Article

Protocol for Identifying and Retaining Critical Knowledge in a Public Health Administration

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Abstract: The Secretary of Public Health (SSP) faces a looming skills gap due to retirements and rotations of civil service staff. Critical knowledge retention is crucial across all generational cohorts due to the retirement and turnover of workers. This study develops a protocol that addresses the knowledge retention needs of the four generations (Baby Boomers, X, Y, Z) that coexist in the workforce to ensure the continuity of the Public Health Secretariat. The objective of the study is to develop a protocol for the management, transfer, and retention of critical knowledge. A scoping review is conducted in Scopus and Web of Science to develop the protocol, to identify critical knowledge workers through tool scores. The instrument developed in this research includes two pilots on Baby Boomer and Millennial workers. Both workers had critical and essential knowledge for the continuity of the organisation. The Baby Boomer worker presented a higher amount of tacit, operational, and individually owned knowledge, while the Millennial worker showed a predominance of tacit technological knowledge. This protocol provides a practical and adaptable approach to identifying and prioritising critical knowledge holders, allowing organisations to map and determine the amount of essential knowledge within the workforce. An important limitation of the study is the small sample of workers who participated in the pilot test of the protocol. Further research is therefore recommended in other public administrations and across all generations in employment.

Keywords: generational change; critic knowledge; knowledge management; knowledge retention; tacit knowledge; explicit knowledge

1. Introduction

The public sector, and in particular, the Secretary of Public Health (SSP), is in a time of change, and integrates employees belonging to different generations (Baby Boomers, Generation X, Generation Millennial, and Generation Z) who coexist in the work environment of the Public Administration [1,2].

With a high turnover of workers in a highly experienced or critical workplace, the risk of critical knowledge loss is very high, as the tacit and explicit knowledge of the worker is affected [3]. The replacement of Baby Boomers is of concern to Public Administrations (PAs) in order to ensure the continuity and survival of the public sector [4]. To this end, it is necessary to plan sufficiently in advance a succession and replacement plan to ensure that qualified candidates for the administration are retained [4,5].

Critical knowledge within an organisation refers to the specific information, skills, experiences, and competencies that are essential to its operations, competitive advantage, and long-term sustainability [6]. This type of knowledge is vital for executing key processes, making strategic decisions, and adapting to environmental changes [7].

Knowledge Management and Retention (KMR) plays a very important and strategic role within organisations, as KMR-based processes are difficult to implement [8]. It is true that public sector organisations are more complex than private companies, which can make it difficult to implement effective KMR strategies [9], a discipline little studied in the public sector [8]. Currently, there is a lack of coherent models for KMR in this sector [8].

In this scenario, retaining and capturing talent and/or knowledge is a priority for generational renewal in the event of retirement and in the event of replacement (when employees change jobs) [3]. The literature suggests investigating which knowledge management models are most effective in contexts of high turnover or accelerated organizational change [3].

Therefore, the aim of the study is to create a protocol that correctly manages retirement and replacement, creating two documents to have a management system for KMR, and using a file for each worker (with scoring variables) and a critical knowledge document (indicating who has the critical knowledge), especially in the middle management category.

After the introduction, the literature review, the objective of the study, the methodology used to meet the objective, the results, the discussion of the results, and the conclusions are presented. This study is intended to be a starting point and inspiration for other public authorities to promote effective management for the generational changeover that different organizations will have to carry out in the short term, due to the large number of employees approaching retirement.

2. Literature Review

Public administration, to ensure its survival and continuity, must retain critical knowledge [4,10] as this can be lost in the face of retirements and replacements due to job stress, job dissatisfaction, and/or illness [10]. Therefore, succession and replacement plans should be planned in advance [4].

For this reason, critical knowledge management is decisive in generational handover and replacement processes [5]. When key personnel are lost through retirement, turnover or mobility, critical knowledge about efficient, unique, and difficult-to-change processes can be lost [10]. Therefore, it is crucial to identify critical knowledge and manage it, as the protocol under study aims to do.

Furthermore, it is necessary to store this critical knowledge in a map for each job (especially jobs requiring high expertise) for continuous improvement of management in public administration [11]. It should be noted that a differential of this protocol is to consider the four labour-active generations (Baby Boomers, X, Y, Z) that occupy the jobs [1,12], in addition to seeking the dissemination of knowledge so that it is not lost through the use of this tool, to support the relay and replacement of staff [4,5]. The critical knowledge mapping technique is a tool to identify and manage effective knowledge transition [11,13].

In this protocol, it is essential to include the digital and sustainability competencies demanded by today's environment [14,15]. Digital competencies are referred to as STARA (smart technology, artificial intelligence, robotics, algorithms, and digitalization) [14]. The literature highlights the need for digital talent retention and sustainability [14]. Moreover, the Organisation for Economic Co-operation and Development (OECD) report highlights the importance of technology skills in public administration [16] and the Public Governance Reviews Skills for a High Performing Civil Service (OECD) report also highlights STARA skills in the workplace [14].

Sustainability-related skills are also key in talent management [17], green creativity [18], individual green development [19], social and ecological sustainability [17], and environmental sustainability [14]. On the other hand, the multigenerational work environment in which four generations [1], with different characteristics and competencies, coexist mixes the pre-digital generation and the digital generation [20], (the Baby Boomer generation and the remaining generations, Generation X, Generation Millennial (Generation Y), and Generation Z) [21].

In relation to the working generation, the Baby Boomer generation (born between 1946 and 1964) prioritizes work and shows great dedication and loyalty to it, valuing economic and financial stability above all else [21]. They are also competitive and prefer face-to-face communication to telematics [22]. As for Generation X (born between 1965 and 1980), they have lived in an environment of social and economic change. They are also characterized by their independence and flexibility at work [23]. They are a more

tech-savvy and computer-literate generation [23], and they do not change workplaces frequently and tend to be satisfied with their jobs [24]. On the other hand, Generation Y or Millennials (born between 1981 and 1996), have grown up with technological development [23]. They are a more driven generation, with higher job expectations, and often feel undervalued [25]. They also change workplaces frequently [1] and value work-life balance, although they are more individualistic, narcissistic, and anxious than Baby Boomers [1]. Finally, Generation Z is the generation of digital natives, who value authenticity and instant communication [22], as well as connection in social networks [22]. They also seek social and environmental engagement in the workplace [26], are ambitious, creative, and adaptable, and prefer flexible and inclusive workplaces, although they sometimes feel undervalued like Millennials [27,28].

Because of the multigenerational differences, the protocol includes the first phase differentiating Baby Boomers (Phase 1A) from the rest of the generations in the labour market (Phase 1B) in line with the academic literature [10,22]. In Phase 1A, the scoring items used are competency-based [14,15] and identify the expected date of retirement [29], the characteristics of the person's knowledge and skills [29,30], the difficulty of the required knowledge [29,30], and existing job categories and years of experience [30], along with technology skills [14,15] and sustainability skills [14,18,19]. These items are supported by the academic literature.

In Phase 1B, the items to be scored are job continuity risk [10], and the remaining items correspond to Phase 1A: the characteristics and difficulty of the type of knowledge required [28,29], existing job categories, and years of experience [29], together with technological skills [14,15] and sustainability skills [14,18,19]. In the exceptional case of technology skills, differentiated according to the academic literature, higher technology skills scores are considered appropriate for workers of other generations because they are born in the 'digital age' with preferences for the use of digital tools [20,30]. It is worth noting that since Generation X, people have grown up in technological environments [22], with more language and technology skills [20,30].

The second phase of the protocol is divided into two phases: Phase 2A and Phase 2B. For the development of Phase 2A, a semi-structured interview based on the Cognitive Job Analysis Model was conducted [27,28] The score is determined by four elements: continuous training, congresses and conferences [4,29], documents related to the workplace [5,25], contacts with colleagues and others [30–33], and critical incidents (CI) [34,35].

Regarding phase 2B, based on a structured interview and knowledge mapping, academic literature identifies four types of knowledge (human knowledge, technological knowledge, relational and leadership knowledge, and operational knowledge) related to the job, to identify critical and tacit knowledge of organizations and store the types of knowledge essential for generational change or replacement [29,36].

The Phase 2B structured interview questions are derived from academic literature [28,29,32,37–41] and are classified according to the four types of knowledge. For human knowledge, personal, social, cultural, and psychological factors are considered [32]; with reference to technological knowledge, it is based on the knowledge associated with the skills to use technologies [32]; Regarding relational and leadership knowledge, it is based on the internal and external links of employees, aspects of leadership, negotiation, and people development [32,37]; and operational knowledge deals with the risks of operations and the functioning of organizations [32]. Furthermore, competencies related to sustainability, the environment, society, and governance, as well as Corporate Social Responsibility, also play an important role in the public sector so as not to compromise future generations and make better decisions [42,43]. The knowledge map is completed during the interview and allows for the classification of individual and social knowledge [32,37,44], the nature of the knowledge [12,39], and the functions and location of the knowledge [37,39]. Other tools to manage critical knowledge can be mentoring [34,39], Artificial Intelligence and Big Data, robotization, and simulation [45], among others. Although the protocol allows

organizations to preserve critical knowledge and adapt to generational changes with greater resilience and without negative impact, generating a competitive advantage [4,5].

To evaluate the risk of losing critical knowledge in Phase 2B, the Acric Institute formula is used [10,11], which includes the importance, difficulty, and involvement of workers in relation to the available workforce that has that knowledge [10,11]. Finally, according to academic literature, the order of prioritization of critical knowledge of the job [4] is a critical knowledge score [10,11], which is considered a priority in Baby Boomers [12] and then in the other generations (Generation X, Generation Millennial, Generation Z) [4,10,11,13].

3. Materials and Methods

The methodology used for the development of the background related to the protocol was based on an exhaustive review of the literature following the steps of a Scoping Review with the PRISMA-ScR reporting guidelines [46]. We selected this type of literature review because its main objective is to map existing evidence, identify gaps in knowledge, and clarify concepts [47]. For the development of the protocol, we previously answered the following study question: How can critical knowledge be retained and transferred in public administrations to plan a good generational succession?

The Web of Science and Scopus databases were used to search for the scientific articles to be included in this literature review. Two of the authors screened the articles by title and abstract according to the eligibility criteria. Subsequently, the selected articles were agreed upon and a final decision on their inclusion was made after a complete reading of the entire text. A third author intervened to resolve any discrepancies in the final decision on the inclusion of each article.

3.1. Eligibility Criteria

For this study, specific filters were applied to select the scientific articles for analysis from Scopus, Web of Science, and other databases such as Google Scholar. The inclusion criteria focused on articles published between 2005 and 2024, specifically addressing knowledge and talent management, as well as generational change within both the public and private sectors. Articles detailing techniques for identifying critical knowledge in multigenerational and ageing workforce environments were included, along with those discussing knowledge transfer methods applicable to public administrations.

Excluded from the study were articles published before 2005, conference proceedings, and doctoral theses. Articles were also excluded if they did not explicitly address generational change, dealt exclusively with knowledge management in higher education institutions, or described studies that could not be replicated within a public administration context.

The articles finally included in the literature review were publications that reflect previous experiences of the public sector and public health secretariats in different areas, and explore recent experiences [4,34,36]. In addition, some publications were identified that had used validated surveys to identify the competencies of public sector employees [4,10,11,29,30,48], which served as a starting point and inspiration for the proposal of the protocol presented in the study.

In addition to these studies, other more conceptual and descriptive studies of the different types of knowledge that exist in an organization have been incorporated [32,37], as well as articles related to the description of the different generations in the workplace and different strategies for knowledge retention and transfer [8,9,38,39].

3.2. Search Strategy

The search strategy employed for the literature review was as follows: literature review was as follows: 'Public administration' OR 'Public service' OR 'Public Health Administration*' OR 'Public employment' OR 'Generational change*' OR 'Generational renewal' OR 'Generational relief' OR 'Generational differences' OR 'Intergenerational

workforce' AND 'Job description' AND 'Job motivation' AND 'Public service motivation' AND 'Public human resource management' AND 'Attract talent'.

3.3. Development of the Protocol

This research protocol follows an exploratory methodology, both quantitative and qualitative, designed to detect critical knowledge. A total of three phases have been considered for its design: Phase 1, Phase 2, and Phase 3. The first two phases (Phase 1 and Phase 2) contain a formula of scored items that contain a discriminant cut-off point for considering critical knowledge. The items included are supported by previously reviewed scientific literature. Phase 3 is based on the collection of two documents: an employee record and a critical knowledge document according to the scientific literature.

- Phase 1 (Screening phase): identifies those people who present critical knowledge for all their knowledge, learning, and experience, depending on whether they are Baby Boomers (phase 1A) or other generations currently in the labour market (phase 1B) (View Supplementary Material: Tables S1–S6).

The items in Phase 1A include the upcoming retirement date, the characteristics and difficulties of the required knowledge, job categories, years of experience, and technological and sustainability competencies. This phase is based on the methodology of the Nuclear Industry, which highlights two key variables for knowledge retention: the retirement date and the characteristics of the job [29]. The complexity and inherent difficulties of the knowledge are assessed, along with two additional factors: Time to Learn (TTL) and Knowledge Complexity (KC) [30]. These elements are considered risk factors for the loss of critical knowledge (CK). The assessment of technological competencies is also included, as a new approach to these competencies and digitalization has recently been developed, validating a questionnaire to quantify them [14,15].

Screening formula Phase 1A (Baby Boomers)

[(Expected date of retirement) $\times$ (Characteristics and difficulty of knowledge) $\times$ (Job category $\times$ years of experience) $\times$ (Technological competencies) $\times$ (Sustainability competencies)]

The final discriminant score to determine whether a worker moves to the next phase 2A is >378 points [(3) $\times$ (4) $\times$ (3) $\times$ (3) $\times$ (3) $\times$ (3.5) = 378].

The evaluable items in Phase 2B include the risk of continuity in the workplace, the characteristics and difficulties of the required knowledge, and technological and sustainability competencies, all supported by academic literature. Unlike Phase 1A, the item "Risk of Continuity" is incorporated, which is considered significant as it can impact knowledge loss [11]. This is particularly relevant as it is not only retirement that motivates individuals to leave their jobs, workers from generations prior to the Baby Boom may depart due to ambition, frustration, or health issues [10].

Additionally, Phase 2B retains the items concerning knowledge characteristics and technological competencies from Phase 1A. However, a higher score is exceptionally assigned to technological competencies for younger generations (X, Millennial, and Z) as they have grown up in the digital age and demonstrate a preference for using digital tools [20,40]. It is also noteworthy that starting from Generation X, individuals have matured in technological environments, which enhances their linguistic and technological competencies [20,23,40].

Screening formula Phase 1B (Other generations)

(Continuity Risk) $\times$ (Characteristics and Difficulty of Knowledge) $\times$ (Job Category $\times$ Years of Experience) $\times$ (Technological Competencies) $\times$ (Sustainability Related Competencies)]

The final discriminant score to determine whether a worker moves to the next phase 2A is >504 points [(3) × (4) × (3) × (4) × (3.5) = 504].

- Phase 2 (Critical knowledge identification phase): This phase includes two sub-phases (Phase 2A and Phase 2B). Phase 2A consists of a semi-structured interview, in which a total of four items are assessed: continuous education, congresses and/or workshops, writing workplace documents, internal and external contacts, and IC (Tables S7–S10). On the other hand, phase 2B consists of a structured interview to identify the knowledge that may pose a risk to the continuity of the organisation. To determine the knowledge, 20 questions were asked based on risk derived from human knowledge (5 questions), technological knowledge (5 questions), relational and leadership knowledge (5 questions), and operational knowledge (5 questions) (Table S11). With the completion of the questions, the corresponding Knowledge Mapping document is filled in (Table S12), and finally, each detected knowledge is scored individually with the risk formula (Table S13) to see which of them has the most priority to retain the organisation.

Phase 2A is grounded in the semi-structured interview as a tool for identifying critical knowledge [34,41]. By employing the Cognitive Task Analysis Model [34], it is possible to quantify and qualify critical knowledge to determine whether it is at risk of loss, replacement, misuse, or forgetfulness. This phase focuses on items such as continuous training, conferences, work-related documentation, contacts with peers, and critical incidents occurring in the workplace. Contact with peers is considered a significant risk factor [32,34], while the quality and quantity of critical incidents are also important, as workers must resolve new situations quickly and intuitively [34,35]. This critical knowledge must be retained and transferred to colleagues, in accordance with the established protocol.

Formula Phase 2A

(Continuing education and No. of conferences/workshops) + (Workplace-related documents) + (Contacts with peers and others) + (No. of Critical Incidents)

The final discriminant score to determine whether a worker passes to the next phase 2B is >12 points [(3) + (3) + (3) + (3) + (3) = 12].

Formula Phase 2B

In this phase, four types of knowledge (human, technological, relationship and leadership, and operational-rational) are identified through a structured interview together with knowledge mapping. The questions included in this protocol are derived from academic literature and interviews defined in studies on knowledge management within public administrations [29,30,34,36–38,48].

As interviews are conducted, the knowledge map is completed, identifying both individual and social knowledge, as outlined in the relevant literature [32,44,49]. The four types of knowledge are organised by their nature [12,39], the functions derived from them, and their location [39,49].

Once the different types of knowledge have been identified, the risk of knowledge loss formula developed by the Acric Institute is applied, as referenced by other authors [10,11]. This formula considers the importance, difficulty, and engagement of workers with the available knowledge [10,11]. Its application allows for the creation of a ranking of critical knowledge [4,10], highlighting priorities among Baby Boomers nearing retirement and workers from other generations (Generation X, Millennials, and Generation Z) [4,10,11].

Risk Formula = [(Importance) + (Difficulty) + (Involvement)]/Staffing available

The critical score for this formula is ≥4 points [(3) + (2) + (3)/(2) = 4].

Once the risk formula has been applied to each individual piece of knowledge, each piece of knowledge that has scored ≥4 points will be considered as a priority risk knowledge, and therefore a critical co-knowledge. Each priority knowledge detected will add 4 to the final formula of Phase 2B in the following section of the final formula (Total knowledge

risk formula score). Depending on the number of critical knowledges identified with a score ≥4 points, they will be added to the final formula, which will allow arriving at a risk score (The application of this risk formula is expressed in Tables 5 and 6).

Final formula (Phase 1A/Phase 1B + Phase 2A + Phase 2B)

[(Expected date of retirement/Continuity Risk) × (Characteristics and Difficulty of Knowledge) × (Job Category × Years of Experience) × (Technological Competencies) × (Sustainability Related Competencies) + (Continuing Education and No. of Conferences/Conferences) + (Workplace-related documents) + (Peer Contact) + (No. of Critical Incidents) + (Total Knowledge Risk Formula Score)]

The final discriminant score by the Baby Boomer generation to determine the risk of loss of each critical knowledge detected is as follows: ≥394 points per priority risk [(378) + (12) + (4) = 394)].

The final discriminant score by the other generations to determine the risk of loss of each critical knowledge detected is as follows: ≥520 points because they are priority risk [(504) + (12) + (4) = 520)].

- Phase 3 (Critical knowledge storage phase): This is the last phase in which the two final documents obtained from the execution of all the previous phases are shown: the Worker File and the Critical Knowledge Document. Once the file has been completed, the critical knowledge is mapped for those who present a priority risk. In this phase, the two final documents for storing critical knowledge are obtained: the Worker File (Tables 1–3) and the Critical Knowledge Document (Table 4).

○ Worker's file

(A) Personal data

Table 1. Personal data of the worker's file.

Category of Place of Work
Type of contract
Academic qualifications
Years of work at the workplace
General duties
Specific duties

(B) Identification, characteristics, and functions of the workplace

Table 2. Workplace characteristics and functions.

Name	
Date of birth	
Expected date of retirement	
Reasons for leaving the workplace	[ ] Retirement [ ] Voluntary resignation [ ] Health [ ] Rotation to another workplace (within the same organization) [ ] Not leaving
Day of departure from the workplace	

(C) Identifying critical knowledge

Table 3. Score collection sheet for each stage.

Protocol Phase	Scores	Is Knowledge Critical?	
Phase 1 (Screening Phase) [ ] Phase 1A [ ] Phase 1B	Indicate the number obtained	YES	NO
Expected date of retirement/Continuity risk			
Characteristics and difficulty of knowledge			
Workplace and experience category			
Technological competences			
Sustainable competences			
Total score			
Phase 2A (Semi-structured interviews)			
Continuous education and No. of Conferences/Workshops			
Workplace-related documents			
Contacts with peers and others			
No. of Critical Incidents			
Total score			
Phase 2B (Structured Interview and Knowledge Mapping)			
Human Knowledge (HK)			
HK1 [1]			
Technologie Knowledge (TK)			
TK 1 [1]			
Relational and Leadership Knowledge (RLK)			
RLK 1 [1]			
Operational Knowledge (OK)			
OK 1 [1]			
Final critical knowledge score		[ ] PRIORITY risk awareness [ ] MODERATE risk awareness [ ] LOW risk knowledge	

[1] Each knowledge typology is derived from the 20 structured interview questions in Phase 2B. Place each of the knowledge identified in this phase on this sheet.

○   Critical knowledge document

Table 4. Critical Knowledge Storage Document.

Type of Knowledge	Nature	Tasks to Which It Applies	Location
Human knowledge (HK)			
Technology knowledge (TK)			
Relational and leadership skills (RLS)			
Operational knowledge (OK)			

Once the protocol was developed and a favourable opinion of the UVic-UCC Ethics Committee (Code CER 335/2024) was obtained, it was piloted on two generations: one worker from the Baby Boomer generation and one worker from the Millennial generation. The Baby Boomer generation is approaching retirement and may contain both expert and tacit knowledge [50], and the Millennial generation at risk of being removed from the workplace by substitution [10].

4. Results

The results of the piloting in the two generations reveal that, in the Central Catalonia SSP, the Baby Boomer and Millennial generations have differences and critical knowledge that should not be lost through retirement or replacement. The piloting follows the pattern detailed in Section 3.3.

4.1. Baby Boomer Generation

The scores obtained from the different phases of the protocol are shown in Table 5. The two documents: the Worker Worksheet and the Phase 2B Critical Knowledge are presented in Supplementary Material: Tables S14–S16.

Table 5. Baby Boomer Worker Protocol Phase Scoresheet.

Protocol Phase	Scores	Is Knowledge Critical?	
Phase 1 (Screening Phase) [ ] Phase 1A [ ] Phase 1B	Indicate the number obtained	YES	NO
Expected date of retirement/Continuity risk	2 points		X
Characteristics and difficulty of knowledge	4 points	X	
Workplace and experience category	6 points	X	
Technological competences	2 points		X
Sustainable competences	4.4 points	X	
Total score	422.4. points	X	
Phase 2A (Semi-structured interviews)			
Continuing Education and No. of Conferences/Workshops	4 points	X	
Workplace-related documents	4 points	X	
Contacts with peers and others	4 points	X	
No. of Critical Incidents	4 points	X	
Total score	16 points	X	
Phase 2B (Structured interview and Knowledge Mapping)			
Human Knowledge (HK)			
Team leadership (HK 1)	(4 + 3 + 3/1) = 10 points	X	
Current issues (HK 2)	(4 + 4 + 4/2) = 4 points	X	
Technology Knowledge (TK)			
Sharing documents (TK 1)	(4 + 1 + 4/4) = 2.25 points		X
Use of GenCat programmes (SIAPS) (TK2)	(4 + 2 + 4/4) = 2.5 points		X
Relational and Leadership Knowledge (RLK)			
Links with other departments (RLK 1)	(4 + 1 + 4/1) = 9 points	X	
Information dissemination (RLK 2)	(4 + 1 + 4/4) = 2.25 points		X
Operational Knowledge (OK)			
Strategic management (OK 1)	(4 + 3 + 4/1) = 11 points	X	
Forward planning (OK 2)	(4 + 2 + 4/1) = 10 points	X	
Workplace competencies (OK 3)	(4 + 1 + 4/1) = 9 points	X	
Emergency resolution (OK 4)	(4 + 3 + 4/2) = 5.5 points	X	
Epidemiological data analysis (OK 5)	(3 + 2 + 4/3) = 3 points		X
Occupational health (OK 6)	(4 + 1 + 4/1) = 9 points	X	
Final critical knowledge score	8 critical knowledge = (4 × 8) = 32 points (Phase 2B) Phase 1A (422.4) + Phase 2A (16) + Phase 2B (32) = 470.4 points	Risk awareness PRIORITY	

Although there are a total of 20 questions derived from the structured interview in Phase 2B (Table S11) that can lead to a total of 20 pieces of knowledge, in the present piloting only half of the knowledge derived from all the questions, i.e., between ten and twelve pieces of knowledge for each employee. Furthermore, this critical knowledge already reflects and is representative of the knowledge at risk that the organisation cannot afford to lose in the process of generational renewal.

From the results, it can be seen that the Baby Boomer generation is critical to the organisation as they possess critical priority knowledge, especially of the implicit or tacit and individual type, which poses a threat of great loss to the organisation when they leave if their knowledge has not been transferred. In phase 1A, the characteristics and difficulty of their knowledge, and the category of the workplace, together with years of experience, in addition to competencies related to sustainability, pose a risk of loss to the organisation.

In contrast, the near-retirement date variable and technological skills did not score high enough to be considered critical (Table 5).

In phase 2A, the worker shows great involvement in different jobs that are scoring variables of phase 2A with a critical score, for her continuous education courses, as well as attendance at congresses and conferences, in addition to having written important documents for the organisation, and experienced CI and, a great deal of contact with her counterparts (Table 5).

In phase 2B, it is found that most of the knowledge is of an operational nature, with six pieces of knowledge of an implicit nature, neither documented nor located (Table S16), and with five of the six pieces of knowledge scored as critical. In the final tally in Table 5 of the 12 pieces of knowledge, 8 are critical.

4.2. Millennial Generation

The scores obtained from the different phases of the protocol are shown in Table 6. The two documents: the Worker File and the Critical Knowledge Document obtained in Phase 2B are presented in Supplementary Material: Tables S17–S19).

The Millennial generation worker has critical knowledge that is a priority for the organisation, implicit knowledge that only the worker knows, in addition to their human and relational skills and competencies, which are different from the rest of the workers.

Phase 1B shows that the employee is critical because of the risk of continuity in the organisation, as he/she can move to other workplaces if the opportunity for change arises, and their high levels of ambition, critical knowledge, years of experience within the department, and competencies related to sustainability (Table 6).

In phase 2A, there are not so many critical variables, although the total indicates critical knowledge. He has not attended many conferences or congresses, nor has he produced and developed many internal workplace documents, although he has a critical score for having contacts in the organisation who provide him with information and/or help with problems and CI throughout his professional career (Table 6).

Finally, phase 2B presents 11 pieces of knowledge, with 7 critical pieces of knowledge according to the knowledge risk formula, especially with regard to human knowledge (Tables 6 and S19). Regarding technological co-knowledge, it is generally identified as critical. Only one operational knowledge has a critical score, and regarding relational knowledge, only two are critical (Tables 6 and S19).

While this pilot study offers valuable insights into knowledge retention across generational lines, the conclusions should be interpreted with caution. The findings represent the experiences of the two individual workers in the pilot cases and may not fully encapsulate the diversity and variability of knowledge types within entire generational cohorts.

Finally, the results are supported by the gender-balanced pilots. However, further gender-sensitive pilots were conducted in order to support the results of this study.

Table 6. Millennial Generation Worker Protocol Phase Scoresheet.

Protocol Phase	Scores	Is Knowledge Critical?	
Phase 1 (Screening Phase) [ ] Phase 1A [ ] Phase 1B	Indicate the number obtained	YES	NO
Expected date of retirement/Continuity risk	4 points	X	
Characteristics and difficulty of knowledge	4 points	X	
Workplace and experience category	3 points	X	
Technological competences	3.25 points		X
Sustainable competences	4.5 points	X	
Total score	702 points	X	
Phase 2A (Semi-structured interviews)			
Continuing Education and No. of Conferences/Workshops	2 points		X
Workplace-related documents	2 points		X
Contacts with peers and others	4 points	X	
No. of Critical Incidents	4 points	X	
Total score	12 points	X	
Phase 2B (Structured interview and Knowledge Mapping)			
Human Knowledge (HK)			
Writing personal notes (HK 1)	$(4) + (2) + (4)/(1) = 10$ points	X	
Personnel management (HK 2)	$(4) + (4) + (4)/(2) = 6$ points	X	
Technology Knowledge (TK)			
Use of HR software (TK 1)	$(4) + (2) + (3)/(3) = 3$ points		X
Social Security application (TK 1)	$(4) + (4) + (4)/(1) = 12$ points	X	
Access management (TK 1)	$(4) + (4) + (4)/(1) = 12$ points	X	
Relational and Leadership Knowledge (RLK)			
Telephone contact arrangement (RLK 1)	$(4) + (1) + (4)/(1) = 9$ points	X	
Relationship with IT (RLK 2)	$(4) + (2) + (4)/1 = 10$ points	X	
Contact with service manager (RLK 3)	$(2) + (1) + (3)/(4) = 1.5$ points		X
Operational Knowledge (OK)			
Non-conventional contract management (OK 1)	$(2) + (2) + (3)/(1) = 7$ points	X	
Updating documentation (OK 2)	$(1) + (1) + (4)/(4) = 1.5$ points		X
Operation of the intranet (OK 3)	$(4) + (2) + (3)/(4) \ 2.25$ points		X
Final critical knowledge score	9 critical knowledge = $(9 \times 4) = 36$ points Phase 1B (702) Phase 2A (9) + Phase 2B (36) = 747 points	Risk awareness PRIORITY	

5. Discussion

The results of the study show differences in staff turnover according to the generation to which the workers belong. Moreover, the different generations may have critical knowledge due to retirement or replacement, which implies the need to have a protocol that favours the replacement of staff, saving the loss of critical knowledge of public administrations, according to academic literature [4,10].

Following the protocol and the pilot study carried out, the Baby Boomer generation was the one that presented the most critical knowledge, with implicit and individual

knowledge that was difficult to transmit to the rest of the workers [4]. In contrast, for the Millennial generation, although they had considerable critical, implicit knowledge, some of it was social and not individual as in the case of the Baby Boomers. This fact could be explained by the type of tasks and competencies presented by each of the generations.

Continuity in the workplace is critical in Millennials and not in Baby Boomers, according to the academic literature. This literature points out that Millennials leave the workplace because of ambition and career projection or because they want to change jobs [1], and the study showed that Millennial workers wanted to change jobs.

In the case of sustainability-related competencies, Baby Boomers score critically, but Millennials score even more critically, according to literature studies, which point to the Millennial Generation being more environmentally conscious [26]. For Baby Boomers, the fact that they remain in the workplace for many years encourages higher levels of sustainability.

Concerning technological competencies, none of the pilots showed levels of critical technological competencies for management, although the highest scores were for the Millennial generation. These findings are in line with studies published in the academic literature, which indicate that the latter generations show higher skills in the use of new technologies [23]; in addition, the development of technologies in the public sector is still under development, while in the private sector, they have been developed more rapidly and implemented in the workplace [9,51].

The scoring items in phase 2A corresponding to the score for continuing education and/or conference attendance do not show outstanding results, although the Baby Boomers have high scores, especially the top managers.

As for CI and peer contacts, they show similar results between Baby Boomers and Millennials, with critical scores. In this case, the academic literature considers that relational knowledge can pose a risk within the organization when it is lost [32], in line with this study. On the other hand, CI is relevant in both Baby Boomer and Millennial generations, and their critical scores alert to the importance of conducting semi-structured interviews to detect and record these incidents [34].

The results derived from the knowledge mapping, used in other studies [32,44,49], showed that the Baby Boomers stand out in critical operational knowledge and the Millennials in human knowledge. With regard to technological knowledge, the Baby Boomers have less technological knowledge than the Millennials, since, in the case of the Baby Boomers, the low implementation of technology in this sector is due to the low level of implementation of technology in this sector [51], and being a generation close to retirement, they do not apply as much technology in the workplace [22].

On the other hand, the formula of risk of knowledge of the protocol, inspired by Chaisani [52] and Al Suwaidi [4], is useful in the knowledge mapping of Phase 2B and allows discriminating priority risk knowledge from non-priority risk knowledge. Furthermore, according to the literature, tacit and individual knowledge shows higher risk and is critical, as noted in the literature [4].

Finally, the protocol, currently implemented by the Secretariat of Health in Catalonia, has demonstrated its versatility and applicability in a real-world setting, offering structured tools for the identification and retention of knowledge that address the unique needs of a multigenerational workforce in a variety of public entities. Each organization or government department can adjust specific elements of the protocol or introduce new components to best suit their unique operational needs. This flexibility supports the potential transferability of the protocol not only within Catalonia but also to international environments, including V4 countries, where it could serve as a structured approach to retaining critical knowledge across generations cohorts.

Hence, the protocol is a dual tool for detecting and retaining critical knowledge, while storing the knowledge, to plan a replacement or substitution of the workplace, without losing the intangibles that ensure the continuity of the institution. The protocol should continuously improve and adapt the scores over time to be a more versatile tool.

6. Conclusions

The generational changeover at the SSP in Catalonia is a challenge and an opportunity to identify and retain the critical knowledge possessed by workers, especially middle managers, who are close to retirement, or in the case of middle managers from other generations who are susceptible to replacement.

As supported by the academic literature, succession and replacement plans must be planned in advance [4] and, in this study, the created tool aims to anticipate succession and replacement in order not to lose the necessary critical knowledge in public administration [5].

The protocol identifies critical knowledge and aims to manage it correctly in the four generations (currently active in the labour market) of public administration (Baby Boomers, X, Y, Z) [1,12]. For this purpose, critical knowledge is collected in a knowledge map supported by the literature [11,13], which allows discrimination at the generational and digital level [10,20,22]. A distinction is made between replacement by retirement [29] and replacement by rotation [10]. (Also) the semi-structured interview follows the Cognitive Job Analysis Model [27,28] and the structured interview identifies the four types of knowledge to be retained [28,49], according to individual and social [13,40,52], according to its nature [50,51] and according to its location [49,50]. In addition, the protocol for determining the risk of critical knowledge loss uses the Acric Institute's formula, which is supported by the academic literature [10,11].

Different generations have different skill levels and learning outcomes. For workers close to retirement, and workers who want to change jobs, with a risk of substitution such as the Millennial generation, technological and relational skills, along with sustainability are markedly different.

The study shows that different generations have critical and essential knowledge for the continuity of the organization. Specifically, the Baby Boomer worker presented a greater amount of tacit, operational knowledge of individual property, which was not explicit, while the Millennial worker showed a predominance of tacit technological knowledge, which was also not sufficiently explicit. Therefore, both for retirement and for potential replacement, the tool should be used, since it offers a practical and adaptable approach, which can be continuously improved to identify and prioritize the holders of critical knowledge, who keep public administration alive.

The Baby Boomer pilot shows that implicit knowledge derived from experience and operational capacity at the level of leadership and human resource management and its connection to other departments may be at risk. Other implications at the theoretical level are the loss of undocumented knowledge related to real-time problem solving, team coordination, and public policy planning; i.e., there are doubts about the transfer of knowledge between team members. At a practical level, it can reduce the efficiency of operational processes, with reduced emergency response capacity and increased reliance on external partners. At the policy implication level, the loss of tacit human and operational knowledge can undermine regulatory compliance, with more inspections; it can worsen the management and monitoring of public policies and lead to undesirable imbalances.

The Millennial pilot shows that they have human, technological, and relational knowledge that is not documented in the secretariat, is implicit and therefore sensitive to loss, and is information collected in personal documents, which can weaken the capacity of the secretariat, due to high technological and tacit knowledge. At a practical level, managing the loss of implicit technological knowledge, the capacity for conflict resolution, and the lack of access to information on certain portals, such as the Social Security portal, as supported by the pilot, indicates potential problems. At the level of policy implications, the lack of documentation of social security-related processes can complicate internal controls, and the loss of IT knowledge can complicate the management of the secretariat and the organization of essential processes.

The protocol is very necessary to be applied in generations close to retirement, but in the case of later generations (X, Y, Z), they stand out in technological, relational, and

sustainability skills, which are necessary today, but have a higher risk of substitution; therefore, the protocol is also necessary for these generations.

The protocol design can be continuously updated and improved to include competencies related to different types of knowledge. On the other hand, knowledge mapping can be one of the most valid tools for identifying, classifying, and storing critical knowledge within the SSP, and using it for talent recruitment and repositioning. Trained HR personnel or area managers must be able to execute all the processes involved in knowledge mapping, along with structured interviews to identify the organization's knowledge and talent.

Having a protocol in place to enable this process of generational handover, retention, and talent acquisition is key to the survival of organizations. Moreover, it should be applied to different departments and/or areas of work to ensure continuity and improvement of public administrations.

In private sector companies, this problem of generational handover is also managed through family protocols, and in public administrations, it is managed through the protocol that is the subject of this study.

It should be noted that, in the future, organisations will need to have more advanced technological and sustainability competency frameworks, in line with the Sustainable Development Goals and the European Green Pact.

This study covers an important current problem of generational change and replacement in the workplace, which may compromise the future of Public Administrations; therefore, this protocol is a key tool to be used and continuously improved by the economic, social, governance, and legislative changes that are taking place in the Public Administration ecosystem.

The limitations of the study are, first of all, the time period analysed and the number of pilots presented. It is true that the entire piloting could have been carried out over a longer period of time and could have been applied to more SSP workers. In addition, the implementation and use of the protocol could take some time, with prior running-in and constant adaptations. This protocol can be extended to other public administration departments and other institutions to guide the process of knowledge transfer and retention in the generational handover.

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References

1. AbouAss, K.; Johnson, M.; Holt, S.B. Job Mobility Among Millennials: Do They Stay or Do They Go? *Rev. Public Pers. Adm.* **2021**, *41*, 219–249. [CrossRef]

2. Hennekam, S.; Dumazert, J.-P. Managing Talent in the Context of an Aging Global Workforce: Emerging Challenges. In *Contemporary Talent Management*; Routledge: London, UK, 2021; ISBN 978-1-00-318278-8.

3. Galan, N. Knowledge Loss Induced by Organizational Member Turnover: A Review of Empirical Literature, Synthesis and Future Research Directions (Part I). *Learn. Organ.* **2023**, *30*, 117–136. [CrossRef]

4. Al Suwaidi, M.; Jabeen, F.; Stachowicz-Stanusch, A.; Webb, M. Determinants Linked to Executive Succession Planning in Public Sector Organizations. *Vis. J. Bus. Perspect.* **2020**, *24*, 284–299. [CrossRef]

5. Gabriel, P.; Biriowu, C.; Dagogo, E. Examining Succession and Replacement Planning in Work Organizations. *Eur. J. Bus. Manag. Res.* **2020**, *5*. [CrossRef]

6. Saeed, S.; Mohammed, R.; Ahmed, E.; Aziz, M.; Dewi, A. Knowledge management plays a crucial role in attaining a competitive advantage. *Al-Idarah: J. Kependidikan Islam* **2023**, *13*, 113–123. [CrossRef]

7. McIver, D.; Wang, X. "Abby" Measuring Knowledge in Organizations: A Knowledge-in-Practice Approach. *J. Knowl. Manag.* **2016**, *20*, 637–652. [CrossRef]

8. Ensslin, L.; Mussi, C.; Ensslin, S.; Dutra, A.; Fontana, L. Organizational Knowledge Retention Management Using a Constructivist Multi-Criteria Model. *J. Knowl. Manag.* 2020; *ahead-of-print*. [CrossRef]

9. Mc Evoy, P.; Ragab, M.; Arisha, A. The Effectiveness of Knowledge Management in the Public Sector. *Knowl. Manag. Res. Pract.* **2018**, *17*, 39–51. [CrossRef]

10. Jennex, M. A Proposed Method for Assessing Knowledge Loss Risk with Departing Personnel. *VINE J. Inf. Knowl. Manag. Syst.* **2014**, *44*, 185–209. [CrossRef]

11. Akhavan, P.; Khodabandeh, M.; Rajab, L.; Zahedi, M. Extracting and Prioritizing Knowledge Risk Components by Considering the Knowledge Map: Case Study of Industrial Organization. *VINE J. Inf. Knowl. Manag. Syst.* **2019**, *49*, 200–212. [CrossRef]

12. Burmeister, A.; Deller, J. Knowledge Retention From Older and Retiring Workers: What Do We Know, and Where Do We Go From Here? *Work. Aging Retire.* **2016**, *2*, 87–104. [CrossRef]

13. CRN. *Carpinteria Proyecto Transfer: Transferencia de Conocimiento en el Puesto de Trabajo*; Escuelas CRN: Fines, Spain, 2022.

14. Ogbeibu, S.; Chiappetta Jabbour, C.J.; Burgess, J.; Gaskin, J.; Renwick, D.W.S. Green Talent Management and Turnover Intention: The Roles of Leader STARA Competence and Digital Task Interdependence. *J. Intellect. Cap.* **2022**, *23*, 27–55. [CrossRef]

15. Ogbeibu, S.; Jabbour, C.; Gaskin, J.; Senadjki, A.; Hughes, M. Leveraging STARA Competencies and Green Creativity to Boost Green Organisational Innovative Evidence: A Praxis for Sustainable Development. *Bus. Strategy Environ.* **2021**, *30*, 2421–2440. [CrossRef]

16. OECD. *Skills for a High Performing Civil Service*; Organisation for Economic Co-operation and Development: Paris, France, 2017.

17. Umair, S.; Waqas, U.; Mrugalska, B.; Al Shamsi, I.R. Environmental Corporate Social Responsibility, Green Talent Management, and Organization's Sustainable Performance in the Banking Sector of Oman: The Role of Innovative Work Behavior and Green Performance. *Sustainability* **2023**, *15*, 14303. [CrossRef]

18. Mittal, S.; Dhar, R.L. Transformational Leadership and Employee Creativity. *Manag. Decis.* **2015**, *53*, 894–910. [CrossRef]

19. Tuan, L. Effects of Environmentally-Specific Servant Leadership on Green Performance via Green Climate and Green Crafting. *Asia Pac. J. Manag.* **2021**, *38*, 925–953. [CrossRef]

20. Črešnar, R.; Nedelko, Z. Understanding Future Leaders: How Are Personal Values of Generations Y and Z Tailored to Leadership in Industry 4.0? *Sustainability* **2020**, *12*, 4417. [CrossRef]

21. Kwiecińska, M.; Grzesik, K.; Siewierska-Chmaj, A.; Popielska-Borys, A. Generational Differences in Values and Patterns of Thinking in the Workplace. *Argum. Oeconomica* **2023**, *2023*, 95–118. [CrossRef]

22. Poisat, P.; Mey, M.R.; Sharp, G. Do Talent Management Strategies Influence the Psychological Contract within a Diverse Environment? *SA J. Hum. Resour. Manag.* **2018**, *16*, 10. [CrossRef]

23. Garai-Fodor, M.; Jäckel, K. Generational and Regional Differences in Job Choice Preferences and Motivations. *Acta Polytech Hung* **2024**, *21*, 201–218. [CrossRef]

24. Rattanapon, K.; Jorissen, A.; Jones, K.; Ketkaew, C. An Analysis of Multigenerational Issues of Generation X and Y Employees in Small- and Medium-Sized Enterprises in Thailand: The Moderation Effect of Age Groups on Person–Environment Fit and Turnover Intention. *Behav. Sci.* **2023**, *13*, 489. [CrossRef] [PubMed]

25. Jassawalla, A.; Sashittal, H. How and Why Millennials Are Initiating Conflict in Vertical Dyads and What They Are Learning: A Two-Stage Study. *Int. J. Confl. Manag.* **2017**, *28*, 644–670. [CrossRef]
26. Pataki-Bitto, F.; Kapusy, K. Work Environment Transformation in the Post COVID-19 Based on Work Values of the Future Workforce. *J. Corp. Real Estate*, 2021; *ahead-of-print*. [CrossRef]
27. Dobrowolski, Z.; Drozdowski, G.; Panait, M. Understanding the Impact of Generation Z on Risk Management—A Preliminary Views on Values, Competencies, and Ethics of the Generation Z in Public Administration. *Int. J. Environ. Res. Public Health* **2022**, *19*, 3868. [CrossRef] [PubMed]
28. Benítez-Márquez, M.D.; Sánchez-Teba, E.M.; Bermúdez-González, G.; Núñez-Rydman, E.S. Generation Z Within the Workforce and in the Workplace: A Bibliometric Analysis. *Front Psychol.* **2021**, *12*, 736820. [CrossRef]
29. Boyles, J.; Kirschnick, F.; Kosilov, A.; Yanev, Y.; Mazour, T. Risk Management of Knowledge Loss in Nuclear Industry Organisations. *Int. J. Nucl. Knowl. Manag.* **2009**, *3*, 125–136. [CrossRef]
30. Massingham, P. Knowledge Risk Management: A Framework. *J. Knowl. Manag.* **2010**, *14*, 464–485. [CrossRef]
31. Liang, Z.; Suntrayuth, S. Relational Social Capital and Tacit Knowledge Sharing: The Mediation of P-O Fit and POS. *Knowl. Manag. Res. Pract.* **2024**, 1–12. [CrossRef]
32. Durst, S.; Hinteregger, C.; Zieba, M. The Linkage between Knowledge Risk Management and Organizational Performance. *J. Bus. Res.* **2019**, *105*, 1–10. [CrossRef]
33. Durst, S.; Wilhelm, S. Do You Know Your Knowledge at Risk? *Meas. Bus. Excell.* **2013**, *17*, 28–39. [CrossRef]
34. Gorriti Bontigui, M. Análisis Cognitivo de Tareas. Gestión Del Conocimiento En Las Administracioes Púbicas. *Rev. Vasca Gestión Pers. Organ. Públicas* **2017**, 60–69.
35. Watkins, K.E.; Ellinger, A.D.; Suh, B.; Brenes-Dawsey, J.C.; Oliver, L.C. Further Evolving the Critical Incident Technique (CIT) by Applying Different Contemporary Approaches for Analyzing Qualitative Data in CIT Studies. *Eur. J. Train. Dev.* **2022**, *46*, 709–726. [CrossRef]
36. Abusharhah, M.; Ageeli, U. Tacit Knowledge Extracting In Holy Makkah Municipality: An Empirical Study. *Biosci. Biotechnol. Res. Commun.* **2019**, *12*, 346–355. [CrossRef]
37. Sumbal, M.S.; Tsui, E.; Cheong, R.; See-to, E.W.K. Critical Areas of Knowledge Loss When Employees Leave in the Oil and Gas Industry. *J. Knowl. Manag.* **2018**, *22*, 1573–1590. [CrossRef]
38. Wikström, E.; Eriksson, E.; Karamehmedovic, L.; Liff, R. Knowledge Retention and Age Management—Senior Employees' Experiences in a Swedish Multinational Company. *J. Knowl. Manag.* **2018**, *22*, 1510–1526. [CrossRef]
39. Natek, S.; Lesjak, D. Knowledge Management Systems and Tacit Knowledge. *Int. J. Innov. Learn.* **2021**, *29*, 166. [CrossRef]
40. De la Nuez Sánchez-Cascado, E. Acceso a la función pública: Atraer talento y cambiar el modelo. *Rev. Vasca De Gestión De Pers. Y Organ. Públicas* **2018**, 86–97.
41. Brown, O.; Power, N.; Gore, J. Cognitive Task Analysis: Eliciting Expert Cognition in Context. *Organ. Res. Methods* **2024**, *27*, 10944281241271216. [CrossRef]
42. Hawrysz, L.; Foltys, J. Environmental Aspects of Social Responsibility of Public Sector Organizations. *Sustainability* **2015**, *8*, 19. [CrossRef]
43. Mostepaniuk, A.; Nasr, E.; Awwad, R.I.; Hamdan, S.; Aljuhmani, H.Y. Managing a Relationship between Corporate Social Responsibility and Sustainability: A Systematic Review. *Sustainability* **2022**, *14*, 11203. [CrossRef]
44. Levallet, N.; Chan, Y.E. Organizational Knowledge Retention and Knowledge Loss. *J. Knowl. Manag.* **2019**, *23*, 176–199. [CrossRef]
45. Caldés, R.G. Big data i intel·ligència artificial en la gestió dels recursos humans del sector públic. *Rev. Catalana Dret Públic* **2019**, 49–63. [CrossRef]
46. Tricco, A.C.; Lillie, E.; Zarin, W.; O'Brien, K.K.; Colquhoun, H.; Levac, D.; Moher, D.; Peters, M.D.J.; Horsley, T.; Weeks, L.; et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann. Intern. Med.* **2018**, *169*, 467–473. [CrossRef] [PubMed]
47. McLeod, S. Doing a Scoping Review: A Practical, Step-by-Step Guide; 2024. Available online: https://www.simplypsychology.org/steps-for-conducting-a-scoping-review.html (accessed on 10 October 2024).
48. Joe, C.; Yoong, P.; Patel, K. Knowledge Loss When Older Experts Leave Knowledge-Intensive Organisations. *J. Knowl. Manag.* **2013**, *17*, 913–927.
49. Sumbal, S.; Tsui, E.; Durst, S.; Shujahat, M.; Irfan, I.; Ali, S. A Framework to Retain the Knowledge of Departing Knowledge Workers in the Manufacturing Industry. *VINE J. Inf. Knowl. Manag. Syst.* 2020; *ahead-of-print*. [CrossRef]
50. Biron, M.; Turgeman-Lupo, K.; Zaid-Dominik, O. Contextualizing the Usefulness of Knowledge Received from Retiring Employees: Leader Behaviour and Organisational Culture. *Knowl. Manag. Res. Pract.* **2023**, *21*, 1–12. [CrossRef]
51. Gorriti Bontigui, M. Introducción al monográfico sobre teletrabajo. *Rev. Vasca Gestión Pers. Organ. Públicas* **2021**, 8–17.
52. Chaisani, A.R. Identifying Critical Knowledge for KM Implementation Readiness in PT. Petrokimia Gresik. Ph.D. Thesis, Institut Teknologi Sepuluh, Surabaya, Indonesia, 2015.