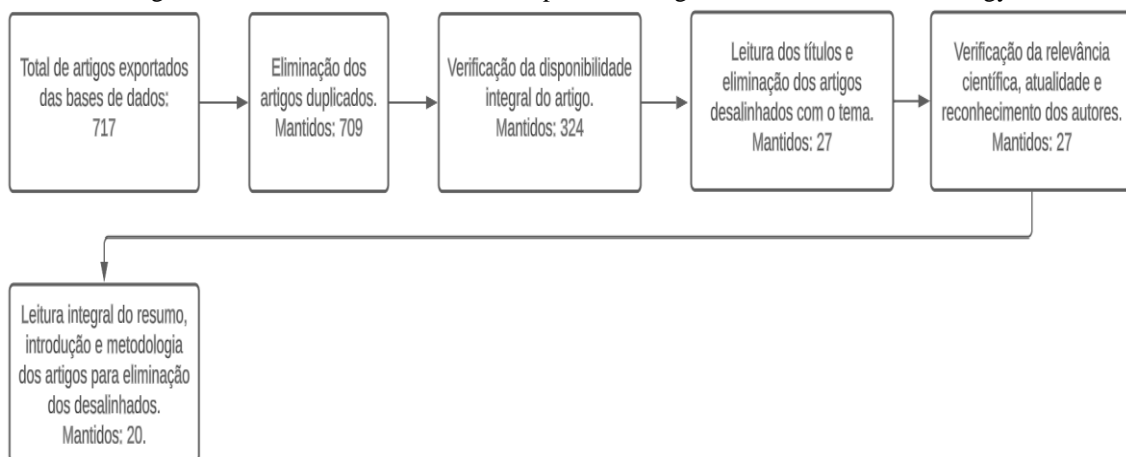
the combination of keywords was used in two axes, the first being: "Teleworking" OR "Telecommuting"; and the second AND: "public administration". The databases selected to search the articles were: *Emerald Insight*, *INFORMS PubsOnline*, *SAGE Journals*, *ScienceDirect (Elsevier)*, *Springer Link*, *Wiley Online Library*, *Scielo*, *EBSCO*, *Oxford Journals*, *Scopus* and *Web of Science*. These were well known, of high quality, and that made it possible to consult the articles in their entirety. From this consultation, the articles were exported to the *Rayyan* bibliographic management software, as shown in table 1.

Table 1: Total exported and selected articles by database

<b>BASE DE DADOS</b>	<b>Quantidade de Artigos</b>	<b>Apenas acesso aberto</b>	<b>Selecionados</b>
<i>Emerald Insight</i>	344	37	4
<i>INFORMS PubsOnline</i>	10	0	0
<i>SAGE Journals</i>	36	4	1
<i>ScienceDirect (Elsevier)</i>	27	27	6
<i>Springer Link</i>	18	9	3
<i>Wiley Online Library</i>	41	21	6
<i>Scielo</i>	0	0	0
<i>EBSCO</i>	1	0	0
<i>Oxford Journals</i>	97	97	2
<i>Scopus</i>	0	0	0
<i>Web of Science</i>	143	129	5
<b>TOTAL</b>	717	324	27

After exporting the 324 open-access articles to the bibliographic management software, the following selection and filtering procedures were followed, according to the ProKnow-C methodology, as shown in figure 1.

Figure 1 - Article search and selection process using the ProKnow-C methodology



As shown in figure 1, first, duplicate articles were excluded, keeping 709. Then, the full availability of articles was verified, selecting only those of free/open access,



keeping 324 articles. The next step was to read the titles of each article, excluding those that were not aligned with the theme, keeping 27 articles. The next process consisted in verifying the scientific relevance of the articles based on Google Scholar, finding that 19 articles had 4 or more citations, and the remaining 8 articles were also recent. After reading the abstracts, 17 articles were kept and 10 articles misaligned with the theme were eliminated. Next, the abstracts, introduction, and methodology of the articles were read in their entirety to verify their alignment with the theme, and 20 articles were chosen to compose the portfolio of articles.

With the portfolio defined, a bibliometric analysis was performed with the objective of quantifying the existing information and providing the characteristics of these publications. In this phase of analysis, the aspects considered were: (i) number of articles published per year; (ii) journal relevance, using the *Journal Citation Report (JCR)* impact factor for the year 2021; (iii) most prominent authors in the bibliographic portfolio; (iv) occurrence of keywords; (v) citation network; (vi) co-citation network; (vii) total citations, according to Google Scholar; (viii) classification of articles by categories; and (ix) main contribution of the article.

Finally, the systemic analysis involved content analysis of the selected bibliographic portfolio.

#### **4 DEVELOPMENT**

With regard to the bibliometric analysis, it can be seen that there was an increase in the number of articles published between 2020 and 2022. We cannot say that there was a drop in 2023 because we researched the articles published up to April 2023 (see figure 2).



Figure 2 - Number of articles published per year

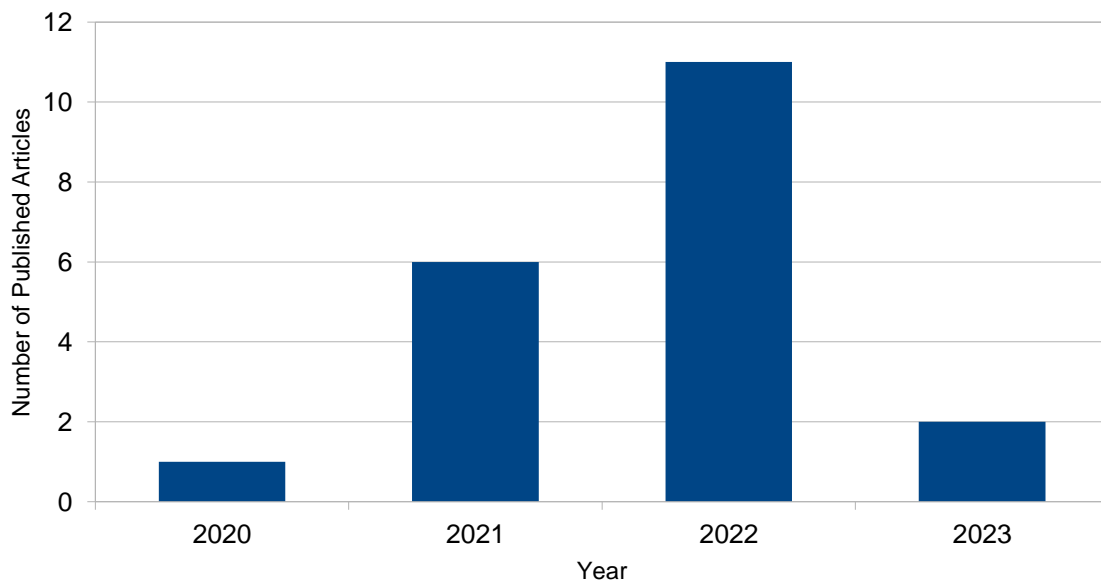


Table 2 shows the characteristics of the journals in which the selected articles were published. It shows the total number of articles published in each journal, their category (journal area) and their respective impact factor according to the *Journal Citation Report* (JCR) for the year 2021. The impact factor means the number of citations that articles receive in a journal, calculated between the number of citations received by the number of articles published in the journal.

Table 2 - Analysis of the journals according to the number of articles, impact factor and category (area)

PERIÓDICO	FATOR DE IMPACTO	CATEGORIA	TOTAL DE ARTIGOS
Employee Relations: The International Journal	2.688	Management	1
Facilities	N/A	Arquitetura, urbanismo e design	1
Management Decision	5.589	Administração pública e de empresas, ciências contábeis e turismo	1
Journal Of Public Administration Research And Theory	6.16	Public administration	1
Public Personnel Management	2.6	Public administration	1
Transportation Research Part A-Policy And Practice	6.615	Economics	1
Computers In Human Behavior	8.957	Psychology, multidisciplinary	1
Environmental And Sustainability Indicators	0.69	Environmental sciences	1
Heliyon	3.776	Multidisciplinary sciences	2
Journal Of Business Research	10.969	Business	1
Bmc Public Health	4.135	Public, environmental & occupational health	1
Current Psychology	2.387	Psychology, multidisciplinary	2
Sustainability	3.889	Environmental sciences	3
Bmc Public Health	4.135	Public, environmental & occupational health	1
Applied Psychology-An International Review-Psychologie			
Appliquee-Revue Internationale	5.414	Psychology, applied	1
Australian Journal Of Public Administration	2.140	Public administration	1



Table 3 presents the result of the analysis of the authors of the bibliographic portfolio. For this analysis, the 82 authors were analyzed, since they were the sum of the 20 selected articles. The authors Amy Collins, Melissa Graham, Rolf van Dick, and Kevin Daniels were the most prominent in terms of publications made in the academic community.

Table 3 - Analysis of the authors according to the number of articles

<b>Autores</b>	<b>Quantidade de artigos</b>	<b>Autores</b>	<b>Quantidade de artigos</b>
Rwth Stuckey	38	Maja Rozman	18
Melissa Graham	137	Vesna Cancer	34
Victoria Weale	16	Bouke Boegheim	1
Antonia J. Kaluza	12	Rianne Appel-Meulenbroek	43
Rolf van Dick	155	Dujuan Yang	50
Joanna Blahopoulou	3	Marcel Loomans	18
Silvia Ortiz-Bonnin	9	Lucio Todisco	4
Maribel Montañez-Juan	2	Andrea Tomo	20
Gema Torrens Espinosa	1	Paolo Canonico	28
M. Esther García-Buades	9	Gianluigi Mangia	28
Andreja Mihailović	3	Valentina Mele	64
Julija Cerović Smolović	2	Nicola Bellé	37
Ivan Radević	10	Maria Cucciniello	26
Neli Rašović	1	David Giaouque	23
Nikola Martinović	3	Karine Renard	2
José María Ortiz-Lozano	3	Frédéric Cornu	2
Pedro César Martínez-Morán	2	Yves Emery	40
Iván Fernández-Muñoz	1	Kostas Mourtidis	37
Mafalda Sousa-Uva	15	Sebastian Peters	54
António Sousa-Uva	19	Rasa Jamsen	1
Marta Mello e Sampayo	1	Anu Sivunen	30
Florentino Serranheira	25	Kirsimarja Blomqvist	36
Chrisalena Athanasiadou	1	J. Andrew Kelly	13
Georgio Theriou	14	Luke Kelleher	12
Francesca Loia	22	Yulu Guo	1
Paola Adinolfi	18	Ciaran Deegan	1
Stephen Wood	22	Breanna Larsen	1
George Michaelides	22	Shivani Shukla	15
Ilke Inceoglu	29	Amy Collins	101
Karen Niven	53	Fendy Suhariadi	20
Aly Kelleher	1	Rini Sugiarti	2
Elizabeth Hurren	14	Dwi Hardaningtyas	1
Kevin Daniels	114	Rina Mulyati	1
Sue Williamson	37	Evi Kurniasari	1
Linda Colley	46	Nurlailis Saadah	2
Twan Huybers	21	Hilmi Yumni	1
Massimiliano Tani	56	Ansar Abbas	28
		Lebene Richmond Soga	5
		Yemisi Bolade-Ogunfodun	5
		Marcello Mariani	94
		Rita Nasr	1
		Benjamin Laker	18
		Jodi Oakman	1
		Natasha Kinsman	17



Regarding the methodological approach of the portfolio of selected articles, we can observe in figure 3, that the majority adopts the quantitative approach (60%), followed by the qualitative (30%), and finally both (10%).

Figure 3 - Methodological approach of the articles

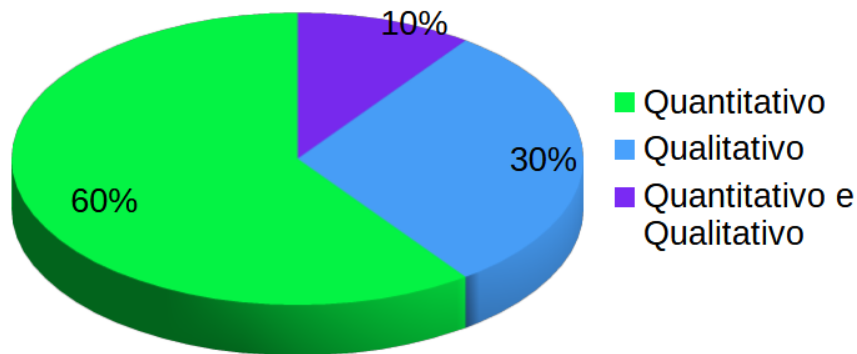


Table 4 shows the main objectives found in the selected articles. Among which we can highlight objectives related to: (i) the strengths and weaknesses in telework; (ii) the advantages and disadvantages of telework; (iii) the impact of the implementation of telework in the performance of employees; (iv) the communication process in telework and; (v) satisfaction of workers in the new work format. In addition, some attempt to discourse on future research agendas in order to direct actions and recommendations.



Table 4 - Analysis of the articles and their main objectives

Artigo	Objetivos Principais
The bright and dark side of smart working in the public sector employees experiences before and during COVID-19	Analisar pontos fortes e fracos e principais problemas relacionados ao uso do trabalho inteligente
Indoor environmental quality	identificar relações entre as condições medidas (objetivas) do IEQ, sua percepção, adequação do local de trabalho e saúde mental do funcionário, durante o trabalho em casa.
Appropriately organized work and employees' concerns related to work from home during the COVID-19 pandemic: the case in Slovenia	estabelecer os efeitos do trabalho adequadamente organizado, bem como os efeitos das preocupações dos funcionários relacionados ao trabalho durante a pandemia do COVID-19 na eficiência e satisfação no trabalho entre os funcionários que trabalham em casa durante esse período.
Thanks, but No Thanks Preferences towards Teleworking Colleagues in Public Organizations	apurar as preferências dos não teletrabalhadores em relação aos seus colegas de teletrabalho e de explorar sistematicamente o que está por detrás dessas preferências
Engagement, Exhaustion, and Perceived Performance of Public Employees Before and During the COVID-19 Crisis	compreender o impacto nos servidores públicos decorrente das mudanças nas condições de trabalho decorrentes do teletrabalho
Assessing preference and potential for working from anywhere	fornecer uma medida objetiva da viabilidade da adoção de práticas WFA e as prováveis preferências no mercado de trabalho, oferecendo assim aos formuladores de políticas e empregadores uma ferramenta para avaliar e direcionar ações de apoio para o WFA.
COVID-19 impact on teleactivities	fornecer novas evidências empíricas sobre se e como uma ampla gama de teleatividades mudou devido ao COVID-19
Employees perceptions of relational communication in full-time remote	compreender como a transferência abrupta para o trabalho remoto se reflete nas percepções dos funcionários sobre a comunicação relacional no trabalho
Unmasking the other face of flexible working practices A systematic	revisão sistemática de estudos que examinaram os FWP
Work from home	avaliar experimentalmente o modelo de comportamento produtivo de professores e funcionários durante o trabalho em casa
A rapid review of mental and physical health effects of working at home	revisar o impacto do WAH na saúde mental e física dos trabalhadores individuais e determinar qualquer diferença de gênero, para desenvolver recomendações para empregadores e funcionários para otimizar a saúde dos trabalhadores.
Telework at times of a pandemic	a natureza voluntária do teletrabalho modera a associação entre a quantidade de teletrabalho e as percepções de desvantagem
Telework satisfaction, wellbeing and performance in the digital era	examinar os efeitos da satisfação do teletrabalho (tempo 1) no bem-estar subjetivo e no desempenho autorrelatado (tempo 2) durante o bloqueio do COVID-19.
COVID-19 and Beyond Employee Perceptions of the Efficiency of Teleworking and Its Cybersecurity Implications	examinar como o teletrabalho afetou as percepções dos funcionários sobre eficiência organizacional e segurança cibernética antes e durante a pandemia do COVID-19
Difficulties for Teleworking of Public Employees in the Spanish	verificar as dificuldades no teletrabalho pelos funcionários da Administração Geral do Estado (AGE) espanhola
Telework during the COVID-19 epidemic in Portugal and determinants of job satisfaction a cross-sectional study	caracterizar o teletrabalho durante a primeira onda da epidemia de COVID-19 em Portugal e identificar os principais preditores da satisfação com o teletrabalho.
Teleworking as an Eco-Innovation for Sustainable Development Assessing Collective Perceptions during COVID-19	perceber como o teletrabalho é percebido e, em particular, se é considerado um motor de desenvolvimento sustentável
Telework systematic literature review and future research agenda	revisão sistemática de estudos e agendas futuras sobre o teletrabalho
Public servants working from home during the pandemic Who gained and who lost	examinar quem ganhou e quem perdeu enquanto trabalhava em casa
Satisfaction with one's job and working at home in the COVID-19 pandemic A two-wave	verificar o argumento de que as demandas e os recursos do trabalho moldarão principalmente a satisfação no trabalho, enquanto as demandas e os recursos do trabalho de casa influenciarão principalmente a satisfação do trabalho de casa

The main terms found in the articles were specified in figure 4. It is possible to notice different ways of naming telework as: intelligent work, flexible work, work at home, voluntary telework and forced telework. In these last two, it stands out the fact that the last one (forced telework) refers to the pandemic period, where employees had no choice, because they were forced to work from home. And the voluntary telework, for the post-pandemic period, where the possibility of working from home was discussed for those who so wished. In addition to those highlighted in figure 4, the terms: cyber



security, sentiment analysis, job satisfaction, win-loss ratio, and work demand resource model (JDR) were also found.

Figure 4 - Main terms used in the selected articles



Figure 5 shows the countries where the research of the selected articles was carried out, demonstrating quite a variety. It is worth noting that there is research that was done only through systematic review of the "Scopus" database, as well as the social media platform "Twitter", where it was searched through the "hashtags": *teleworking*, *telecommuting*, *trabalhoremoto* and *trabalhoemcasa*. For example, the article by Adinolfi and Luia (2021) used the R programming language for "tweets" in order to demonstrate how teleworking is perceived and, in particular, whether it is considered a driver of sustainable development.

Figure 5 - Search locations of the selected articles



Table 5 presents the main points of the methodological procedures of the surveys. For example, in terms of data collection, the vast majority used questionnaires with the organizations' employees. Others conducted the collection through systematic literature review in databases at specific periods. In terms of period, some conducted the research before the pandemic, some during, and some after. This makes the researches very useful and relevant to understand how telework has evolved.



Table 5 - Main points of the methodological procedures of the articles

Artigo	Como a pesquisa foi realizada
The bright and dark side of smart working in the public sector employees experiences before and during COVID-19	27 Entrevistas em 2017 no projeto piloto do trabalho inteligente e após início da pandemia em março 2020. E fontes de dados secundários, como relatórios, documentos e regulamentos internos
Indoor environmental quality	36 participantes de uma empresa de consultoria holandesa, distribuídos igualmente por dois períodos consecutivos de cinco dias úteis em abril de 2020
Appropriately organized work and employees' concerns related to work from home during the COVID-19 pandemic: the case in Slovenia	619 funcionários durante a pandemia (80 empresas), questionário do tipo fechado
Thanks, but No Thanks Preferences towards Teleworking Colleagues in Public Organizations	escolha discreta com mais de 1.000 funcionários públicos. entrevistas semiestruturadas. agência local. desde 2011 teletrabalho, pesquisa feita em 2016.
Engagement, Exhaustion, and Perceived Performance of Public Employees Before and During the COVID-19 Crisis	administração pública cantonal suíça, pesquisa 1.367 funcionários do setor público.
Assessing preference and potential for working from anywhere	O índice desenvolvido foi compilado usando software GIS no nível Small Area (SA) usando a Irlanda como estudo de caso.
COVID-19 impact on teleactivities	1.796 adultos
Employees perceptions of relational communication in full-time remote	1.091 funcionários finlandeses do setor público com praticamente nenhuma experiência anterior em trabalho remoto concluiu uma pesquisa aberta durante a primeira onda da pandemia
Unmasking the other face of flexible working practices A systematic	Scopus e Web of Science. revisão sistemática de literatura de 2011 a 2021
Work from home	556 entrevistados em uma universidade pública
A rapid review of mental and physical health effects of working at home	três bancos de dados, PsychInfo, ProQuest e Web of Science, de 2007 a maio de 2020
Telework at times of a pandemic	Estudo 1, coletamos dados antes e durante a pandemia de COVID-19 (N=327). E voluntariedade do teletrabalho dos funcionários no Estudo 2 (N= 220).
Telework satisfaction, wellbeing and performance in the digital era	Os dados foram coletados durante as semanas em que a Espanha estava sob as medidas de bloqueio mais rígidas da Europa. 111 funcionários espanhóis trabalhando em casa durante o primeiro bloqueio do COVID-19, Questionário googleforms com idades entre 25 e 65 anos. Participaram do estudo funcionários do setor público (23,4%), do setor privado (64,4%) e outros (11,7%).
COVID-19 and Beyond Employee Perceptions of the Efficiency of Teleworking and Its Cybersecurity Implications	1.101 entrevistados da categoria de funcionários em Montenegro setor público e privado. modelo de equação estrutural (SEM) foi formado para investigar as relações causais entre os fatores.
Difficulties for Teleworking of Public Employees in the Spanish	inquérito realizado no período de novembro a dezembro de 2020 no âmbito do mestrado em Recursos Humanos na Pontifícia Universidade Comillas. 241 inquéritos correspondentes aos que declararam teletrabalhar mais de dois dias por semana ou mais de 30% da jornada de trabalho, dando um total de 438 registros de as dificuldades referidas, que compõem a amostra analisada
Telework during the COVID-19 epidemic in Portugal and determinants of job satisfaction a cross-sectional study	1004 participantes, questionário online, na pandemia, 12 de maio e 3 de junho de 2020
Teleworking as an Eco-Innovation for Sustainable Development Assessing Collective Perceptions during COVID-19	Análise de dados, a análise foi realizada em um período de 6 meses, do início de setembro de 2020 ao final de fevereiro de 2021. Linguagem R.
Telework systematic literature review and future research agenda	revisão sistemática da literatura com base em evidências de 40 artigos publicados em periódicos de alto nível durante os anos 2000-2020.
Public servants working from home during the pandemic Who gained and who lost	Setor Público. pesquisa de 2020 com mais de 5.000 servidores públicos australianos. modelo estatístico estimado por meio de métodos de regressão linear.
Satisfaction with one's job and working at home in the COVID-19 pandemic A two-wave	questionário online. Na primeira dessas pesquisas, os participantes responderam a uma série de perguntas que capturavam as demandas e os recursos associados ao trabalho e ao dever de casa (nossas variáveis independentes). Na segunda dessas pesquisas, os participantes indicaram sua satisfação com o trabalho e com o dever de casa (as variáveis dependentes).

Regarding the gaps found by the selected articles, the research highlights: (i) little research on the voluntariness of work; (ii) observation of slowness in the digital transformation in a given practical context; (iii) studies with sample not representative of the population or with data collected in the first days of the pandemic; (iv) lack of studies on telework satisfaction; (v) lack of research on theoretical knowledge of the topic in a comprehensive and systematic way; (vi) need for longitudinal research; (vii) selection bias and information bias and; (viii) limited literature on cost reimbursements for employees working remotely. We highlight here the fact that although it is an old and

possible way of working, it has not been fully used, and therefore, there are not many studies on telework, especially in the context of Brazilian public administration. This fact only occurred after the pandemic showed this new reality, that yes it was possible to work from home.

With regard to the results and contributions of the articles analyzed (see figure 6 and table 6) there is a highlight for the presentation of the advantages and disadvantages of teleworking. Among the disadvantages were the social isolation, relational communication, difficulty in reconciling work and family, balance between personal and professional life, possible loss of productivity of employees and difficulty in career growth. The advantages highlighted were autonomy, employee efficiency, job satisfaction, savings on commuting, the opportunity for differentiated relational communication, and the productive conduct of teachers.

Figure 6 - Main contributions of the selected articles

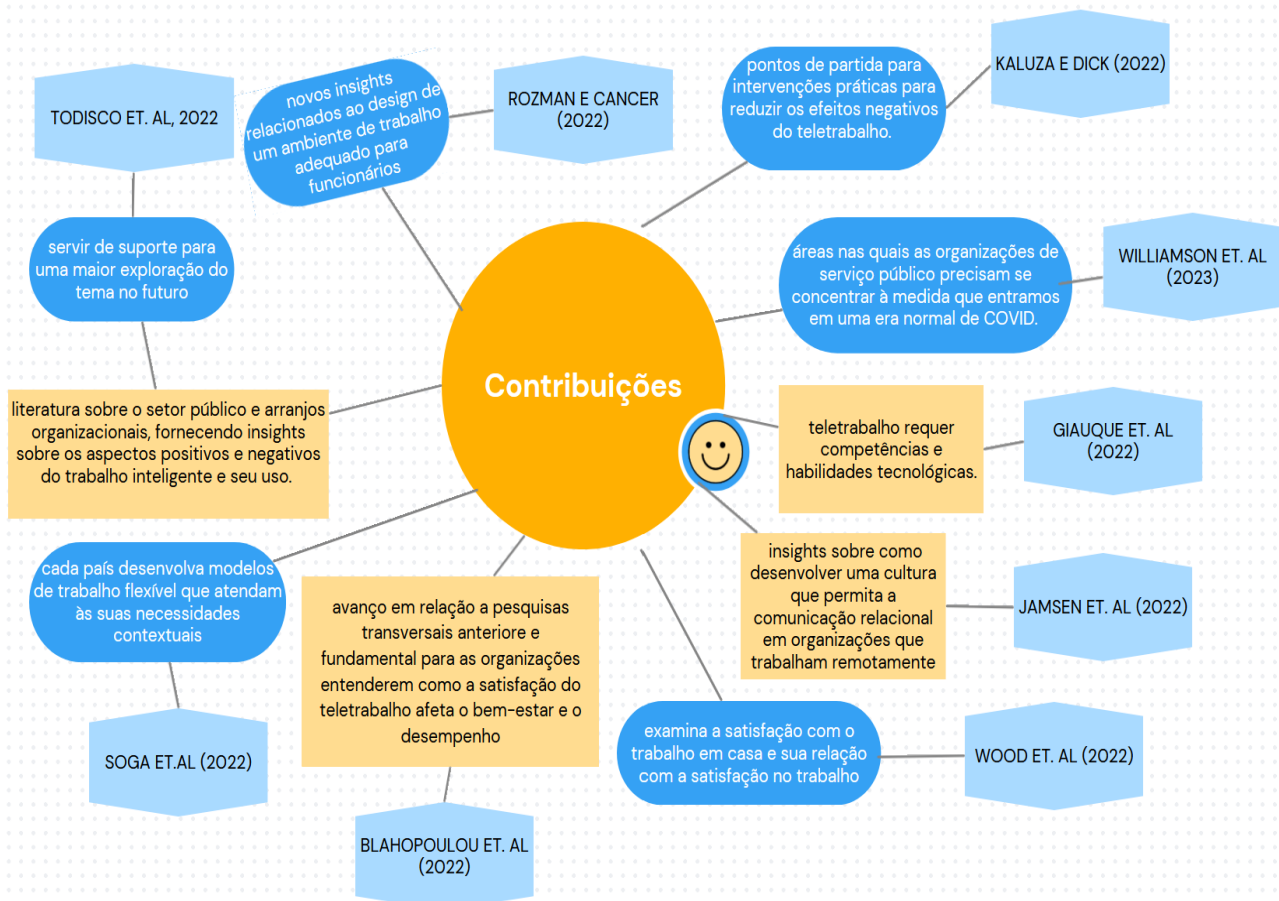




Table 6 - Main results found

Artigos	Resultados
The bright and dark side of smart working in the public sector employees experiences before and during COVID-19	Influências dos arranjos de trabalho e dos aspectos organizacionais, psicológicos e sociais em torno da adoção do trabalho inteligente. aspectos positivos quanto os limites desse modo de trabalho, especialmente em relação ao isolamento dos funcionários e à falta de comunicação com os gerentes. o conflito trabalho-família é um aspecto-chave na determinação do sucesso desse trabalho
Indoor environmental quality	os parâmetros subjetivos e objetivos do IEQ e a adequação e distrações experimentadas no local de trabalho ao trabalhar em casa estão relacionados à saúde mental do funcionário ao trabalhar em casa de maneira semelhante ao trabalho no escritório
Appropriately organized work and employees' concerns related to work from home during the COVID-19 pandemic: the case in Slovenia	efeito positivo não apenas na eficiência do trabalho dos funcionários que trabalham em casa durante a pandemia de COVID-19 na Eslovênia, mas também em sua satisfação no trabalho. Além das preocupações dos funcionários relacionadas ao trabalho durante a pandemia do COVID-19 ter um efeito negativo na eficiência do trabalho dos funcionários que trabalham em casa na Eslovênia.
Thanks, but No Thanks Preferences towards Teleworking Colleagues in Public Organizations	os funcionários da agência preferiam futuros colegas de trabalho do sexo feminino, mais jovens, com menos filhos, em horário integral e que não fossem teletrabalhadores. preferência por colegas que não trabalhem à distância.
Engagement, Exhaustion, and Perceived Performance of Public Employees Before and During the COVID-19 Crisis	tenha influenciado positivamente a autonomia no trabalho e o equilíbrio entre vida profissional e pessoal dos funcionários, influenciou negativamente o grau de colaboração e a tensão percebida no trabalho, mas não afetou os níveis de engajamento.
Assessing preference and potential for working from anywhere	a escala de benefícios anuais para um cenário nacional plausível de '2 dias por semana' trabalhando em qualquer lugar é substancial e oferece o potencial para economizar na região de 1 bilhão de quilômetros de deslocamento diário de carro por ano com benefícios sociais associados para redução de emissões e economia de tempo individual.
COVID-19 impact on teleactivities	a frequência da maioria das teleatividades aumentou durante o COVID-19. A análise das características do ambiente construído e das teleatividades indica associações entre densidade de vizinhança e determinadas teleatividades.
Employees perceptions of relational communication in full-time remote	entrevistados relataram sentir-se isolados e solitários no trabalho remoto, sentindo falta de oportunidades de se beneficiar do conhecimento e apoio de outras pessoas nas organizações. Porém, alguns funcionários perceberam o trabalho remoto como uma oportunidade de comunicação relacional.
Unmasking the other face of flexible working practices A systematic	apresentou as desvantagens do trabalho flexível, implicações para os formuladores de políticas em relação ao uso da tecnologia, bem como às leis trabalhistas para proteger a saúde, a segurança e a privacidade dos funcionários.
Work from home	a conduta produtiva dos professores e funcionários docentes desempenhou um papel importante no sucesso da situação de trabalho em casa.
A rapid review of mental and physical health effects of working at home	Dez resultados de saúde foram relatados: dor, saúde autorrelatada, segurança, bem-estar, estresse, depressão, fadiga, qualidade de vida, tensão e felicidade. O impacto nos resultados de saúde foi fortemente influenciado pelo grau de apoio organizacional disponível para os funcionários, apoio dos colegas, conexão social (fora do trabalho) e níveis de trabalho para conflito familiar. No geral, as mulheres eram menos propensas a experimentar melhores resultados de saúde quando trabalham em casa.
Telework at times of a pandemic	indivíduos que experimentam um alto grau de voluntariedade na escolha do teletrabalho percebem menos desvantagens quanto mais teletrabalham
Telework satisfaction, wellbeing and performance in the digital era	A satisfação com o teletrabalho mostrou efeitos diretos positivos no bem-estar subjetivo e no desempenho autorrelatado
COVID-19 and Beyond Employee Perceptions of the Efficiency of Teleworking and Its Cybersecurity Implications	teletrabalho tem um impacto positivo e significativo nas percepções reais de eficiência organizacional. o efeito que o teletrabalho tem na segurança da informação digital real não é estatisticamente significativo. Os funcionários montenegrinos classificaram a falta de educação dos funcionários, falta de equipe de TI, falta de capacidade técnica e falta de conscientização sobre a gravidade do risco cibernético como componentes-chave que desafiam a segurança da informação digital de sua organização de trabalho. as percepções dos principais desafios relacionados à segurança da informação digital têm um efeito relativamente forte na segurança da informação digital.
Difficulties for Teleworking of Public Employees in the Spanish	as principais dificuldades são a aquisição de má postura e problemas na separação da vida profissional e familiar, sendo que a presença de diferentes tipos de dificuldades difere consoante o gênero, a estrutura do agregado familiar ou se o trabalhador pertence aos níveis de cargos que exigem maior qualificação
Telework during the COVID-19 epidemic in Portugal and determinants of job satisfaction a cross-sectional study	o ambiente de trabalho e a cultura organizacional desempenham um papel crucial na satisfação do teletrabalho.
Teleworking as an Eco-Innovation for Sustainable Development Assessing Collective Perceptions during COVID-19	A análise de sentimento de cerca de 11.000 tweets durante seis meses mostra que o valor ecológico do teletrabalho não é percebido pelas pessoas, num contexto pandêmico de crescente preocupação ecológica, não existem indícios significativos de sensibilização ambiental relativamente ao teletrabalho
Telework systematic literature review and future research agenda	o teletrabalho pode facilitar a inserção de determinados grupos, como os casados e com filhos pequenos, principalmente as mulheres, na força de trabalho. contribui para a satisfação no trabalho dos funcionários embora tenha sido encontrados resultados divergentes. o teletrabalho afeta o equilíbrio entre vida profissional e pessoal, dependendo do ambiente institucional do país onde os teletrabalhadores operam e as fronteiras entre trabalho e família. a forma e a extensão em que o teletrabalho é implementado, e não o teletrabalho em si, pode levar a certos resultados positivos ou negativos. Isolamento social dos teletrabalhadores.
Public servants working from home during the pandemic Who gained and who lost	os participantes da pesquisa tiveram um ganho líquido. Famílias e funcionários com deficiência ganharam; no entanto, as mulheres ganharam menos que os homens nas duas primeiras categorias e ganharam mais que os homens nas crenças e categoria de valores.
Satisfaction with one s job and working at home in the COVID-19 pandemic A two-wave	a satisfação com o dever de casa medeia a relação entre os fatores do dever de casa e a satisfação no trabalho, reforçando o valor de diferenciar os dois conceitos. a autonomia está positivamente relacionada à satisfação no trabalho, enquanto a solidão, a interferência no trabalho e o ambiente inadequado de trabalho em casa estão negativamente relacionados à satisfação no trabalho doméstico



In addition, Kaluza and Dick (2022), pointed out that individuals who experience a high degree of voluntariness in the choice of telecommuting perceive fewer disadvantages the more they telecommute. This means that the possibility of choice, that is, something voluntary and not mandatory as it happened in the pandemic, influences the perception of the advantages and disadvantages of this type of work.

One must also talk about digital information security, where there is a major challenge to be discussed because, the COVID-19 pandemic has resulted in a transformation of the work environment marked by accelerated digitization and decentralization of office activities as a result of increased telecommuting. It must be remembered, however, that a large proportion of organizations were not adequately equipped with the necessary IT mechanisms to enable their employees to work remotely. This fact can be corrected and verified in the post-pandemic context. In this sense the authors draw attention to cybersecurity risk management as a vital factor in the security of organizations (MARTINOVIC *et al.*, 2021).

## 5 CONCLUDING REMARKS

The present research aimed to conduct a systematic literature review about telework in Public Administration during the period 2020-2023, in order to understand its evolutionary process during and after the pandemic period and contribute to the understanding, evaluation and discussion about the future of telework.

A prominent point about the evolution of telecommuting and addressed by Martinovic *et al* (2021) is that telecommuting organizations around the world should insist on cybersecurity training and raise awareness about these issues. The idea is to ensure that employees have adequate awareness of cybersecurity policies and practices in their workplace, especially in telecommuting.

Another point highlighted is that, according to Loia and Adinolfi (2021), leaders need to realize that telecommuting has a positive impact on carbon emissions and should actively shape and strengthen this kind of understanding among employees.

Sousa-uva *et al* (2021), call for more studies to monitor telework satisfaction and its effects on physical and mental health, so that Public and Occupational Health can identify and implement the best interventions to promote individual health in order to foster a healthy work environment for teleworkers.

Within this same perspective, Lozano *et al* (2021), point out that future research should shed some light on social and personal issues. In addition to further research on



the role of telework of public servants in the so-called post-COVID-19 city, including the risks to mental health and how to offer better options to reconcile work and personal life and find procedures to make cities healthier. Also, Blahopoulou *et al* (2022) recommend in future studies to compare the outcomes of telework in crisis context with those in conventional conditions.

Finally, as found in the analyzed articles, many studies were conducted taking into account the specificities of a particular country, few in a global context. It also highlights the need for more quality research on the subject of telework in public management, especially in the Brazilian context, where it verified the existence among the selected articles, of only 1 article (OAKMAN *et al.*, 2020), which conducted a rapid systematic review of the literature considering the effect of mental health on Telework in several countries, and in these, Brazil was included.

Moreover, this systematic review of literature serves as a starting point for practical interventions to reduce the negative effects of telework and intensify its advantages that have already been extensively raised in the literature. It is also important new research related to the quality of life of the servant in telework in order to help the government to formulate policies that enable the most appropriate way as possible the model of telework in public agencies.



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