

18<sup>th</sup> International Forum on Knowledge Asset Dynamics

# PROCEEDINGS

Managing Knowledge  
for Sustainability

7-9 June 2023  
Matera, Italy

IFKAD 2023



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## **IFKAD 2023**

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### ***Managing Knowledge for Sustainability***

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# FOREWORD

## Managing Knowledge for Sustainability

Welcome to the 18th International Forum on Knowledge Asset Dynamics (IFKAD 2023) co-hosted by the University of Basilicata and the University of LUM Giuseppe Degennaro in the inspiring city of Matera, Italy. We are delighted to have you here.

The current IFKAD edition is a major milestone as it marks the event's 18th year since its establishment. IFKAD is recognized as a significant international event that emphasizes the importance of knowledge as a driver of innovation, performance improvement, and value creation at the individual, organizational, and territorial levels. This achievement results from the dedication, interest, and involvement of the entire IFKAD community, including the chairpersons, organizers, delegates, scientific committee, keynote speakers, and journal editors and publishers.

We can be happy about achieving our goal but are also motivated to continue improving the conference's overall mission and impact. This includes enhancing the content's quality, increasing journal publication rates, and improving event management.

IFKAD is bringing together world thought leaders, academicians, young researchers, practitioners, and policymakers from different fields to discuss and debate new approaches, models, tools, and practices of knowledge and innovation management. This year's conference will focus on addressing growing pressures and emerging opportunities related to the "sustainability agenda", with high-quality and extensive participation guaranteed, as always.

Knowledge management is now widely recognized as critical for maintaining and improving an organization's competitive advantage. Recently, there has been a renewed emphasis on the significance of knowledge-based strategies and factors in promoting sustainability. This involves various environmental, political, economic, and socio-cultural issues. These aspects are essential in enabling managerial and policy approaches towards sustainability.

The growing focus on sustainability means that organizations need to adapt their business models and values to prioritize social and environmental responsibility alongside economic success. As a result, knowledge management is becoming a key factor in meeting the new standards for economic, environmental, and social sustainability.

We aim to improve how we measure the impact of sustainability-focused projects by using better processes and practices that consider environmental, social, and economic factors.

At the 18th edition of IFKAD, we wish to elaborate, extend and improve theories and discuss and share findings, practices and experiences to inform academic, managerial and policy debates about the role of the knowledge drivers in stimulating and supporting the organisational capacity to address the emerging challenges of the sustainability, by

developing and implementing new products and services, re-thought operations, new ways to conceive and use technology and digitalisation, renewed relationships with customers and stakeholders, and new business models.

We invite you to join us in making IFKAD 2023 the premier forum for advancing academic understanding of how knowledge-intensive organizations can address sustainability challenges at all levels of investigation - micro, meso, and macro. Our goal is to provide valuable insights to help leaders, managers, and policy-makers rethink their organizations and develop practical initiatives to move beyond the rhetoric of "greening."

This year's conference program promises to be as informative and engaging as previous IFKAD conferences. With COVID-19 restrictions removed, most attendees will be present in Matera. The conference will feature exceptional keynote speakers who will share their research and practical insights, inspiring new perspectives and avenues of research. Over 200 speakers from 30 countries will present an excellent blend of academic and practical papers.

The IFKAD event in 2023 will demonstrate IFKAD's involvement in Asia through the IFKAD ASIA Chapter, which is led by Prof. Min-Ren Yan from National Chengchi University in Taiwan. In addition, there is a collaboration with Ipàzia, which is a Scientific Observatory on Gender Research led by Professor Paola Paoloni from Sapienza University. The focus of this collaboration is to promote a culture of equality and equal opportunities, while also working to prevent any forms of discrimination or violence.

The IFKAD 2023 conference is a joint effort between the Arts for Business Institute, LUM University, and the University of Basilicata. Our associate partner, the Institute of Knowledge Asset Management, is also involved in organizing this event.

We are honoured for your participation and confident that all the delegates will share insights to help private and public organisations worldwide to face uncertainty, identify opportunities and capitalize on high-level human capital and emerging technologies to improve their value creation capacity.

IFKAD CO-CHAIRS

Giovanni Schiuma - *LUM University, Italy*

Antonio Lerro and Daniela Carlucci, *University of Basilicata, Italy*

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## **Overcoming Organizational Tensions in a Knowledge Way: The Experience of Smart Working in the Public Sector - A New Way of Conceiving and Using Technology**

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## **Abstract**

The pandemic emergency due to Covid-19 represented a relevant exogenous shock that profoundly changed people's work activities and social lives. The pandemic emergency made it possible to take a new and different view of the possibility of replacing traditional forms of work with more innovative ways of working linked to technological tools (Briggs et al., 2021; Bolisani et al., 2020; Foss, 2020). This has also been made possible by the significant digital transformations of the last decades.

Indeed, the role played by new technologies has been crucial during the pandemic, accelerating the ongoing trend towards the developed forms of work that make remote working easier: one of these is smart working (Todisco et al., 2022; Yarberry & Sims, 2021; Rainero & Modarelli, 2020).

Smart working, however, differs from traditional ways of working not only in the way it is carried out, which is not constrained by defined time and space limits in the performance of the tasks assigned to employees, but also in the different approach by which the organization is designed, linked to projects and objectives, and on how human resources are managed (Bednar & Welch, 2020; Torre & Sarti, 2019; Ellerton, 2015).

Several authors have identified three key dimensions of analysis for the diffusion and implementation of smart working: (1) the technological factor; (2) the redesign of physical spaces (3) a new vision of Human Resources in the organization. In addition to the three dimensions identified, other aspects must be considered to understand whether its deployment in the organization is taking place effectively. The first factor identified is the employee acceptance of this change in working methods and, therefore, the shift towards a more fluid and goal-oriented organization (Rainero & Modarelli, 2021). For example, the spread of smart working during the pandemic represented an essential change for the public sector, as well as an opportunity to implement those reform paths that have redesigned public administration in recent decades to make it more effective and efficient (Pollitt & Bouckaert, 2011; Tomo, 2018).

The other factor identified is employees' willingness to accept new technologies (Bunker, 2020; Jämsen et al., 2022) and the effective one of digital platforms (Agostino et al., 2021). As mentioned above, smart working represents a significant opportunity for change in public administration. While on the one hand, it represents an opportunity to guarantee the delivery of services to citizens (Edelmann et al., 2021), on the other hand, it could be critical in several aspects, opening windows of reflection on the impacts this way of remote working could demonstrate affecting employees' lives. Having to deal with such a disruptive change and the impact of technology on employees' lives has challenged certain aspects, such as planning, assigning tasks, and holding meetings that allow people to share and create organizational knowledge. These aspects of smart working represent a significant challenge for public managers, whose main task is to finalize the creation and management of knowledge.

This research aims to evaluate and highlight the architecture of established working behaviours and practices based on the change in the working model imposed by the pandemic emergency in the public sector. So, the research investigates how smart working, and its impacts alter the processes of sharing organizational knowledge, according to the introduction and application of technologies in the working life of public employees. After the intervention of an exogenous shock, such as the pandemic, the related availability,

perceived usefulness, and ease of use can change considerably in this regard. Starting from the Technology Acceptance Model (TAM) and, in parallel, the Theory of Planned Behaviour (TPB), the authors intend to interpret reality through the lens of multifaceted aspects, reasoning in detail by a perspective based on complexity and non-linearity featured periods. Specifically, the authors investigate: i) how the perception of the use of digital tools in the workplace has changed from the pre-pandemic to the post-pandemic period in the public sector ii) how and in which way digital tools continued to be used after the critical phase of the Covid-19 health emergency.

**Keywords** – Knowledge Management, Digital Transformation, Organizational tensions, Smart Working, Public Sector

**Paper type** – Practical Paper

## 1 Introduction

The pandemic emergency due to Covid-19 represented a relevant exogenous shock that profoundly changed people's work activities and social lives. The pandemic emergency made it possible to take a new and different view of the possibility of replacing traditional forms of work with more innovative ways of working linked to technological tools (Briggs *et al.*, 2021; Bolisani *et al.*, 2020; Foss, 2020). This has also been made possible by the significant digital transformations of the last decades.

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Smart working, however, differs from traditional ways of working not only in the way it is carried out, which is not constrained by defined time and space limits in the performance of the tasks assigned to employees, but also in the different approach by which the organization is designed, linked to projects and objectives, and on how human resources are managed (Bednar & Welch, 2020; Torre & Sarti, 2019; Ellerton, 2015).

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place effectively. The first factor identified is the employee acceptance of this change in working methods and, therefore, the shift towards a more fluid and goal-oriented organization (Rainero & Modarelli, 2021). For example, the spread of smart working during the pandemic represented an essential change for the public sector, as well as an opportunity to implement those reform paths that have redesigned public administration in recent decades to make it more effective and efficient (Pollitt & Bouckaert, 2011; Tomo, 2018).

The other factor identified is employees' willingness to accept new technologies (Bunker, 2020; Jämsen *et al.*, 2022) and the effective one of digital platforms (Agostino *et al.*, 2021). This aspect is particularly relevant since the relationship between individuals and technologies enables effective knowledge management within an organization to support projects' sustainability. As mentioned above, smart working represents a significant opportunity for change in public administration. While on the one hand, it represents an opportunity to guarantee the delivery of services to citizens (Edelmann *et al.*, 2021), on the other hand, it could be critical in several aspects, opening windows of reflection on the impacts this way of remote working could demonstrate affecting employees' lives. Having to deal with such a disruptive change and the impact of technology on employees' lives has challenged certain aspects, such as planning, assigning tasks, and holding meetings that allow people to share and create organizational knowledge. These aspects of smart working represent a significant challenge for public managers, whose main task is to finalize the creation and management of knowledge.

This research aims to evaluate and highlight the architecture of established working behaviors and practices based on the change in the working model imposed by the pandemic emergency in the public sector. So, the research investigates how smart working, and its impacts alter the processes of sharing organizational knowledge, according to the introduction and application of technologies in the working life of public employees. After the intervention of an exogenous shock, such as the pandemic, the related availability, perceived usefulness, and ease of use can change considerably in this regard. Starting from the Technology Acceptance Model (TAM) and, in parallel, the Theory of Planned Behaviour (TPB), the authors intend to interpret reality through the lens of multifaceted aspects, reasoning in detail by a perspective based on complexity and non-linearity featured periods. Specifically, the authors investigate: *i) how the perception of the use of digital tools in the workplace has changed from the pre-*

*pandemic to the post-pandemic period in the public sector ii) how and in which way digital tools continued to be used after the critical phase of the Covid-19 health emergency.* The authors submitted to ten public managers at a local level in the Italian context a series of semi-structured questions originated by the TAM. The aim is to verify and provide valuable insights into some particularly relevant aspects of the knowledge dissemination and sustainability of projects in the public sector, evidencing a virtuous cycle that emerged from a need, framed by knowledge, and solved by a strategical view based on this latter. Primarily, the authors' intention moved from the objective to understanding how public managers' motivation and working habits have changed under the lens of complexity and urgency due to the impact of the adoption of new technologies for web-mediated work environments. In this, change is perceived as a tension-generating shock, and the social and organizational community tends to refute that, particularly in the public sector. Secondly, the authors aim to answer the question related to the perception and the use persistence of digital tools within the working environment during the post-pandemic period (after the emergency as a structured practice).

In this way, TAM vehiculated by a knowledge strategy for acceptance, triggered by the urgency sentiments and the readiness of a technology functional to a relatively neglected way of work (tele/agile/smart working), would reserve and demonstrate surprising and unexpected results in terms of willingness to remain in this operational frame, despite a regulatory modulation recently emerged at the end of the health risk.

The perceived usefulness (mediated by the urgency sentiments) and ease of use (mediated by the readiness of technology and web-mediated collaborative platforms), structured habits based on a highly positive perception based on these variables able to go beyond the state of emergency and reticence inherent the sector (Cinar *et al.*, 2019).

## **2 The new ways of work in the “New Normal” era**

Over the last few decades, the topic of new ways of working brought about by new technologies has become central to the organizational debate (Appelbaum, 2013; Engeström, 2004). These new forms of work should be seen in the context of profound social transformations in which technologies have changed relationships and shared values. According to Jackson (2021), these

transformations have led contemporary society toward the destruction of society's archaic values in terms of mutual social and economic balance (Rainero & Modarelli, 2021). In this context of profound change, new technologies modify the relationship between humans and organizations on a double level: a broader one that concerns the human-machine-society relationship; and a second level where people's work is involved in the human-organization-human-machine-society relationship (Bahri *et al.*, 2021). Teleworking is one of the first new ways of working that have spread related to the use of technology. Teleworking represents a technology-supported organization of work that allows people to work from home. Teleworking has also been dubbed "working from *home*." These changes considerably impact people's lives and their way of working and being in society, significantly impacting motivation and happiness (Layard, 2011). Therefore, to build a society with as much happiness and as little unhappiness as possible, there can only be a new balance in society through the dissemination of knowledge dictated by new technologies. This factor assumes a central role in a period such as the current one in which rapid digital transition has occurred. This historical phase has seen generalized access to knowledge with the advent of the Internet and new enabling technologies (Delany, 2022). At the same time, however, following the Covid-19 pandemic, this digital transformation path meant that individuals had to quickly accept new technologies to adapt to new ways of working. For this reason, the issue of knowledge in organizations, which is closely linked to the effective use of new technologies since the 'New Normal,' is a more complex and challenging exercise than we have observed recently in economies characterized by structural optimism and constant underestimation of risks. Moreover, the diffusion of knowledge within organizations can only pass through accepting new technologies. Starting from these assumptions, the authors intend to focus on one of the new ways of working, smart working, considering different temporal phases of investigation: a) pre-pandemic, b) during the pandemic, c) after the pandemic). In *detail*, the authors focus on the public sector, where the use of smart working before the pandemic was marginal compared to face-to-face work. This is useful from an academic perspective to identify the speed of acceptance of technology use and change within an organization. In this regard, through semi-structured interviews with ten public employees in organizational positions in the Italian local public administration, a preliminary analysis of the acceptance of the digital transition and the reduction of reluctance to change is proposed for the public sector in terms of the

application of the FKTKS (Rainero & Modarelli, 2021), especially in the presence of complexity, non-linearity, uncertainty and unpredictable exogenous shocks such as the Covid-19 pandemic.

### **3 A new form of work: the smart working**

Over the past decades, numerous exogenous events have impacted environments and negatively affected the social life of individuals. As in the case of the pandemic emergency of February 2020, epidemics and pandemics must be considered an event belonging to exogenous events that are impossible to predict. During the most critical phases of its spread, Covid-19 made it challenging to carry out office activities in presence, paralyzing society on an individual and organizational level (Alipur *et al.*, 2021; Bolisani *et al.*, 2020). The pandemic emergency, as mentioned above, changed several aspects of work organization and individual work patterns. Most work activities have shifted to remote (Oosthuizen 2022; Todisco *et al.*, 2023). The pandemic has favoured overcoming work performance predominantly in presence, favouring work logic linked to the Bring Your Own Device (BYOD) strategy (Papagiannidis *et al.*, 2020).

Technology has played a crucial role in responding to the need to continue to operate and ensure the smooth running of work activities and services to users. Added to this has been the need to frame and understand the phenomena of technological acceptance by employees in support of new ways of conducting remote work linked to new technologies (Rainero & Modarelli, 2020). In this scenario of change in working methods, a way of carrying out work that goes by smart working has found diffusion. According to several authors (Gastaldi *et al.*, 2014; Hu, 2020), smart working is a mode of work performance based on broad autonomy in the choice of time and place of work to improve individual well-being and organizational efficiency. Usually, the spread and implementation of smart working take place around three key dimensions: (1) *the technological factor*; (2) *the redesign of physical spaces*, and (3) *a new vision of Human Resources in the organization*.

The first dimension of the smart working analysis is the effective use of digital technologies to support work activities. The development of new digital platforms and increasingly high-performance technologies has enabled workers to do their work more effectively and efficiently. In the past, several authors have pointed out how new technologies positively impact employees' productivity and well-being.



On the other hand, the spread of smart working during the pandemic emergency has also drawn attention to other aspects, namely how technologies can increase the feeling of isolation and work overload, neutralizing the benefits of smart working.

Over the years, therefore, attempts have been made to structure different models to address best the application of smart working, implementing appropriate standards to obtain the benefits of this new way of working (Lake, 2016). The second dimension of analysis related to smart working concerns redesigning the workplace. The shift to flexible organizational structures has changed the traditional concept of the 'workplace' (Yang *et al.*, 2023). Smart working means redesigning physical spaces and reconfiguring the impact of physical spaces on employees and economic and environmental sustainability. It represents an organizational upheaval of people's relationship with workplaces, impacting individual well-being and the meaningfulness of the concept of work itself (Dingel & Neiman, 2020). Finally, smart working can only be realized if cultural and managerial approaches to human resources management are redefined. The role of management in this aspect is crucial because smart working is only possible with an increased focus on the growth of professionals in both specialized knowledge and skills and in transversal and relational skills (Brunetto & Beattie, 2020). With the new technologies available, discussing the development and spread of smart working is possible. The use of technology can be viewed from two different perspectives: On the one hand, it facilitates real-time interactions between employees, which impacts the meaningfulness of work.

On the other hand, the use of new technologies redefines the processes of knowledge diffusion through new technologies, which, if well used, help people and companies to increase efficiency and reduce the impact of presence in the workplace.

## **4 Research design and context**

### ***4.1 Theoretical framework: the technology acceptance to improve knowledge diffusion in organizations.***

The following work-in-progress paper takes the opportunity to understand the acceptance of technology from a knowledge diffusion perspective. The authors refer to a theoretical framework complemented by the strategic view TAM and

FKTK considered to define and shape the way human beings (through social factors, psychological elements, and individual qualities) consider choices and decisions. The choice falls on q for two reasons: the technological dimension is pervasive in social life and ready to be widely applicable to work.

In this sense, perceived usefulness and ease of use would be verified (TAM-validated variables). In this direction, the influence of media and urgency, combined with the managerial perspective and the individual's ability to create knowledge, can foster knowledge creation (self-induced, internally, or externally induced), validating the objectives of the FKTK strategy. In this sense, the urgency represented by the development of Covid-19, the intention/motivation (Bunker, 2020) to deal with the emergency shifted subjective norms and individual control based on personal/collective readiness to use technologies (attitude) toward the behavioural acceptance of changing work habits in a socially organized and generalized manner.

#### **4.2 Context**

The context chosen was that of the Italian public administration, where smart working represented a significant novelty during the pandemic. The Italian regulatory framework on smart working was defined by law no. 124/2015 (art. 14), as well as by the law n. 81/2017 (articles 18-24) Regarding the Italian public sector, the Directive of the Presidency of the Council of Ministers DL n. 3/2017, which has begun to outline the regulatory framework and the behaviours to be identified for smart working in the Italian public administration. With the first pandemic wave of March 2020, a sudden transposition of work activities into smart working became necessary. Therefore, with the DPCM of 1 March 2020, a simplified implementation procedure was introduced, which remained in force until 31 August 2022. Finally, with the law n.122/2022, which converted the D.L. 73/2022, there has been a further change to the legislation on smart working. Smart working, therefore, for the public sector, represented during and after the pandemic an opportunity for a significant change compared to the old organizational paradigms, both from the point of view of managerial choices for the management and dissemination of knowledge and from the point of view of the use of technologies.

### 4.3 Sample

To analyse the acceptance of technologies and the diffusion of knowledge among workers, ten public employees were chosen for this work-in-progress paper as a sample who underwent managerial training on digital transformation issues within a university in southern Italy and who cover organizational positions within their public administrations (table 1). The sample was chosen because these figures, in the context of the Italian public administration, represent figures with managerial skills and the possibility of intervening in disseminating knowledge. The chosen methodology was to apply the TAM model to semi-structured interviews to go deeper into the issue of technology acceptance and knowledge dissemination. In particular, the interviewees were asked ten questions on the use of new technologies, their acceptance, and whether new technologies have allowed a wider diffusion of knowledge before, during, and after the pandemic emergency.

The interviews lasted from 25-30 minutes, and an attempt was made to develop a discussion during the interview on subjects that seemed of greater interest.

Table 1. Overview of participants to the study.

ID	Age	Gender	Education	Public Administration	Length of service
1	29-39	F	Master's degree	Fiscal Agency/Social Insurance Institute	< 5 years
2	>51	M	Master's degree	Fiscal Agency/Social Insurance Institute	> 20 years
3	>51	M	Master's degree	Fiscal Agency/Social Insurance Institute	> 20 years
4	29-39	F	Master's degree	Local Administration	< 5 years
5	40-50	F	Executive Master or PhD	Local Administration	> 20 years
6	40-50	M	Master's degree	Local Administration	> 20 years
7	40-50	F	Executive Master or PhD	Local Administration	> 20 years
8	40-50	F	Master's degree	Fiscal Agency/Social Insurance Institute	> 20 years
9	29-39	F	Master's degree	Fiscal Agency/Social Insurance Institute	> 20 years
10	>51	M	Executive Master or PhD	Fiscal Agency/Social Insurance Institute	> 20 years

## 5 Findings and Conclusions

The interviews demonstrated how the topic of acceptance of new technologies was susceptible for the interviewees. This acceptance has allowed for greater work efficiency. One of the interviewees stated:

*"With the new technologies, both from the point of view of internal technical procedures and the interaction between colleagues, I have improved my work efficiency. I made work activities at home easier than in the office. (participant #2)*

Furthermore, the issue of acceptance of technologies is closely connected to a necessary understanding of their use in smart working.

*"I do not have a particular aptitude for using technologies, but I do it with a view to improvement. It is not a loving relationship, but I know what I need work-wise. I often need a site technician in case of problems that other users might be able to solve on their own." (participant #1)*

Another aspect of particular interest is tensioning towards knowledge through a more effective acceptance of technologies. One of the interviewees says that:

*"Technologies have been an important tool to broaden skills during the pandemic and improve understanding of the tasks assigned while I was in smart working." (participant #8)*

Furthermore, the last three years (2020-2022) have represented a significant social change for workers. This has necessitated adaptation to new technologies to deal effectively with work performance. Just as the necessary diffusion of practical knowledge to understand its use can break down the levels of reticence and resistance to change by pushing workers towards using technology in offices in a perspective of diffusion of knowledge in a perspective of collective learning (Butera, 2017; 2015).

*"Technologies have allowed me a greater possibility of interaction with colleagues, and I have been able to develop work activities remotely with greater ease." (participant #3)*

*"Before the pandemic, smart working was not a viable way of working. We saw it as the only possible way during the pandemic and currently. However, it is good, thanks to the greater awareness of using new technologies. I prefer it over to the office because exchanging more information can give interaction and problem-solving possibilities." (participant #5)*

"The exchange of information was greater during and after the pandemic than in the past. Smart working, from my point of view, has helped this diffusion a lot." (participant #7)

From a managerial point of view, the interviews may be of interest for developing a broader research activity on disseminating knowledge in the public sector. The employees interviewed, being figures of middle managers concerning the main proposed QRs, represent professional figures of particular interest through an analysis of the changes that have occurred in their lifestyles and concerning how they understand the acceptance of technologies in their styles of work through a retrospective perspective, also considering the previous and subsequent perceptions related to the critical period under study, they can provide helpful insights into how the public sector is responding to the challenges of technological changes and the diffusion of knowledge through new technologies. Finally, from a theoretical point of view in this working-in-progress-paper, the TAM conveyed by a cognitive strategy of acceptance, triggered by feelings of urgency and by the readiness of a technology functional to a relatively neglected way of working (smart working), leads to interesting results, intending to transpose a qualitative use of this framework.

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