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The Impacts of Smart Working on the Culture of Public Organizations: An Empirical Study on the Italian Public Administrations

Supervisor: Prof. Luca GASTALDI
Co-supervisor: Eng. Fiorella CRESPI

Master Thesis of:

Federica Mirtillo
904891
Davide Pacilio
903188

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Abstract

Nowadays, organizations to be successful should be able to abandon obsolete working configurations (Birkinshaw et al., 2008) hence embrace new organizational principles, such as emerging collaboration (Vlaar et al., 2008), autonomy in the work settings choices (Leonardi and Bailey, 2008), spatial and temporal flexibility (ter Hoeven and van Zoonen, 2015), talent enhancement, responsibility and widespread innovation (Gastaldi et al., 2015). Under these circumstances, all industries have been starting to implement innovative Smart Working (SW) practices, defined as a flexible approach in managing workplace, timetable, and technological tools, allowing employees to reach both greater professional efficiency and better work-life balance, through the increase of trust and autonomy in return for a greater responsibility on results. SW is not only a best-practice: it also represents a tool to face local or national emergencies. The Covid-19 case is a clear example of this. In this context, the emergency represented a robustness and resilience test for both public and private firms: those already familiar with SW practices showed a huge organizational and competitive advantage, compared to those who never adopted it.

In the same years, on one side, the Italian PA has been facing issues such as lack of digitalization, high corruption and absenteeism, inability to attract young talents, and an overall process-oriented culture, instead of a results-oriented one, which result very distant from the SW philosophy. On the other side, the public sector showed the willingness to embrace the change and the introduction of SW in the Italian PA became the target of the Madia Reform (Law n.124 of the 7th of August 2015).

In light of these facts, the aim of this thesis is to help fill the void of researches about the SW effects in the Italian PA. In particular, it investigates on whether the adoption of flexible practices can be useful for allowing the cultural shift of the Italian public sector, from the current process-oriented vision to a new results-oriented culture, based on pillars like meritocracy and performance-based evaluation, rather than physical presence and fulfillment of bureaucratic procedures. This research assesses this kind of relation both directly and by considering the mediating role of work-life balance, employee's empowerment, job satisfaction and engagement.

Sommario

Al giorno d'oggi è di fondamentale importanza per le aziende essere in grado di rinunciare a pratiche lavorative obsolete, valutando nuovi principi e modelli di organizzazione aziendale, quali maggiore comunicazione e collaborazione, più autonomia e flessibilità, valorizzazione delle risorse umane e propensione all'innovazione. Alla luce di ciò, molte aziende di qualsiasi settore hanno iniziato ad adottare pratiche di Smart Working. Questa è una nuova ed innovativa filosofia aziendale basata su maggiore flessibilità spaziale e temporale e sull'adozione di strumenti tecnologi e digitali tramite cui facilitare i processi. Lo SW, garantendo una maggiore autonomia ai dipendenti, permette ad essi di migliorare in efficienza, performance e nell'equilibrio tra vita privata e lavoro. Bisogna inoltre sottolineare che lo SW non è solo una best-practice adottata dalle aziende più innovative, ma esso rappresenta un vero e proprio strumento per far fronte a situazioni di emergenza, come dimostrato durante il periodo della pandemia di Covid-19. Scoppiata in Italia nel Marzo 2020, questa ha rappresentato un test di robustezza e resilienza sia per il settore pubblico che privato, dove quelle realtà già familiari allo SW hanno giovato di enormi vantaggi organizzativi e competitivi.

Parallelamente a ciò, negli ultimi anni, la Pubblica Amministrazione Italiana ha continuato ad affrontare gravi problemi legati ad assenteismo, corruzione, scarsa digitalizzazione, incapacità nell'attrare nuovi talenti e, in generale, una cultura ancora basata su processi rigidi ed obsoleti, dove il dipendente è valutato più sul "timbro del cartellino" che sul raggiungimento degli obiettivi. Nonostante ciò, anche il settore pubblico sta mostrando la volontà di far parte di questa rivoluzione, prestabilendosi come obiettivo proprio l'introduzione dello SW, come delineato dalla Legge 7 Agosto 2015, n.124 (Legge "Madia").

Alla luce di tutto ciò, questa tesi si pone come obiettivo quello di colmare alcune lacune in ambito didattico e scientifico riguardo gli effetti dello SW nella Pubblica Amministrazione Italiana. In particolare, questa tesi ha come scopo quello di analizzare se e come lo SW possa portare ad un cambiamento della cultura aziendale, da una focalizzata su processi, presenza fisica e farinose procedure burocratiche, ad una orientata al raggiungimento degli obiettivi, basata su meritocrazia ed effettiva valutazione delle performance. La relazione tra uso dello SW e cambio della cultura aziendale viene infine analizzata sia direttamente, che prendendo in considerazione mediatori quali: work-life balance, valorizzazione, soddisfazione e coinvolgimento del dipendente.

Executive Summary

During the last decades, the rise of globalization has been leading to an ever-changing context for most of the sectors, mainly characterized by new competition, rapid technological innovation, and higher complexity. Nowadays, organizations to be successful should be able to abandon obsolete working configurations (Birkinshaw et al., 2008) hence embracing new organizational principles, such as emerging collaboration (Vlaar et al., 2008), autonomy in the work settings choices (Leonardi and Bailey, 2008), spatial and temporal flexibility (ter Hoeven and van Zoonen, 2015), talent enhancement, responsibility and widespread innovation (Gastaldi et al., 2015). Moreover, among the main undergoing trends characterizing the last years, the ones leading the most towards flexible management of work are: (i) spread of the "intangible economy", linked with the rising in trade of services; (ii) growth of the "always on" business culture, because of the introduction of new technologies able to make people always reachable for contact, in spite of work-life balance; (iii) growth of lean approaches, re-engineering and outsourcing, which all help to re-design processes and workflows, reduce waste, create competitive advantage; (iv) increasing number of women in the workforce; (v) demographic change that brought to an increasingly heterogeneous workforce; (vi) workers' need for more flexibility; (vii) social and environmental sustainability playing a key role.

Companies need to react in order to survive and be competitive in this context. As a response to these new trends, companies in all industries have been starting to implement innovative Smart Working (SW) practices. SW finds many definitions in literature, among which a sufficiently complete one is the following:

"Smart Working means thinking about work from a different, clever angle. It questions the traditional links with working times and locations and gives people a greater say in defining their working conditions, while at the same time making them more responsible for the outcome. Autonomy and flexibility and giving people responsibility and trust are the bywords for this new approach to work." (SW Observatory of Politecnico di Milano, 2018).

In particular, this definition describes SW as a flexible approach in managing workplace, timetable, and technological tools, allowing employees to reach both greater professional

efficiency and better work-life balance, through the increase of trust and autonomy, from the company towards the employees, in return for a greater responsibility and accountability on results.

The company, the employees and the environment all benefit from the adoption of SW. These practices benefit the employees as they allow them to enjoy higher flexibility, hence reduce the conflict between private life and work and increase their overall satisfaction. Moreover, the higher trust and autonomy helps building self-confidence and self-esteem, bringing to higher employees' motivation as a consequence. The company, in return, can enhance their image, being able to attract to new talents, but also enjoy higher productivity from their employees, thanks to their higher motivation and engagement. Finally, space and time flexibility, implies not having to move from home to office every day: the freedom to be able to work from anywhere reduces drastically the movement of people in big cities, reducing pollution and production of CO_2. These are just few examples of the wide range of benefits of SW.

SW is not only a best practice: it also represents a tool to face local or national emergencies. The Covid-19 case is such a clear example of this. In this context, the emergency represented a robustness and resilience test for public and private firms: those already familiar with SW practices showed a huge organizational and competitive advantage, compared to those who never adopted it. The pandemic represented a clear signal of how SW is more and more necessary nowadays, and it also pushed both private and public sector to move on this direction, making SW the most "debated" issue of 2020. However, it is worth highlightiing that the road to a complete shift from traditional ways of working to SW is still long.

The Italian private sector has been already adopting SW practices, even before the Covid-19 emergency, hence enjoying positive effects at the company level, for the workers and regarding social and environmental aspects. For this reason, the impact of SW on the private sector has been widely analyzed by many researches, while studies about its effect on the PA are scarce because of the very low SW adoption within the public entities.

Parallelly, in the last few years, the Italian Public Administration (PA) has been instead facing issues such as lack of digitalization, high corruption and absenteeism, inability to attract young talents, and an overall process-oriented culture, instead of a results-oriented one. This context

is making the introduction of SW practices such a long and difficult process. For these reasons, the introduction of SW in the Italian PA became the target of the Madia Reform (Law n.124 of the 7th of August 2015). In particular, the article 14 proposes new measures for promoting a well-balance between work and private life and experimenting new flexible practices involving at least 10% of public employees, over the period 2018-2020.

Evaluating whether the SW benefits already proved in the private sector hold true also in the public sector is nevertheless crucial, considering the big differences between these two contexts. With this goal in mind, the academic literature has been analyzed, in order to detect the unaddressed issues, the main gaps, and the aspects to deepen further. Furthermore, the literature analysis has been useful for the creation of the theoretical starting point needed to build the model to test, the definition of the constructs that constitute it, and to choose the most suitable scales to measure these constructs. The Table I shows the constructs adopted as well as their definitions.

Construct	Meaning
Smart Working	SW consists of the presence of the three elements: time flexibility, space flexibility, and ICT tools. (These concepts are better explained in chapter 1.2.3.1: Organizational Policies).
Work-Life Balance	The conciliation and equilibrium between private and work life, which allows employees to carry out projects and programs concerning both spheres, with satisfaction and without interferences between the two (ter Hoeven and van Zoonen, 2015).
Empowerment	The ways in which organizations provide their employees with a certain degree of autonomy and control in their day-to-day activities. A key principle of employee empowerment is providing employees with tools for making important decisions. Empowerment groups the concepts of autonomy, taking risks and responsibilities, creating employee's confidence, stimulating innovation and creativity.
Job Satisfaction	The extent to which a person's hopes, desires, and expectations about the employment are fulfilled. It can also be defined as the feeling of pleasure and achievement experienced in the job. Job satisfaction is the overall summary evaluation a person makes regarding his/her work environment (Weiss et al., 1967).
Engagement	The extent to which employees feel passionate about their jobs, are committed to the organization, and put discretionary effort in their work. Work engagement is most often defined as a positive, fulfilling, work-related state that is characterized by vigor, dedication, and absorption (Schaufeli et al., 2006).
Cultural Shift	The aimed shift from a rigid process-oriented culture to a goal-oriented culture, looking at performance rather than procedures.

Table I: Constructs' definitions

The aim of this thesis is to help fill the void of researches about the SW effects in the Italian PA. In particular, it investigates on whether the adoption of flexible practices can be useful for allowing the cultural shift of the Italian public sector, from the current process-oriented vision to a new results-oriented culture, based on pillars like meritocracy and performance-based evaluation, rather than physical presence and fulfillment of bureaucratic procedures. In particular, the goal of this research is to test whether the gradual introduction of SW practices could represent one of the first steps towards the change of both culture and leadership style of the Italia PA, bringing the stimuli needed to this aimed shift towards a more dynamic,

innovative, motivational organizational culture, more aligned to the modern best-practices which are already adopted internationally by firms and organizations.

This research assesses this kind of relation both directly and by considering the mediating role of work-life balance, employee's empowerment, job satisfaction and engagement. The formulation of hypotheses about the associations between constructs has led to the creation of the overall theoretical model depicted in Figure I.
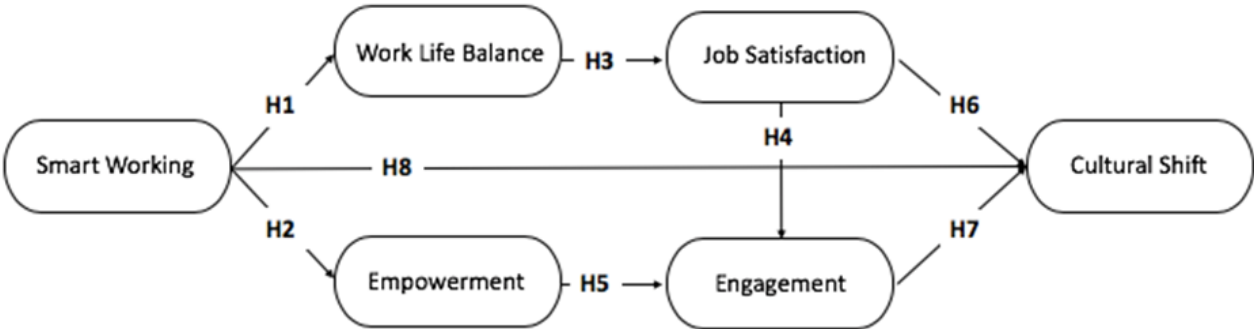
Figure I: The model

The model shows different constructs and the extremities are represented by Smart Working – composed by its three levers: Time Flexibility, Space Flexibility, and ICT Elements - representing the independent variable (predictor), and Cultural Shift, which represents the dependent variable (criterion). Between these two elements, some mediator variables are added, which are work-life balance, empowerment, job satisfaction and engagement. All the mediating variables have been selected carefully to better explain the phenomenon and to capture the Italian PA peculiarities.

More in details, the idea behind the model was that of testing if SW practices could lead to improvements related to some of the main issues linked to the Italian PA's environment. For what concerns the private sector, it has already been proven that SW positively affects work-life balance and employee motivation. These factors contribute to foster creativity and innovation, but mostly to create higher empowerment and engagement. If those hypotheses were true also for the PAs, the final result could be that of higher commitment to the job and to the organization, helping the employees and the institutions to perform the aimed cultural shift. The objective is to create a more dynamic and innovative environment, not focused on the

processes or the clock punch, but rather on performance and goal achievement. As already explained, to correctly introduce SW practices, it is fundamental to create the right environment and cultural shift at all organizational levels. The question addressed by this research is whether this mechanism could also work the other way around.

The model has been built so that it could be tested empirically with a single questionnaire of a reasonable length. The test was to be run among Italian public sector employees, by asking them to fill in the survey. This was composed by 55 questions, divided 3 macro-areas: General Data, Smart Working, Employee's Perceptions. The first set of questions are necessary to register demographic data of the respondents and investigate the existence of possible control variables. The last 2 macro-areas requires the respondent to indicate to what extent he/she agrees with the statement on a scale from one to five. They investigates, respectively, the actual level of SW adoption – focusing on space flexibility, time flexibility and ICT element – and the level of the mediating constructs present in the model (work-life balance, job satisfaction, empowerment, and engagement).

The questionnaire has been shared with the chosen sample starting from March 2020, when the Covid-19 pandemic outbreak forced 8 million Italians to work from home and 67% of the firms decided to adopt SW practices (SW Observatory of Politecnico di Milano, 2020). For this reason, the respondents have been reminded several times to refer to the situation previous to the Covid-19 pandemic, in order to obtain responses not altered by the perceptions that such an emergency can lead to. The Table II shows all the statements eventually used for the analysis, and the correspondent items and constructs.

CONSTRUCT	ITEM	STATEMENT OF THE SURVEY	SOURCE
Smart Working	time_1	I have the freedom to choose in which time window of the day I can work	Ten Brummelhuis et al. (2011)
	time_2	I have the freedom to choose how many hours I have to work	
	time_3	I have the freedom to choose when to start my working day	
	time_4	I have the freedom to choose when to end my working day	
	space_1	I can work from home in some occasions / days	
	space_2	I can work outside the office from different locations	
	space_3	The spaces and offices provided are adequate to complete my tasks	
	tech_1	I have all the ICT and digital tools needed to complete my tasks	
	tech_2	I can use instant messaging and chats to communicate with colleagues	
	tech_3	I have access to platforms and online material necessary to complete my tasks	
Work-Life Balance	wlb_1	I feel I have enough time for both my work and my family	Ter Hoeven & van Zoonen (2015)
	wlb_2	I am satisfied with hoe my time is split between work and home	
	wlb_3	I am frustrated because I cannot handle home or family related business during the day	
Empowerment	emp_1	I have the freedom to choose how to accomplish to my tasks	Van De Voorde et al. (2016)
	emp_2	My job requires personal initiatives	
	emp_3	I think to brilliantly do my job	
	emp_4	I feel I can achieve my personal career ambitions and goals	
	emp_5	I feel free to express my most innovative and creative ideas	
Job Satisfaction	js_1	My job responds well to my personal needs	Camman et al. (1979)
	js_2	I would recommend my job to other people	
	js_3	I am full of energy at work	
Engagement	eng_1	I am proud to be part of my organization	Schaufell & Bakker (2006)
	eng_2	I am proud of working for the achievement of my PA's goals	
	eng_3	I am proud of helping my colleagues or other people with my job	
	eng_4	When I wake up, I am happy to go to work	
Cultural Shift	cult_1	The PA worries more about procedures than performance	Brown & Leigh (1996)
	cult_2	The PA puts enough effort in employees' training and education	
	cult_3	The PA gives the employees all the opportunities for career growth	
	cult_4	I feel I am gratified by the PA for goal achievement and good performance	

Table II: Items, statements, and sources of the questionnaire

Moreover, two control variables have been added to better explain the relations of the model: the age of the respondent, and the amount of years that he/she has been working for the PA. Being older or having covered the same role for a long time, performing tasks the same way, can both lead to path dependency and resistance to change that could make employees less enthusiastic about SW or about a cultural shift.

After a careful analysis, it has been decided that the investigation should concern various PAs of different nature and across the whole Italian territory. The research and the questionnaire have been designed to investigate objectively the effects and effectiveness of SW across the public sector in the Country. In fact, targeting only a specific reality - either already familiar with SW practices or not - could have led to different results, driven exclusively by the pre-existing habits and customs of the respondents, and thus subjective. This choice has been made as the purpose of the following analysis is not that of examining the effectiveness of SW in a specific PA, but to understand the possible benefits of it at a National level.

The survey has been uploaded on the digital platform SurveyMonkey[1], and thanks to the collaboration with Synergia, a counselling company, over 18,500 PAs employees have been reached, from various types of PAs across the national territory. In fact, Synergia managed to invite the 18,500 employees to answer to the survey by mailing them a newsletter with the link. Even though the initial target of the thesis was to gather at least 100 responses, the constant efforts in reaching as many public employees as possible - sending various reminders - made possible to collect 197 answers.

Successively to the collection of all the answers, performed through the data analysis involved multiple tools. The first step consisted of preparing the excel database with all the responses, and "cleaning" the answers to make them more readable. From this first step, it was clear how the general SW level adopted in PAs is not sufficient: most of the respondents claimed to enjoy very low space flexibility and slightly better time flexibility or digitalization. As it comes to work life balance, job satisfaction and empowerment, the average results show that the sampled Italian PAs' employees perceive a level of these just above sufficiency (3/5). At the same time, the average engagement level perceived by the respondents presents the highest value. Even though the respondents have been reminded many times to refer to the situation previous to the

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[1] SurveyMonkey is an online survey platform that provides customizable surveys.

Covid-19, these results are really likely to be spoiled by the emotional bias that surrounded people during the emergency situation since. In particular, the sense of patriotism characterizing the period could have made public employees prouder of working for their Country and helping both their colleagues and the whole Italian population. Finally, Cultural Shift shows the worst average value: The perception of the sampled workers is that their PA does not care at all about both their workers' training and their career opportunities. Moreover, they think to have much lower benefits compared to the ones in similar positions in other companies. In conclusion, this very bad result can be also due to the employees' perception on their supervisors while managing the really tricky, unexpected, and never experienced before Covid-19 situation.

After having performed these first considerations on the gathered data, both the measurement model and the structural model have been tested. As explained, firstly it is important to validate the measurements, in terms of quality of the construct: this means validating the relations among the items of the same construct and the robustness of the construct itself. The quality and robustness of each construct have been assessed through the computation of the Cronbach's Alpha. Moreover, two additional indexes prove the quality of the constructs: Average Variance Extracted (AVE) and Construct Reliability (CR). They have been performed and all values respect the thresholds. These results have shown that all the items of each construct have been a good proxy of the measurement of the construct they belong to, hence every construct of the model has been distinguished from the others and the composition of all the constructs has been appropriate.

The following step is to perform a Structural Equation Modelling (SEM) analysis in order to validate the model itself, hence testing if the hypotheses are reasonable. All these analyses have been undertaken using the software Stata[2].

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[2] Stata is a statistical software package that provides data manipulation, visualization, statistics, and reproducible reporting.

HYPOTESIS	PATH COEFFICIENT	P-VALUE	STATISTICAL VALIDITY
H1: Smart Working → Work-Life Balance	0.19	0.043	Supported
H2: Smart Working → Empowerment	0.50	0.000	Supported
H3: Work-Life Balance → Job Satisfaction	0.43	0.000	Supported
H4: Job Satisfaction → Engagement	0.24	0.002	Supported
H5: Empowerment → Engagement	1.13	0.000	Supported
H6: Job Satisfaction → Cultural Shift	0.37	0.000	Supported
H7: Engagement → Cultural Shift	0.03	0.631	NOT Supported
H8: Smart Working → Cultural Shift	0.41	0.003	Supported

Table III: Composition of Constructs and their Cronbach's Alpha

The output of the SEM analysis are two values: the p-value and the path coefficient. The p-value has been calculated to confirm the hypotheses: the smaller the p-value the stronger the evidence supporting the hypothesis. In general, a p-value below 0.05 proves that a relationship between the two constructs analyzed exists, therefore the hypothesis is validated. Instead, The sign of the path coefficient reveals whether the existing correlation between the two constructs is positive or negative. Moreover, trough the SEM analysis, it is possible the fit indices, with the objective of assessing the goodness of the fit of the model. In particular, the RMSEA and the Coefficient of Determination (CD) have been selected as good proxies to evaluate this aspect: the first index indicates to what degree the hypothesized model reproduces the sample data; while the second one is a measure used to assess how well a model explains the outcomes. As it is shown in Table IV, both indexes successfully respect the threshold.

T INDEX	THRESHOLD	RESULT
RMSEA	<0.1	0.081
CD	>0.8	0.918

Table IV: RMSEA and CD Values

After the above-mentioned analysis, by looking at the verified hypotheses together, it has been possible to interpret the meaning of the model in a more comprehensive way.

First of all, the outcome of the research is that those public employees enjoying higher SW levels, also enjoy better work-life balance, which leads to higher job satisfaction. Also, the employees enjoying higher SW levels respond with higher values to those statements

concerning their job autonomy, their career opportunities, and the possibility to be innovative and creative on the workplace. Summing up, they result to be more confident and empowered. All these phenomena correspond to higher levels of job engagement: the implication is that higher flexibility does not give more opportunities to employees to evade work – as commonly believed nowadays, especially in the Italian PA context – but, contrarily, it engages employees to work better for the organizational goals. None of these results are surprising, as they have been previously validated by many studies performed in the private sector. However, they constitute a new find in the context of the Italian public sector. The supported hypotheses of this analysis contribute to the academic theory underlining that those constructs and associations, holding out in the same way in both private and public sectors might be generalized according to all the already done studies with regards to private companies. This last element contributes to make the work relevant since, so far, little scientific research has focused on the SW effect within the Italian PA environment.

The seventh hypothesis: "high job engagement has a positive impact on the organizational culture" is the only one not supported by the SEM analysis. This result is unexpected, but it can be explained by the fact that the survey has been conducted on a sample which is still quite new to SW practices since just recently explored. Even though this particular hypothesis does not seem valid, the overall results show consistence between SW and cultural shift.

However, the most promising results are those connected to the hypotheses 6 and 8. In fact, those employees already adopting SW practices the most, also responded better to the "Cultural Shift" construct since this construct has been composed by a series of items that specifically address the employee's perceptions on his/her manager's leadership style and on the PA environment in general. Overall, among the Italian PAs, there are surely more innovative ones, while others more conservative. As the sample includes many employees from different institutions, the answers gathered are various and different: some of the employees interviewed already enjoy SW, others have little or no flexibility. The overall perception is that of a public sector that has already moved the first steps, but still with a long way to walk towards SW. However, the statistical analysis confirms the existence of a connection between SW and organizational culture. This is such an important theoretical contribution of the present work.

This thesis also offers practical contributions to managers. In fact, it demonstrates how promoting SW initiatives in the public sector can help the shift of the Italian PA's culture. The findings of this research are crucial to demonstrate how the digitalization of the Italian PA – with the consequent adoption of SW initiatives – represents such a strong mean to abandon obsolete ways of working, hence making both employees and organization more oriented on exceeding goals rather than on the mere clock punch, which is an issue more pressing than it could seem, as the Covid-19 emergency brought out.

This study, as any empirical investigation, has some limitations. It must be pointed out that the present study was carried out during the Covid-19 pandemic, an unprecedented and extremely disruptive emergency. Among the day-to-day activities and routines that the pandemic has radically changed, one of the most touched has been the way of working. Being all Italians "locked-up" in their houses to avoid the spreading of the virus, they were forced to practice teleworking. It has been repeated several times during the questionnaire to answer referring to the situation before the pandemic, hence considering the precedent level of flexibility allowed. Moreover, it has been asked to try answering without the bias of current emotions like confusion, fear, pessimism about the future and isolation arose during the lockdown. However, it might be possible that these feelings have slightly influenced the employees' perceptions when answering about their work-life balance or general satisfaction level. Future research can repeat the study once the emergency is over.

In conclusion, other researches regarding SW, its benefits, and peculiar implications for Italian PA will surely take place in the next years since this topic is more actual than ever. As soon as the SW initiatives will achieve higher maturity in the public sector, future research can achieve a deeper understanding of the phenomenon and assess whether it actually fosters the benefits aimed and assumed in the present work.

1. Introduction

This chapter offers a precise analysis of the academic literature on themes of Smart Working (SW) and Public Administration (PA).

First of all, an overview of the most important trends that are influencing the evolution of the work organizations and that are driving both private firms and public institutions to the adoption of SW practices is shown.

Then, the concept of SW is presented in detail, particularly focusing on its principles, levers, benefits, and limits.

Further on in this chapter, the features that mostly identify the Italian PA are introduced to provide a clear presentation of its history, main issues and peculiarities.

Then, in order to merge these two themes, the actual diffusion of SW initiatives in the Italian PA, the expected benefits and legislative framework are illustrated.

In conclusion, this chapter offers an analysis of the adoption of SW in Italy during the Covid-19 pandemic as well as how it has been such a crucial tool – for both private and public sector – to face this unbelievable emergency.

1.1 Undergoing trends and their implications

In the last years, the methods and tools used to perform work practices have radically changed (Hamel, 2012). Nowadays, organizations to be successful should be able to abandon obsolete working configurations (Birkinshaw et al., 2008) and embrace new organizational principles, such as emerging collaboration (Vlaar et al., 2008), autonomy in the work settings choices (Leonardi and Bailey, 2008), spatial and temporal flexibility (ter Hoeven and van Zoonen, 2015), talent enhancement, responsibility and widespread innovation (Gastaldi et al., 2015).

Some trends leading towards a more flexible management of work are shown below, so as to better explain the origin of these changes and the future direction of work:

- *Spread of the "intangible economy"*, linked with the rising in trade of services instead of products. The economic value is nowadays moving from tangible goods toward growth in services, "knowledge intensity" in both product and services, and experience as an economic offer. The company's ability to attract talented workers is now considered essential for its success (Florida, 2002).

- *Growth of the "always on" business culture,* because of the introduction of new technologies able to make people always reachable for contact, as well as the repeated interruptions when performing activities linked to this level of permanent connection (O'Neill, 2009). Organizations and workers have become addicted to technology and work itself (Burke and Ng, 2006).

- *Fast developments in communications and mobile technologies*. On the one hand, this has improved the people working conditions. On the other hand, this has been not helpful in enhancing work-life balance. In fact, the possibility of workers to be always connected to the workplace brings to the disappear of the boundaries between work and private life (Burke and Ng, 2006).

- *Growth of lean approaches, re-engineering, and outsourcing*. These tools are becoming increasingly important and adopted by companies willing to rethink and redesign work processes and workflows, aiming at delivering value to customers. Thanks to this, organizations are eliminating wasteful processes, thus reducing costs and focusing more easily on their core business. More in depth, adopting a lean structure helps developing competitive advantages towards competitors; reengineering helps obtaining faster processes, reduction of resources needed and higher productivity; while outsourcing helps cutting costs and increasing flexibility (Hammer and Champy, 1993; Lake, 2013).

- *The increasing number of women in the workplace,* which led to the introduction of more flexible work arrangements such as part-time job. Work-life balance is now a central topic, especially when both partners in a family work (Lake, 2013).

- *Demographic change*. The workforce age distribution has radically changed, as well as their characteristics, values, and expectations. Organizations' workforce are becoming increasingly heterogeneous, so the need to learn how to manage a diverse pool of workers is emerging. For these reasons, flexible work practices are nowadays rising, with the aim of facilitating people, especially elderly, to work in a more customized and relaxed way (Burke and Ng, 2006; Lake, 2013).

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- *Workers' need of more flexibility, autonomy* (Ouye, 2011) *and an experience in line with their values.* Employees are increasingly asking for a workplace able to reflect their identity instead of defining it (O'Neill, 2009).

- *The rise of globalization related to the technological progress.* On the one side, this has increasingly connected local markets, cut the cost of moving information, and weakened both political and cultural barriers. On the other side, globalization has created new and tougher competition (Burke and Ng, 2006). The new information and communication technologies (ICTs) are fostering access to information wherever at any time, thus making both temporal and physical borders no more perceive as barriers (Espinosa et al., 2003).

- *Social and environmental sustainability is playing a key role in creating and maintaining a competitive advantage in any market* (Brady et al., 2000). This new vision mainly involves new engineering solutions and building standards, as well as innovative and more sustainable work practices (Lake, 2013).

- *Covid-19 pandemic.* This emergency has demonstrated how the digitalization and, in particular, being ready to the adoption of flexible work practices are nowadays basic requirements for all industries.

Companies need to react in order to be competitive and survive in this new context. In particular, all these trends have forced organizations to reshape their traditional way of working, through the implementation of new technologies, the adaptation of workplaces and the creation of more flexible work rules aimed at improving the employees' satisfaction (Okhuysen et al., 2013). In other words, companies in all industries are responding to these tendencies by implementing innovative *Smart Working practices*.

1.2 Smart Working

The following paragraphs resume and synthetize all the scientific literature available, with the aim of introducing the concept and all the characteristics of Smart Working. Finally, the last section will provide a special focus on its implementation in Italy.

1.2.1 Definitions

It is impossible to find a unique and comprehensive definition of SW to which all researchers agree, being the phenomenon so wide. For this reason, different definitions are provided, each of them highlighting a different characteristic of SW.

"Smart Working is the newly coined term that embraces the entirety of new ways of working opportunities in an integrated manner – be that spatial and temporal autonomy, the required cultural and trust transitions, technological advances, wider intellectual connections and stimuli, social, ethical and environmental sensitivities – all harmonized to suit the individual working style" (Blackwell, 2008).

This first definition emphasizes the culture of flexibility typical of SW, represented by spatial and temporal autonomy.

"Smart Working involves developing a new work culture. It is not about doing things in the old way with some new technologies and redesigned offices – it is about new ways of working using new tools, new processes, and new approaches to management and teamwork. This requires different types of behaviors and different expectations about how work is done." (Flexibility, 2011).

The second definition allows to make one more step: SW is not a mere matter of flexibility or adoption of new technologies, but it requires a proper shift in terms of organizational culture, from a process-based culture, to a goal oriented one.

The following two definitions, provided by the SW Observatory of Politecnico di Milano, introduce two more crucial elements.

"Today, it is possible to rethink organizational work methods thanks to digital technology, the electronic devices which are on the market, and people's willingness towards interacting through virtual relationships, but the switch to SW is much more than a concept dealing with innovative technology. Indeed, it means questioning various stereotypes related to the workplace, timetable and work tools which allow people to reach both a greater professional efficiency and a better balance between one's work and private life". (SW Observatory of Politecnico di Milano, 2018).

This definition explains the importance of the digital tools and technology, that are a requisite for the introduction of SW and function as mean of support to it. However, it also highlights how SW, once again, cannot be summed up to the introduction of innovative technologies, but is more an entirely new work philosophy, with the possible benefit of increasing work performances and work life balance.

"Smart Working means thinking about work from a different, clever angle. It questions the traditional links with working times and locations and gives people a greater say in defining their working conditions, while at the same time making them more responsible for the outcome. Autonomy and flexibility and giving people responsibility and trust are the bywords for this new approach to work." (SW Observatory of Politecnico di Milano, 2018).

Finally, the cultural shift, allowed by the work processes and practices, through the adoption of the SW levers, will have the effect of making employees more autonomous and accountable for their work. Responsibility and trust are two fundamental elements of the SW philosophy. The previous definitions give a quite complete overview of the complex phenomenon of SW.

1.2.2 Principles

Given the definitions above, is now possible to examine the principles of SW emerged, one by one. In order to properly create a SW environment, all of them need to be applied efficiently and effectively. The complete SW framework includes the following principles, that if applied allow to correctly leverage on the SW levers, that will result in the SW benefits.

Figure 1: SW Framework

1.2.2.1 Flexibility

Workplace flexibility is the ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks (Hill et al., 2008). This means the workers can arrange core aspects of everyday work life.

1.2.2.2 Empowerment and autonomy

The empowerment of employees can raise their level of involvement and can result in improvements in performances and in the level of efficiency, quality, and profitability (Blanchard et al., 2007). It refers to a result-based culture, where the goals are defined collectively, and the individual is accountable for the results he accomplishes. Empowerment is closely linked to the concept of autonomy: the freedom of employees to make decisions on how to schedule the job and on how to reach the goals (Hackman, 1980).

1.2.2.3 Collaboration and communication

For SW to be possible, it must be applied in an organizational environment where both collaboration and communication are common practices. these two must be in place both vertically, between management and employees, and horizontally, between employees. It is crucial that before trying to implement SW, all the employees of the company are informed and personally involved in the project so that everyone is contributing to the transformation. (Clapperton and Vanhoutte, 2014). For SW not to become a mere organizational policy about

flexibility, but a new working philosophy adopted by the firm, where trust and autonomy is fundamental, greater, and more direct communication between the employees and the manager is needed, rather than a more conservative situation where the leader limits to give orders.

1.2.2.4 Trust

In a flexible environment, where physical presence and control are not possible, trust becomes necessary. To activate a valid SW model, it is essential to work with a different approach, to be capable of overcoming the concepts of hierarchy, power and control and to stimulate a work culture based on trust (Minghetti, 2014).

1.2.3 Smart Work levers

The second element of the SW frameworks are the levers: oversimplifying, they can be seen as tools that need to be introduced to properly achieve SW. However, as already said, implementing SW in an organization is not just a matter of introducing new technologies and redesigning the office layout, while maintaining the previous work approach. It involves developing a new culture and new ways of working by using new tools, new processes, and new approaches to management and teamwork (Lake, 2011).

1.2.3.1 Organizational policies

There are three main elements, or new policies, to be introduced: work time flexibility, workspace flexibility, tool choice flexibility.

1. *Temporal flexibility* has to do with the possibility for employees to apply different solutions in terms of when and for how long work (Kossek et al., 2006). To provide some practical examples, an employee could choose to concentrate all the working hours he needs to perform a task in one day, in order to have free time the next day. Or again, an employee could choose to start the working shift one hour later (and finish one hour later) then the ordinary schedule, in order to avoid peak hour traffic and waste less time in the car.
2. *Workspace flexibility* means having the possibility to work from different locations: it could be a different office of the same company, the private home, or a public place.

Spatial flexibility initiatives often imply time flexibility (Shockley & Allen, 2007), interrelating these two practices.

3. *Digital technologies* aimed at enabling the practices above. However, SW implies not only making all the necessary technologies available, to support the goals achievement, but also giving the possibility to choose which tools to use. For instance, an employee might prefer using his or her private devices or choose to communicate by instant chat software rather than emails.

In this innovative approach, which rethinks the culture of presenteeism in favor of a result based one, is needed to empower trust and autonomy among workers (Gherardi et al., 2003).

1.2.3.2 Leadership style

Leadership style is essential for a correct introduction of SW: the managers need to guide the employees towards the aimed cultural shift and towards the creation of a sense of community. The sense of community is essential to create a sense of belonging and trust, to be able to establish shared values and collaborative work behaviors. A Strong leadership will be needed to ensure the changes are taken forward, and to galvanize teams to develop the new culture and new ways of working (Lake, 2014).

In opposition to the traditional and hierarchical leadership, which defined clear guidelines to reach the desired results (Martin et al., 2013), new work models promote a more relationship-oriented leadership, based on collaboration and employees' participation. The final objective is to empower workers to be autonomous in the decision of the most appropriate conditions and tools to be used to reach the desired target (Spreitzer, 1995). This means performing a shift from a task-oriented leadership style to a relationship-oriented leadership style.

To support the adoption of SW, leaders must focus on some principles recognized as crucial to pursue a cultural change (Lake, 2014):

- Be oriented to flexibility.
- Be inclined to establish work relationships based on trust.
- Stimulate the knowledge sharing between peers.

- Possess high-levelled communicative and collaborative skills with colleagues, teams, external partners and people in general.

- Make employees feel autonomous and responsible.

- Be focused on the results obtained by employees more than on their presence.

1.2.3.3 Physical layout

Designing effective workspaces to create desirable spatial interactions is becoming the focus of organizational efforts in many firms. Innovative spaces are to be seen as catalysts for an organization's ability to improve communication, reconfigure resources, attract and retain talent, reflect values, foster innovation, and creativity (Moultrie et al., 2007). For this reason, the physical layout is considered a driver that supports the introduction of SW because of its influence on people, human interactions, and activities (Strauss, 1978).

In the SW context there is the need for a mix of different functional spaces like flexible meeting spaces, space for quiet and concentrated working, space for confidential work and phone calls, team tables, resource areas, special project areas, flexible multipurpose spaces. In the new office settings, greater emphasis will be on shared mixed-use spaces where people can work together (Lake, 2014).

In particular, the 4C model is shown to sum up the critical factors to obtain a successful physical layout (Clapperton and Vanhoutte, 2014).

- *Collaborate:* reorganize spaces to facilitate collaboration and knowledge sharing.
- *Concentrate:* guarantee the presence of quiet locations for concentration.
- *Communicate*: structure spaces to ease information sharing and communication.
- *Contemplate*: provide areas adapted to relax and breaks from work, stimulating creative contemplation and social relationships.

The idea is to reconfigure the layout of the offices, abandoning the old fixed places, towards the creation of new, functional and shared areas. Employees will be able to move from one area to the other freely depending on the nature of the task they are accomplishing. The layout, clearly, needs to be adapted according to the specific necessities of the organization.

1.2.3.4 Digital technologies

Digital technologies are necessary to enable the introduction of SW, as already mentioned. The biggest opportunities are now represented by the availability of new Information and Communication Technologies (ICT), and in particular web and mobile communication services. At a rapidly decreasing cost, these services make it possible to overcome geographical, time and organizational barriers to communication and knowledge transfer in dispersed networks (Corso et al., 2006).

Three categories of technologies can be identified according to their functions of supporting (i) collaboration, (ii) social relationships and (iii) accessibility to information:

(i)   Unified Communication and Collaboration technologies: these instruments help companies to unify different communication channels in order to increase productivity and reduce internal transfer-information costs. They create a single interface that integrates instant messaging (chat), telephone videoconference, email, SMS, fax. As organizations continue to become more fragmented, and employees, at the same time, become more mobile, UC&C enables people to work together in real time and provides new ways of being more efficient with various stakeholders: clients, peers and suppliers (Nec-enterprise, 2014).

(ii)   Social Computing: these technologies play a vital role in the transfer of information. Indeed, they aim at supporting the change from traditional communication between workers (Buczek et al., 2009) through solutions as social networks, wiki, blogs, forum and media sharing, where personnel can easily collaborate.

(iii)   Cloud computing and desktop visualization: the former is the possibility to share IT resources on-demand (internet, servers, storage, application and services), while the latter enables the access to a virtualized desktop through internet. Thanks to cloud, all the employees can obtain data at any time and from every location, eliminating the constraint of the physical compresence of user and physical storage.

The downside of the adoption of these new digital technologies is the data security issue. When the data was physical and could be protected by simply keeping it stored in the offices, data

security was easier. Therefore, a trade-off is required to choose the correct balance between smartness of working and data security.

1.2.4 Benefits

The reason why it is such a relevant theme is that SW seems to produce significant and concrete benefits (Greenwood et al., 1996; Klarner et al., 2013). These positive effects can be grouped in three categories: benefits for the company, for the workers and regarding social and environmental aspects (Capgemini, 2009).

1.2.4.1 Benefits for the employees

The introduction of SW impacts employees under many points of views, the first one is work-life balance. This concept refers to the possibility of conciliating private life with work objectives thanks to flexibility in managing the workload (Estes and Michael, 2005). Additionally, other studies confirmed that both flexibility in choosing at what time and where to work are generating a positive influence on the work-life balance and are avoiding conflict between private life and work (Byron, 2005; Mesmer-Magnus et al., 2006; Shockley et al., 2007).

Moreover, SW enhances autonomy, creativity, accountability, trust and a result-based culture, as widely said, that are all elements that contribute to the creation of confidence and self-esteem. This is believed to increase job satisfaction and motivation in the employees. In addition, if employees are satisfied, collaboration becomes much easier. This results in an increase in team efficiency, a simplification in exchanging ideas, greater open- mindedness and acceptance of different viewpoints (O'Neill, 2009). Flexible work schedule, in addition to this, allows employee to work during the hours they are actually more productive, rather than regular work hours (Kirk et al., 2006).

1.2.4.2 Benefits for the company

The introduction of SW within organizations can bring multiple benefits. Some examples are the increase in productivity, the enhancement of the company image and the compliance to market development (Beauregard et al., 2009). Indeed, the increased productivity is a direct

result of motivated and engaged employees. In addition, thanks to the rationalization of the spaces, it is possible to see a reduction in real estate investment. Organizations have realized that by utilizing distributed work they can save money on office space (Cascio, 2000), be more efficient with office relocations (Buono et al., 1989) and more easily employ talented individuals who may live in distant locations (Cramton et al., 2004). Defiantly, can be classified as benefit the increase in the capability to attract valuable human resources (Casper et al., 2004), the reduction in absenteeism and turnover, the greater flexibility in the organization and in the scheduling of working hours and the increased satisfaction and involvement of employees (Peretz et al., 2017, Wheatley, 2012). In particular, a flexible work schedule allows the company to reduce the turn- over rate and absenteeism while increasing the employees' capability of self-management and the sense of responsibility, thus allowing the company not to resort to the use of part-time (Drago et al., 2003).

1.2.4.3 Benefits for the environment

Smart Working has also positive impacts on the environment; reducing travels working from home and exploiting online conferencing allow to save organizations tens of thousands of business miles reducing carbon emissions and improving productivity. In addition to that, designing the offices for Smart Working allows to rethink spaces: the reduction of the utilization of them allows to obtain a reduction in the production of CO_2 and of carbon costs. Therefore, these savings that are useful for the environment can also turn into an economic advantage because of the reduction in the taxes for the use of fossil fuel and for carbon emission and because of the tax relief regulation related to moderate energy consumption profiles.

1.2.5 Limits

Smart Working, indeed, could have some negative side effects, especially when not implemented well.

The first example is that people often create boundaries between work life and family. Creating boundaries allows them to fully concentrate on family when at home and on work when at the office, without mixing up the two situations. However, working at home increases the blurring between work and personal life. The physical separation between work and family roles is, in this way, removed thus making potentially more difficult to maintain a boundary between both

roles. However, when work and family are roles primed in the same location, role conflict and tensions in general may occur. This may be particularly salient for Smart Workers who have children at home while they work (Hooks, 1998; Shockley and Allen, 2007).

Strictly connected to this, digital technologies are what allow people to be always connected, enabling SW practices, on the other side it brings to the phenomena of interruptions. Interruptions are meant as family related interruptions while working or vice-versa, lower the concentration, efficiency and indeed performance of the employee. An example of interruption might be reading a text from a family member when in the office, or a work related email while at home, actions which contribute to blur the boundaries and cross the domain of private and work life.

In addition to these, studies suggest that working from home can cause increased feelings of loneliness and worries; in particular, the absence of physical face-to-face contact and the increased virtuality lead to a higher degree of social isolation (Bloom et al. 2015; Kenyon et al., 2002; Raghuram et al. 2001). Because physical separation reduces interfaces with others and consequently opportunities for making friendships, social isolation increases. Then, physical and informational isolation has a negative impact on job satisfaction.

One last issue is linked to the necessity of using digital technologies to be able to enjoy any SW practice. This might create discriminations in the extent to which some organizations might lack in digital tools and in resources to acquire them. Moreover, either elderly people or with physical or mental pathologies might find higher difficulties in the usage of digital tools and have low familiarity with technology in general. Lastly, some companies might lack in resources to invest on the education and training of their employees, fundamental to properly introduce SW. These conditions would generate a disadvantage towards these firms and categories of individuals, in respect to those which can easily launch a SW project.

1.2.6 Models of implementation

There is not a unique or correct way to implement SW, rather each company must find the path that best fits its characteristics and necessities. However, in literature there are some models of implementations that can be used as guideline and that are reported in this paragraph.

1.2.6.1 The Clapperton and Vanhoutte Framework

Published by Clapperton and Vanhoutte in 2014, this framework highlights that change must be guided by the management, trough the adoption of a correct leadership style. The top management should act in order to enable all the employees to work where and when they are more productive, at the lowest cost and environmental impact (Clapperton and Vanhoutte, 2014). There are three elements that top management should pay attention to, in order to allow this change.

- *Bricks*: the bricks identify the workspace, the physical layout. The first step is redesigning the internal spaces and in identifying the most suitable area for each task.
- *Bytes*: it refers to the technologies that enable the employees to work in mobility, at any time and everywhere. The second step is to leverage on those.
- *Behavior*: it represents the changes in the relationship between managers and employees, that aim at eliminating hierarchical levels and increasing the number of interactions.

1.2.6.2 The Lake Framework

In 2013 Lake published the "Smart Working Maturity Model" framework, in the book "Smart Flexibility", conceived to classify the level of SW maturity of a company. For this purpose, Lake identified four stages, that tell the company where they are, rather than suggesting them a possible path.

1. *Level 1.* Isolated initiatives: adoption of isolated and sporadic initiatives to promote flexibility.
2. *Level 2.* Basic flexibility: the company starts to put in place policies to support flexibility.
3. *Level 3.* Advancing flexibility and beginning of Smart Working: the company has implemented a plan of SW. The focus is on building and creating the necessary technologies and correct environment.
4. *Level 4.* Smart working: the company has built a trust and result-oriented culture. SW is largely and frequently used, and employees work effectively and efficiently even outside the office. The journey into SW, however, does not end: key part of this model

is the openness to the future and embracing new techniques, technologies, and workspace innovations, to work smarter and smarter.
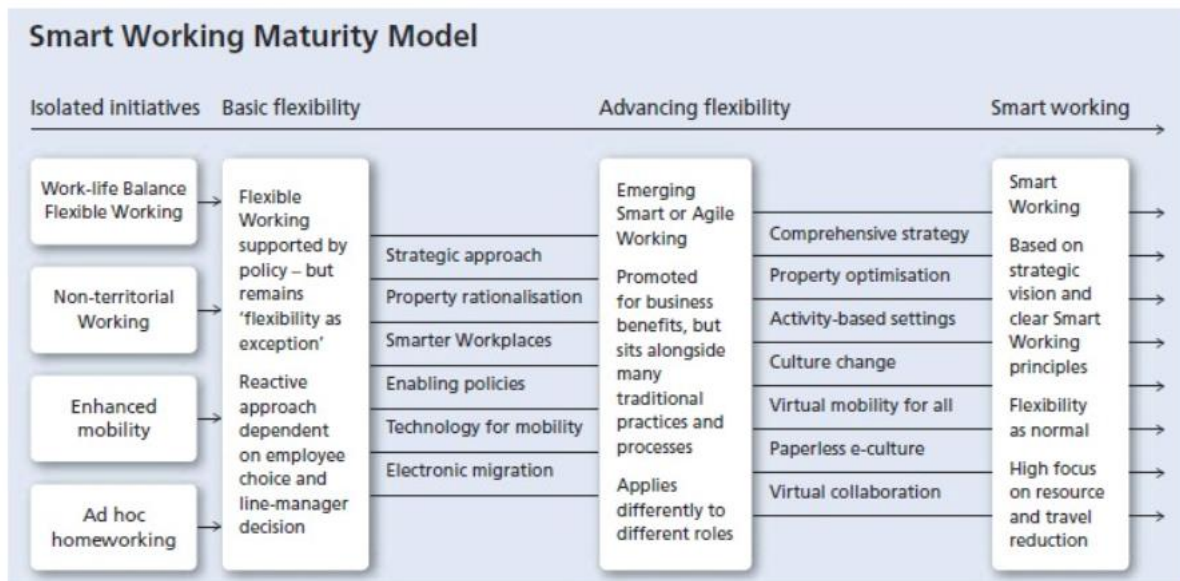
Figure 2: The Lake Framework, SW Maturity Model

1.2.6.3 The SW Observatory of Politecnico di Milano

According to the Observatory of Politecnico di Milano, there are five phases to approach a SW project. Each project should be structured in compliance with the company strategy.

1. *Visioning phase:* clarify the motivation and goals of the SW project. Understand the specificities of the project. Involve upper management in the project launch and in rethinking leadership models.

2. *Readiness assessment phase*: in this second phase it is important to evaluate the readiness of the people, of the physical layout, of the technologies, and understand if the current organizational policies fit the new SW project. Companies need to understand if the actual situation allows to create a SW environment.

   People must be assessed, and their job profile defined, to evaluate if they are ready for SW. It is important to consider both the personal necessities of the people and the activities they carry on.

People	Activities
Independence and autonomy to perform tasks	Characteristics of the activities (level of standardization and repeatability, programmability, ...)
Familiarity and disposition towards using IT tools to support work activities	Frequency and way of interaction with other lines of business / clients
Current IT resources (laptop, smartphone)	Remote / mobile accessibility to information, materials and tools used to support work activities
Specific needs linked to personal life (distance from the workplace, young children, elderly relatives, ...)	Percentage of time allocate to key working activities (collaboration, concentration, communication, creativity)

Table 1: Readiness assessment phase

3. *Model design phase*: it consists in three steps.

- Design the policy (goal, recipients, health, and security training)
- Define application process (application requests, approve applications, update presence detection and day planning models)
- Technology adjustment (map current resources, define smart working kit, verify functionality)

4. *Change management phase*: it is important that the change starts from the management, by adopting a correct leadership style and communicating with all employees. Changes have to be implemented in terms of:

- Sense of community: Ability to promote and adopt collaborative behaviors by identifying and participating in social networks among teams and departments, and between various Group companies, also including external collaborators.
- Empowerment: Ability to empower people towards personal and business objectives in a cooperative way, using a result-oriented approach
- Flexibility: Ability to promote and manage the organization of working activities in a flexible and adaptive way in order to balance personal and business needs.
- Virtuality: Ability to balance the use of digital technologies and other ways of interaction, choosing the most effective tools to perform specific objectives and tasks.

5. *Monitoring phase*: in the short term the company can perform surveys and focus groups (involving both management and employees); in the mid-term the company should define KPIs to monitor the success of the project; in the long term a different set of HR KPIs can help evaluate the impact of SW on the organization.

1.2.7 Diffusion of Smart Working practices in Italy

In Italy, according to the data of the Smart Work Observatory, in 2019 the number of Smart Workers was 570 000. This represents about 15% of the people eligible for SW. From a socio-demographic point of view the Smart Workers are predominantly men (76%), aged 35 from 38 (50%), and residing in the north west of the country (48%).

However, the level of adoption significantly depends on the dimensions of the firm. 56% of the big companies (250 employees or above) already launched some SW projects. However only 9% of the big companies performed a complete cultural shift or rethought the way of working to make SW the rule, rather than the exception. Most of the companies currently adopting SW, instead, mainly let employees work from home on a regular basis, even if SW is much more than this, as already explained.

As it comes to the medium or small enterprises, only 24% launched a SW project, but in most cases, it represented a one-off initiative without a structural approach. Up to 8% of these enterprises does not know the meaning of the SW and 38% has declared to not be interested in it.

1.3 The Italian Public Administration

A legal definition of Public Administration (PA) in Italy is provided by the article 1, c.2, LD 165/2001, declaring that PA refers to all the State entities, schools, public companies, Regions, Provinces, Municipalities, Mountain Communities and their consortia, universities, autonomous institutions, chambers of commerce, industry, handicraft and agriculture, all the non-economic public institutions and the national sanitary service.

This section provides an exhaustive overview of the Italian PA, starting from the definition of the sector, the description of the different entities belonging to this category and their diffusion on the Italian territory; proceeding with the main characteristics and the analysis of the major difficulties faced by the public sector and its workers.

1.3.1 Historical references

The PA is traditionally formed when a bureaucratic and administrative entity becomes a separated legal entity from the parental one. In modern countries, this phenomenon started with the division of powers, and so the consequent separation of organizations following a more hierarchical approach.

In Italy, in the mid-1800s, the administration was interlinked with the government, under the king's directives. Only at the end of that century, the institutional space specific of administration took form (Cassese, 1974); this event put PA in a position between government and society, thus obtaining a proper regulation which guaranteed its autonomy (Mannori and Sordi, 2001).

The extension of the right to vote and the transformation of State functions put the administration in charge not only of country defense, public order and foreign affairs, but also of necessities of less-protected classes such as social insurance, public health, work guarantees or economic assistance for impoverished area (Giannini, 1986). This step made the PA more powerful, with new roles and new functions.

The Italian Republican Constitution identifies the PA as an entity serving the State and dependent from the Government through the representation of ministers. In this way, the democratic delegation can take part into administrative structures to favor the interests of

citizens and communities (Nigro, 1996). Respecting principles of equity and successful progress, the PA operates serving exclusively the Nation, ensuring citizens social, civil and economic rights (art. 98-99, Cost.), placing before the interest of community than the one of government.

The Constitutional Reform of 2001 modified the level of autonomy of Municipalities, Provinces and Regions, reallocating all the administrative functions to Municipalities. The PA's boundary toward the society are then reconsidered, and the barriers between administration and private are reduced: public entities interacts now with customers and users, operating like the private sector or in partnership with third parties.

1.3.2 Classification

The PA is composed by multiple elements, such its employees, the norms coordinating the activities, the context where it operates, its goals and tools needed to reach them.

In general, the bodies belonging to the PA can be clustered regarding to the objectives pursued, the organizational structure, the nature of their activities (dividing economic entities from the non-economic ones) and whether they are local authorities. According to the classification issued by the University "La Sapienza" of Rome (Figure 3), all the legal forms of PAs can be aggregated in three classes:

- *Central Administrations*. Their role is to exercise competences over the entire national territory. This class contains the State, Ministries, Constitutional bodies, and some economic (e.g. Anas) and research (ISTAT, ENEA, CNR) entities.
- *Local Administrations*. They have only competences limited to a part of the national territory. They include Regions, Provinces and Municipalities.
- *Security Funds*: They provide cash benefits financed through contributions (INPS, INAIL and social security funds of specific categories of workers).
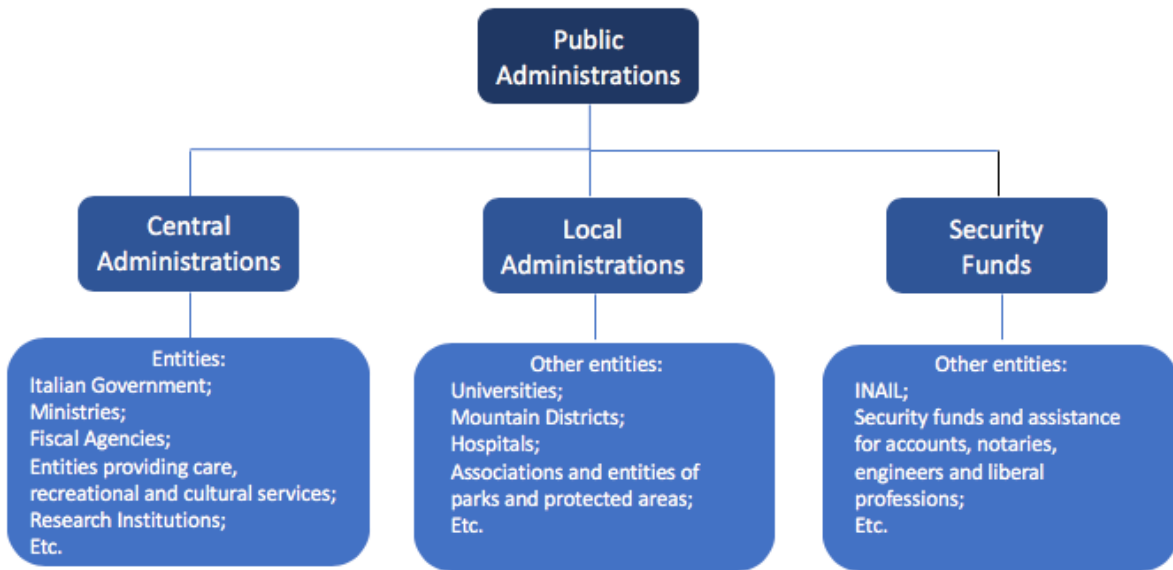
Figure 3: Classification of PAs

1.3.3 PAs distribution

The index of PAs (IPA) is the official database for public entities and public services providers. For each of the 22,826 PAs present in the archive, IPA reports information as the entity name, the location and the legal form used to map the distribution of the public sector local units.

PAs are not homogeneously spread over the Italian territory. In fact, the northern regions host about half the total PAs employees (48%), while the second half is split between central regions (20%), southern regions (21%) and islands (11%).

Northern Regions		Central Regions	Southern Regions	Islands
Liguria	Emilia Romagna	Abruzzo	Basilicata	Sardegna
Lombardia	Friuli Venezia Giulia	Lazio	Calabria	Sicilia
Piemonte	Trentino Alto Adige	Marche	Campania	
Valle D'Aosta	Veneto	Toscana	Molise	
		Umbria	Puglia	

Table 2: Composition of macro-areas

At the end of 2017, people employed in the Italian PA were equal to 3,243,435, including a higher number of women employees (1,848,000) than men (1,388,000).

More in depth, in 2017, considering the different categories, Educational Institutes (34.7%), National Health Service (19.9%), and Municipalities (13.4%) have been the largest classes in terms of percentage of workers over the total PAs employees.

Comparing data between 2008 and 2017, it emerges that people employed in PAs have been reduced by 7.5%, which corresponds to an absolute value equal to 257,661 workers. Furthermore, in 2017 about 204,000 people quit their job in the PA, with only 180,000 new hires.

The steady reduction in the PAs workers that has been observed from 2008 could be explained by the policy of public expenditure restriction and the attention to fiscal consolidation due to economic difficulties faced by the country over this period.

Over the period 2008-2017, the categories in which the higher reduction of employees in absolute terms have been registered are: Regions and Local Authorities (-87,500 people), National Health Service (-42,800) and Ministries (-33,700). Considering school and university - the largest category in terms of employment - despite the growth of 16,000 people from 2016 to 2017, it still registers 2.42% less employees with respect to a decade ago.

The constant decline in the number of PAs employees has also brought to a gradual reduction in the percentage of public employment over the total Italian workforce, going from 15.6% in 2008 to 14.7% in 2017. The Italian public employment crisis is highlighted by comparing it with the largest European countries. In fact, the Italian PA can rely on 70% less employees than Germany, 65% of the England PA, 60% of France, while 10% more than Spain (FPA 2018b).

1.3.4 Main issues of the Italian PA

The Italian PA is reputed as one of the less transparent in Europe. Indeed, its efficiency in managing regulation, human resources, incentives and public services is not in line with the European standards. According to a study conducted by the Public University of Oxford in 2017, considering all these aspects on PAs of 31 countries (of which 22 European), Italy has ranked 27th (Oxford, 2017).

To better predict impacts and limits linked to the adoption of SW in the Italian PAs, it is worth analyzing the most crucial issues that the national public sector is facing.

1.3.4.1 Digitalization, corruption and transparency

The Italian PA is moving tardily towards the effective digitalization of both central and local entities, presenting a much slower process if compared with private companies. Unless several reforms and efforts to accelerate this procedure, the full adoption of the e-government for the Italian PA seems to be still far from being achieved. In fact, in 2017, just 25% of people in Italy interacted with PAs through the adoption of Internet, and only Romania (9%) and Bulgaria (21%) had worse results all over the EU (Istat, 2018). This could be explained by analyzing the socio-economic characteristics that mostly matter regarding the diffusion of the e-government, which are mainly the average age and the instruction level. Indeed, it is no coincidence that Italy presents an older and less educated population with regard to the European average.

Another critical aspect linked to the Italian PA is the high level of corruption and lack of transparency. These lead to sever issues such as wasting of public resources, preventing competition, reducing the quality of goods, services, and investments within the country. In spite of the innovations introduced by the Madia Reform, such as the Freedom of Information Act (FOIA[3]), the position covered by Italy in the international ranking of corruption is very disappointing (Decastri et al., 2019). In fact, according to the analysis of the Corruption Perceptions Index of Transparency International (CPI), Italy was the 7th out of 31 most corrupted country in the Western Europe in 2018. The reasons behind this discouraging results are that the FOIA needs time to be implemented properly, plus the level of digitalization in the Italian PA is still insufficient. However, by contrast, data shows that Italy has been gradually able to reduce its level of corruption over the last decade. One explanation for this could be that since the financial crisis in 2008, the country undertook several structural reforms so as to balance severe austerity measures (Transparency International, 2019).

Perceived corruption also influences citizens attitudes and behaviors. In particular, it is associated with less satisfaction, lower levels of social and institutional trust, and higher risk of people breaking rules (Villoria et al., 2013). Istat data have highlighted a strong and important

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[3] Regulation that guarantees to everyone the right to access to data and documents owned by PAs, unless there is risk of compromising other public or private interests.

correlation: the lower the level of trust in local institutions, the higher the level of corruption. For this reason, reducing the level of corruption in the Italian regions could lead to an increase in the trust of citizens in local institutions.

1.3.4.2 Average age of the Italian PA employees

One of the main issues of the Italian PA is the huge presence of elderly people employed. Indeed, the mean age of the employees of the Italian public sector was equal to 50.64 years old in 2017, with only 2.8% of under 30, compared to 16.4% of over 60 (MEF, 2018). The main issues linked to this are basically smaller meritocracy and efficiency, the closure towards innovation, the hyper unionization that leads to a level of absenteeism greater than the private sector (Decastri, 2019). Another critical aspect is the scarce social mobility culture in Italy. In fact, people in Italy rarely move from the public sector to private companies and vice versa. The reasons behind this are linked to the common culture of the country of getting a job for the whole life, believing that the career progression depends more on seniority than meritocracy (FPA 2018a).

1.3.4.3 Absenteeism

The absenteeism is a misbehavior that has a terrible impact on the ability to guarantee a good service level to both citizens and national balance sheet. From the geographical point of view, the regions presenting the highest number of average days of absence in PAs are Calabria and Puglia; while Liguria registered the lowest value (Galdo, 2017).

After the introduction of the law 124/2015, the days of absence because of sickness have been reduced by 10.6% in the first year, while the percentage of workers with at least one day of illness has been brought from 33% in 2016 to 29% in 2017. The dismissals for disciplinary reasons were equal to 324 people in 2017, which is 62.8% more than the ones in 2013. In particular, almost half of them (154 people) derives from absenteeism: 99 of them have lost their jobs because of absences from the workplace with neither a communication nor a justification, while the last 55 have used a false attestation of presence (FPA 2018b).

The research center of Confindustria estimated a yearly cost of absenteeism for Italy of about 4-5 billion €.

1.3.4.4 Absence of a results-oriented culture and lack of flexibility

The low level of productivity that characterizes the Italian PA could be attributed to:

- *The underdevelopment of managerial models*. The models of work organization and the contracts regulating them are set up in an obsolete way, since they have been conceived in an era where the concepts of place and time of work were considered as fixed and as a measure of "being at work" (Corso, 2015).

- *The rigidity of work organization*. The lack of flexibility in the work organization models negatively impacts the ability of workers to manage their time in the smartest way and of PAs to increase the productivity exploiting their employees' personal talents. Due to the scarce propensity to assess workers according to their performance, the rewards are mostly based on the work presence rather than the actual efforts: this way of acting destroys talents and productivity. The SW adoption could help PAs to move away from a "process-oriented" culture to a "results-oriented" one, and to adapt the performance evaluation system, by including more specifically measured objectives (Decastri, 2019).

1.3.4.5 Inability to attract talents

Due to the crisis started in 2008, the salaries of the Italian public sector were blocked in 2010, thus they are not properly inflation-adjusted. Additionally, the new hires are based on precarious contracts, such as fixed-term or collaboration contracts. Moreover, the Italian public sector is considered not motivating by many workers, because of its static environment, and the often repetitive and not stimulating tasks. All these reasons cause people to mainly prefer the private sector job offers, making the PAs not able enough to attract valuable human resources (FPA 2018a).

1.4 Smart Working initiatives in the Italian Public Administration

This section defines the potential benefits linked to the introduction of SW in the Italian PA, so as to merge the two topics previously described. To deeply understand the context where the current study takes place, a description of the recent evolution path of the legal framework is provided, including the presentation of both the general Reform and the specific Law introduced to regulate the new relationship among PAs and Smart Workers, the modalities of implementation and the target fixed.

1.4.1 The introduction of Smart Working in the Public Administration

The introduction of SW in the Italian PA became a target thanks to the "Madia" Reform (Law n.124 of the 7th of August 2015). The article 14 proposes new measures for promoting a well-balance between work and private life. As stated in this article, PAs need to adopt organizational measures in order to experiment new flexible practices involving at least the 10% of public employees, over the period 2018-2020. PAs must also assure that workers taking part to these initiatives would not be penalized in their career progression.

If properly managed, SW practices could be the right answer at the right time to the PA's need of rethinking both its culture and its overall organization (Corso et al., 2018). The introduction of SW in the PA is not less relevant than in the private sector as erroneously believed. The main reasons of that are reported below:

- *Positive economic effects on the national budget*. Private companies adopting SW practices have largely demonstrated how these allow to save money and improve productivity, which in turn leads to positive effects on the firm's service level. Furthermore, these practices bring to a reduction in terms of required spaces, which corresponds to savings from 1 to 3 billion € (Corso et al., 2018).

- *Moving away from a "process-oriented" culture to a "results-oriented" one*. SW helps to introduce principles of meritocracy and performance-based evaluation, thus abandoning the current ones based on physical presence and fulfilment of bureaucratic procedures. The new culture would be able to fight all the misbehaviors that are typical of the Italian PA. Increasing responsibilities of workers and trust in them are powerful means for recognizing the most valuable employees and defining the best rewarding

system. Lastly, the adoption of a fair leader's supportive behavior has direct impacts on employees' emotions and feelings, and creates a work environment that facilitates workers to achieve organizational goals in the PAs (Corso et al., 2018; Wijewardena et al., 2014).

- *Higher attractiveness for the most talented human resources*. SW includes initiatives boosting the public employees' involvement, by improving the organizational environment and helping employees to enjoy a better work-life balance. Moreover, extending SW to public employees avoids creating further discrimination and improves the relationships between politics, public opinion and social parts (Corso et al., 2018).

- *SW accelerates the digitalization development*. These new practices represents an additional investment on the digitalization of processes leading to the creation of an e-government able to reduce corruption and improve transparency (Cho and Choi, 2004; Corso et al., 2018; Zhao and Xu, 2015). Lastly, new service models answering to the current citizens' needs could be provided thanks to the opportunities offered by ICT.

1.4.2 Law n.81

On the 10th of May 2017, the Senate approved the Law n.81, officially published on the 22nd of the same month. The Law is composed by 26 articles grouped in two different areas: the first one offers welfare measures and protection for employees working autonomously; the second area aims at developing flexible work procedures, promoting competitiveness and improving work-life balance. This Law is part of the implementation of the PA Reform, which was officialized by the Law n.124 of the 7th of August 2015, introducing relevant innovations in the Italian PA context.

For what concerns the flexible work models area, the new Law does not introduce any innovation if compared with the way in which many private companies are already acting, but it is needed to clarify some aspects that were ambiguous and discretionary. So, this Law is considered essential thanks to its capability to foster the diffusion of SW across public institutions, and to oblige PAs to fully stick with its regulation.

1.4.3 Directive of the Reform on Public Administration

This section describes the Directive published by the Council President and referred to the actuation of comma 1 and 2 of article 14 of the Law of the 7th of August 2015, known as PA Reform of Minister Madia.

First, the Directive recalls the point 48 of the European Parliament Resolution of the13[th] of September 2016, declaring that "the Parliament supports SW, a working approach based on combination of flexibility, autonomy and collaboration, which does not require the physical presence of the worker in the office and let him manage the working time (respecting limits), underlining its potentiality for a better work-life balance; […]; the Parliament recommends to not assign additional obligations to employees, but simply focus on workers' welfare, pointing out the need of a result based management to avoid abuse and promoting the utilization of digital technologies".

About employees' eligibility, the Directive states that all the categories are suitable for the initiatives by definition, and PAs are in charge of identifying for each entity the compatible activities and the employees' selection criteria. Moreover, according to the available budget, PAs must:

- Promote and adopt teleworking.
- Organize services supporting parenthood.
- Experience SW respecting both safety and data confidentiality, and ensuring performances without discriminating the Smart Workers' careers.
- Introduce result-based culture through managers' training, performance measurement systems, and selection criteria.
- Stimulate managers to spread SW not only for a better work-life balance, but also for increasing productivity.
- Restyle and rationalize workplaces to introduce shared locations.
- Promote digital technologies utilization.

From a legal perspective, SW does not modify the nature of the work agreement, the role of the employee in the administration and its workplace. The performance is undertaken remotely for a certain period of time according to agreements, with prevalence of working days carried out

in the office. With respect to the working hours, it is always possible to monitor the remote office hours, but the effort must be on the diffusion of a result-based culture with significant accountability for employees. Managers must foster trust and, and, at the same time, monitor constantly the performances to verify the impacts on administrative efficiency, using indicators tailored on the organization, also containing citizens' feedbacks.

Moreover, the Directive has defined:

- *Qualitative objective:* promoting the adoption of SW and other flexible initiatives.
- *Quantitative objective*: allowing at least to the 10% of workers in each PA to adopt SW initiatives by the 2018. Considering the absence of a static model of SW, each entity is allowed to independently define a model adapted to its requirements. However, it is crucial for all the PAs to empower organizational technological devices, dematerialize documents and monitor both performances and savings.

Still, the Directive suggests a general path of reference to PAs willing to implement SW initiatives:

1. *Phase 1*: create an internal work group including administrative members to support the start of experimentation and monitoring. This group must analyze the macrostructure of the organization, map activities, processes, personnel, and workers' needs (either familiar or private).
2. *Phase 2:* define the SW project characteristics through the draft of a plan (duration, days of remote working, technological devices, recruitment criteria, etc.). Therefore, ones should individuate activities that cannot be worked remotely, identify yearly targets to reach the final 10% target and discuss the plan with trade unions and CUG[4]. In this phase, the possibility of creating both co-working areas and on desk-sharing have to be considered.
3. *Phase 3:* start a pilot project in a department ready to face this kind of initiatives (identifying personnel, duration, and starting date).

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[4] CUG is a committee that contributes to the productivity optimization of public organizations aiming at increasing the performance efficiency by guaranteeing a work environment characterized by the respect of gender equality principles and by the fight against discriminations and moral and physical violence on workers.

4. *Phase 4*: provide a monitoring system that allows a general evaluation of performances and productivity, identifying the more relevant indicators basing on characteristics and functionalities of the department.

Moreover, PAs are required to promote training initiatives for managers and employees, show best practices and create FAQ spaces on their websites. Public entities are also in charge of ensuring proper health and safety conditions of the Smart Workers, providing them informative material illustrating risks and correct remote performances execution. When the instruments are provided by PAs, institutions are responsible of training about utilization and maintenance; otherwise, they have to apply preventive measures to ensure healthy behavior, as stated by art. n.15 LD 81/2008.

It is still doubtful how to approach insurance issues while employees are working remotely and if there are consequent restrictions in space flexibility. However, the target set remains the most debated aspect of the Directive. Indeed, PAs have different functions, thus resulting in different internal work positions. Considering the difficulty of the front office roles to be worked remotely, fixing a general objective equal to 10% regardless of the category surely result in a mismatch among entities. For instance, a PA working in the IT sector, formed by 100 employees, 100% digitalized and already working with a result-based approach, can easily involve 10 workers in flexible initiatives; while a huge Municipality counting 10,000 employees with limited eligibility due to the presence of teachers, firemen, vigilant and gardeners included in this number, can face several difficulties to allow to 1,000 people to work remotely.

In conclusion, the Directive delineates the process of creating SW initiatives in PAs, illustrating in detail all the elements involved and the objectives to reach. Although the difficulties of generating a standard cycle to implement flexible initiatives, a paradigm for their introduction has been proposed, as well as an approach of sharing best practices helpful for PAs.

1.4.4 Smart Working in the Italian Public Administration

The evidences in this section are gathered with regard to a research on SW initiatives in the Italian PAs conducted by the Smart Working Observatory of the Politecnico di Milano in 2018.

1.4.4.1 SW diffusion in the Italian PA

From the SW Observatory analysis, it emerges that, in 2018, only 9% of the sampled PAs[5] adopted SW practices, this share is substantially the same as in 2017. However, from the previous year, a slight increase is noted in the structured projects quota - from 5% to 8% - with the consequent reduction of informal projects.

The sampled PAs that have not yet introduced SW initiatives are split among 8% that are willing to introduce these practices within the next 12 months, 36% declared to be possibilist in introducing SW in the future, 38% are uncertain, and the last 6% completely disinterested in SW practices.

This situation describes how the SW diffusion toward Italian PAs has not been as expected, despite the regulatory effort and the deadlines imposed by the Madia's Directive. Furthermore, the approval of the Reform seems to be more challenging for the public sector than the private one. In fact, 60% of PAs having structured SW projects indicate this law as a positive incentive, while only 17% of both big companies and SMEs took the same view.

Regarding the procedures definition in the new framework, it appeared to have a positive impact for 27% of the PAs with structured projects, while a negative one for 30%. In particular, the communication procedure with the Minister of Labour and INAIL[6] has been perceived as the most critical aspect.

Carrying on with the analysis, only 15% of the sample have either achieved or exceeded the Madia's Reform goal to provide flexible working options to at least 10% of employees, while 18% of PAs intends to achieve it within the terms defined by the Reform. 19% of the sample is willing to achieve the imposed objective within one year, even though almost 1 out of 2 does not consider this goal as reachable.

These discouraging evidences are explained by the fact that no specific incentives, funding or penalties have been provided, even though the Reform includes specific obligations and deadlines. In addition, the government established in 2018 in Italy has not still declared to support the goal of the Madia's Reform.

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[5] The sample is composed by 358 Italian PAs formed by more than 10 employees.
[6] INAIL: national institute for insurance against accidents at work and occupational diseases. It is an Italian non-economic public body, subject to supervision by the Italian Ministry of Labour and Social Policies.

1.4.4.2 Maturity and levers of SW projects in the Italian PA

Almost half (49%) of the public entities unwilling to develop SW initiatives in the short-term affirm that the main obstacle in this sense is the adaptation of this way of working to their context. This limit can be due to the perception that many activities in PAs cannot be achieved by remote. Moreover, less than 27% of the sample feel to be hindered by aspects as the complex bureaucratic procedures, the limited knowledge in approaching the SW introduction, the lack of awareness of the achievable benefits and the low number of digitized activities.

93% of the sampled PAs adopt a SW model that only includes working remotely, while the remaining 7% also enclose spaces rethinking.

The SW projects in the PAs strongly depends on:

- *Organizational policies*: PA's employees often propose and submit their own individual project, by presenting a document that describes both the objectives to reach and the indicators to monitor their achievement.
- *Digital technologies*: the spending restrictions characterizing the Italian PA limit the investments needed to adapt the technological equipment to SW projects, which is integrated and improved only by 45% of structured projects.
- *Leadership styles*: even though this is considered a fundamental aspect, the impact of the projects on the leadership styles is nowadays impossible to estimate, due to the limited number of people involved in SW projects.

In the Italian PA, the SW projects are usually managed internally. Indeed, 55% of PAs with structured projects use only internal resources for the initiatives realization; 24% include the involvement of another public entity; 21% engage non-public organizations.
User satisfaction is the most monitored indicator, followed by quality of work and citizen service, impact on internal coordination, SW adoption frequency and Smart Worker's features.

1.5 Smart Working during the Covid-19 emergency

SW is not only a best practice to increase productivity, work-life balance and cut emissions: it also represents a tool to face local or national emergencies. It is a clear example of this the Covid-19 case, thanks to which Italy was forced to launch the biggest SW experimentation it had ever seen. Starting late February 2020, the private and public sectors were forced to completely transform the way they delivered products and services overnight, imposing SW to their employees, by the law and in order to protect employees' health. By March 2020, 8 million Italians were working from home and 67% of the firms adopted SW practices (SW Observatory of Politecnico di Milano, 2020). In this context, the emergency represented a robustness and resilience test for public and private firms: those already familiar with SW practices showed a huge organizational and competitive advantage, compared to those who never adopted it.

The emergency pushed to quick changes, that would have otherwise taken years. The situation has clearly been an emergency, and experts argue that what was put in place was "working through a crisis" rather than proper SW (Bergamaschi, 2020). Nonetheless it is desirable that the steps taken, towards SW, will not be lost, but will become a real stimulus for innovation. To pursue this goal, education and training are fundamental: those firms that will have done that properly, instead of abandoning their employees during the crisis, will succeed. In fact, the second step after the complete recovery from the emergency will be to make this new working modalities the rule, the new normal (Corso, 2020).

2. Methodology

The following chapter discloses the specific objectives addressed by the research. Furthermore, it describes the different phases of the research to provide a clear overview of the followed process and the tools adopted.

2.1 The objective

A complete analysis of the academic literature regarding SW allows to understand which areas had been investigated before or not. This highlighted issues that had not yet been addressed, that eventually represented the starting point to design the questions and objectives for the present research. It was clear from the beginning that the vast majority of researches had focused on the private sector. Even among the studies conducted on SW in the public sector, very little has been said specifically about the PA in the Italian context. This brought up the necessity to further investigate the effects of SW within the Italian PAs.

The analyzed literature constitutes the base to build a sound model, composed of different hypothesis and constructs. Some of these items had already been validated, the others are the specific objective of the research, whose purpose is that of validating them through the data analysis that will follow in the next chapters.

In particular, the present work - through its model - aims at addressing the following issues: given by the literature that both the correct workplace culture and environment are necessary to correctly establish SW practices, and given that the Italian PA is a conservative context, process-oriented and composed by little innovative organizations, the following research questions arose:

1. Could the gradual introduction of SW practices represent a first step towards the change of both culture and leadership style of the Italia PA?
2. Could SW bring the stimuli for a shift of organizational culture, towards a more dynamic, innovative, motivational organizational culture, more aligned to the modern best-practices adopted internationally by firms and organizations?

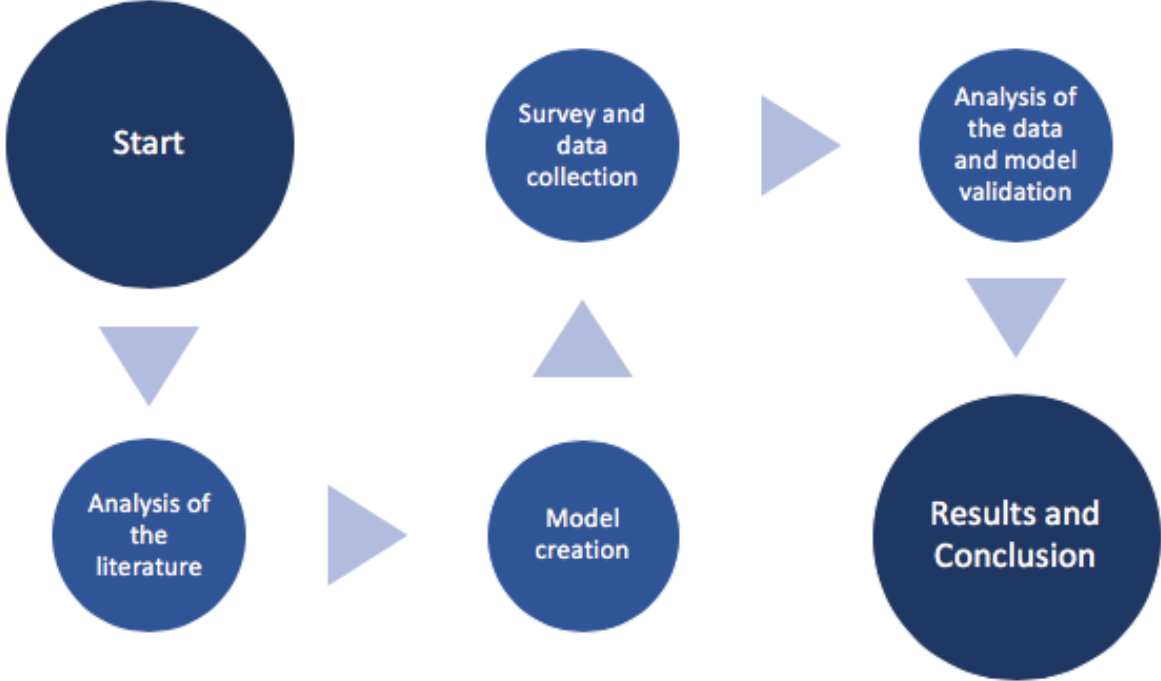A step by step explanation of the process of research is depicted in Figure 4.

Start

Survey and data collection

Analysis of the data and model validation

Analysis of the literature

Model creation

Results and Conclusion

Figure 4: Research process

2.2 Literature analysis

The literature analysis has been carried out in order to have a full vision of the reasons why the SW practices have been growing among the different organizations. This section aims at showing the results of the researches performed until today and the areas requiring a major focus.

The analysis of scientific papers and books made it possible to deeply describe all the features of SW, like its principles, its levers, its benefits, and limits (for more information see chapter 1.2: Smart Working). This has also been the first step to the definition of the constructs of the tested model as well as the decision about the most suitable scale to measure them.

The research of academic papers has been mainly conducted on Scopus, ISI Web of Knowledge and Google Scholar, selecting material from many Journals of Engineering, Social Science and Business and Management. In particular, this research started by selecting the most relevant GoldStar and Gold Journals (AiIG classification) about this topic.

The second part of the analysis has been focused on finding information about the Italian PAs. Because of the very limited academic material about this topic, it has been needed to merge the scientific papers with materials from encyclopedias, journals and online articles. This process made it possible to highlight the features of PAs, together with their strengths and weaknesses.

At first, the papers have been searched by using keywords related to the SW as whole. Initially, only the general aspects have been considered, such as SW levers, work-life balance, interruptions, employees' engagement, job satisfaction, and job motivation. Those keywords have been finally searched in different combinations. Moreover, the SW impacts have been analyzed by considering both employees and PA perspectives, in order to have a full vision of the consequences of the phenomenon.

The same approach has been applied while studying the PAs. In particular, the analysis has been focused on the keywords related to the adoption of SW in the public sector. Because of limited results, the research criteria have been moved on general topics, such as the current context, the work characteristics, the median age and the culture of the Italian PA. Finally, similarities and differences between public and private sector have been examined.

After performing an accurate literature analysis, only work-life balance, job satisfaction and engagement have been selected as relevant constructs to be included in the model. These elements are crucial since they directly impact on employees' wellbeing, organizational performance and the attitude by which SW is applied by both employees and PA. These constructs have been tested and studied in many researches; however, none of the read studies consider all these elements together as mediators between smart working practices and PA's cultural shift.

Considering the huge number of papers related to this research, a first screening of them has been necessary. In particular, this has been performed by reading the abstracts and selecting only the ones consistent with the topics under investigation. This led to a total number of 187 papers considered. However, after reading them carefully, only 134 articles have been included in this analysis, since considered the most significant. Those papers have been collected in an Excel file, reporting their main content – name, author, source, publication year, explanation and comments, subjects covered. Finally, that information has been quoted within the discussion of topics and reported in the bibliography chapter at the end of the work.

2.3 The model

2.3.1 Model overview

The analysis of the academic literature brought up the gaps and unaddressed issues. The identification of the gaps has been the starting point to then select some specific topics to further study. Lastly, the hypotheses that build the model have been formulated. This paragraph aims at disclosing the logical connections behind each hypothesis and provide an overview of the model.

As mentioned in the previous section, among the main gaps there is the little attention that the scientific community has given to the public sector. As the implementation of SW practices can represent a crucial step for a radical change and improvement of the Italian PA's culture, the impact of SW on the PAs cannot be neglected. For this reason, it has been considered interesting to test in the public sector those relationships already proven only in the private one. Moreover, some new relationships have been tested: the idea that SW can positively impact organizational culture - directly and indirectly through few mediators - is not completely unexplored by scientific research, but still not enough studied. This thesis represents the first attempt to test these relationships in the Italian PA, but hopefully it could also represent a stimulus for deeper studies on these topics, also in the private sector, with a consequent generalization of the new relationships proposed.

More in details, the idea behind the model was that of testing if SW practices could lead to improvements related to some of the main issues linked to the Italian PA's environment. For what concerns the private sector, it has already been proven that SW positively affects work-life balance and employee motivation. These factors contribute to foster creativity and innovation, but mostly to create higher empowerment and engagement. If those hypotheses were true also for the PAs, the final result could be that of higher commitment to the job and the PA itself, helping the employees and the institutions to perform a cultural shift. The aim is to create a more dynamic and innovative environment, not focused on the processes or the clock punch, but rather on performance and goal achievement. As already explained, to correctly introduce SW practices, it is fundamental to create the right environment and cultural shift at all organizational levels. The question addressed by this research is whether this mechanism

could also work the other way around. It is known, and confirmed by the literature, that the Italian PAs show an extremely conservative and change-resistant environment. Could both higher flexibility and trust - enabled by SW practices - give to the employees the necessary stimulus to modify their mindset and attitude towards the job itself? For instance, starting to take responsibilities and the correlated risks?

Summing up, the model investigates the possibility of SW to positively affect work-life balance and consequently foster higher job satisfaction. In parallel, it investigates on how SW enhances employee empowerment, meant as mix of elements such as higher autonomy in decision making, willingness of the employees to be held accountable for their decisions in terms of both risks and responsibilities and stimulation of innovative and creative thinking. Higher empowerment and job satisfaction should have a positive impact on engagement, thanks to the higher trust widespread in the office environment, which ultimately leads to the aimed cultural shift in the organizational environment.
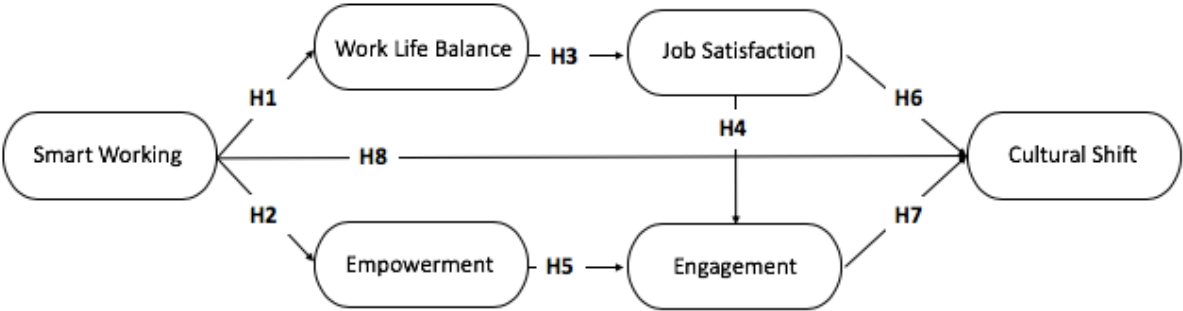

Figure 5: The model

2.3.2 Definition of the constructs

Table 3 explains the constructs, within the model, used to formulate the hypothesis.

Construct	Meaning
Smart Working	SW consists of the presence of the three elements: time flexibility, space flexibility, and ICT tools. (These concepts are better explained in chapter 1.2.3.1: Organizational Policies).
Work-Life Balance	The conciliation and equilibrium between private and work life, which allows employees to carry out projects and programs concerning both spheres, with satisfaction and without interferences between the two (ter Hoeven and van Zoonen, 2015).
Empowerment	The ways in which organizations provide their employees with a certain degree of autonomy and control in their day-to-day activities. A key principle of employee empowerment is providing employees with tools for making important decisions. Empowerment groups the concepts of autonomy, taking risks and responsibilities, creating employee's confidence, stimulating innovation and creativity (Chamberlin, 1997).
Job Satisfaction	The extent to which a person's hopes, desires, and expectations about the employment are fulfilled. It can also be defined as the feeling of pleasure and achievement experienced in the job. Job satisfaction is the overall summary evaluation a person makes regarding his/her work environment (Weiss et al., 1967).
Engagement	The extent to which employees feel passionate about their jobs, are committed to the organization, and put discretionary effort in their work. Work engagement is most often defined as a positive, fulfilling, work-related state that is characterized by vigor, dedication, and absorption (Schaufeli et al., 2006).
Cultural Shift	The aimed shift from a rigid process-oriented culture to a goal-oriented culture, looking at performance rather than procedures (Decastri et al., 2019).

Table 3: Constructs' definitions

It is important to pay attention to the first item of Table 3: the starting point is to define what is meant by SW. It refers to the implementation of the three main organizational policies adopted by the SW philosophy: spatial flexibility, time flexibility and the adoption of ICT tools. In agreement with the definitions of SW provided in the first chapter, these three elements represent the most easily measurable indicator of the presence of a SW project, and the very

first step to implement it. Hence, they represent the three items to look for in a PA, to understand to which extent it can be said they apply the SW philosophy.

2.3.3 Hypotheses

The model presents different constructs, and - at the extremities - SW policies represent the independent variable (predictor), and organizational culture represents the dependent variable (criterion). Between these two elements, some mediator variables are added; this is the case of work-life balance, job satisfaction, empowerment, and engagement.

A given variable may be said to function as a mediator to the extent that it accounts for the relation between the predictor and the criterion (Baron and Kenny, 1986). Mediating variables are crucial since they can better explain the relation between the independent and the dependent variable, clarifying how or why there is a relation between the two. Overall, a mediator can be a potential mechanism by which an independent variable can produce changes on a dependent variable. In particular, all the mediating variables have been selected carefully to better explain the phenomenon and to capture the peculiarities of the Italian PA. Each relationship between constructs is explained in detail in this paragraph.

It has been largely confirmed that the implementation of SW policies improves the employees' work-life balance. In the academic literature, there is clear evidence that flexibility in choosing both when and where to work is generating a positive influence on work-life balance (Byron, 2005; Mesmer-Magnus and Viswesvaran, 2006; Shockley and Allen, 2007). However, this evidence concerns mostly the private sector. Given the robustness of this relationship, already hugely studied in the private sector, it has been hypostasized that increasing spatial and time flexibility and providing the correct ICT tools to support these policies can positively influence the work-life balance also in the Italian public sector.

H1: The adoption of SW policies positively affects the employees' work-life balance.

The second assumption states that flexibility in organizational policies provides the employees with higher flexibility and autonomy in the way they are allowed to carry out their tasks. Differing levels in flexibility and permeability generate autonomy: the relaxation of one domain to meet the demands of the other one, with high flexibility of one sphere but low permeability

from the other sphere (Nam, 2014). Moreover, a flexible environment, characterized by high autonomy in decision making, consequently provides a perception of high trust in the actions of the employees. This allows the employees to feel safe and secure enough to stand for their own decisions, in terms of how to perform the work tasks, at the same time feeling ready to be held accountable for them. These mechanisms contribute to generate self-confidence among the employees. This hypothesis links the concept of SW to the one of empowerment since all these considerations are summed up in the concept of empowerment.

H2: The adoption of SW policies positively affects the employees' empowerment in the workplace.

Academic literature provides many examples of how work-life balance, higher autonomy, and a trustworthy environment in which employees are given the possibility to acquire higher responsibility impact positively the job satisfaction. A substantial literature has also documented general links between work-family conflict/balance and job satisfaction (Ezra and Deckman, 1996; Families and Work Institute, 1998a; Pleck et al., 1980; Staines and O'Connor, 1980).

H3: A higher work-life balance positively impacts the job satisfaction.

Job satisfaction has been positively correlated with organizational commitment (Mowday et al., 1979) and researches indicated a causal relationship between these two constructs (Vandenberg and Lance, 1992). For instance, Williams and Hazer (1986) report that job satisfaction is an antecedent to organizational commitment. Organizational commitment represents an individual's identification with the goals of the organization, how much the individual values membership in the organization and the degree to which they intend to work to attain organizational goals (Mowday et al., 1979), which ultimately are all components of the job engagement. Most of the above research have been conducted in the private sector, the new assumption states that this correlation would still be valid in the public one.

H4: Job satisfaction is positively correlated with job engagement.

Employee empowerment is considered to be one of the most powerful and effective HR practices that facilitates to make greatest contribution by the people who are capable of creating

added value in product and service which is rare and inimitable. It enhances job involvement, job satisfaction, career satisfaction and organizational commitment (Noorliza, 2006).

H5: Employees' empowerment is positively correlated with job engagement.

Many organizational researches focused on a hypothesized relationship between job satisfaction and work-related employee behaviors (Locke, 1976). Ultimately, what this model aims at demonstrating is that the correct organizational climate, described by a dynamic environment, where trust and delegation are common practices and the employees are motivated and engaged, can positively affect both employees and leadership behaviors. Leaders should communicate and delegate to their employees, who should, in turn, work responsibly and with effort for the achievement of both their own and their company's goals. This type of environment, where employees are satisfied and engaged, would correct some of the main mis-practices of the Italian PA, such as the focus on the clock punch rather than on the quality of the work, and the tendency to practice excessive absenteeism. In fact, cultural shift in the model is meant as a step forward to this kind of new and innovative environment and the assumption is that it would be fostered by job satisfaction and engagement. Given the above considerations, the following two hypotheses have been formulated.

H6: High job satisfaction has a positive impact on the organizational culture.

H7: High job engagement has a positive impact on the organizational culture.

The last hypothesis also summarizes the main idea behind the model and the main questions arose, to which this thesis aims to answer. The main issue is to understand whether SW could have a positive effect on the organizational practices and culture of the Italian PA, as it has been assumed.

H8: The adoption of SW policies has a positive on the organizational culture.

2.4 The questionnaire

2.4.1 Creation and design of the questionnaire

After having defined the model to be tested and each specific hypothesis, the following step was that of designing a survey. The survey had the purpose of testing the truthfulness of the hypothesis.

Previously to the actual creation of the survey, a research and study of the existing surveys in literature has been performed. This database has represented a starting point in understanding how to structure appropriately the questionnaire. However, the actual questionnaire indeed needed some level of adaptation to:

- Customize the survey for the public sector, as most of the examples in literature had been designed for the private one;
- Customize the survey in order to specifically address the innovative research objectives of our investigation.

Furthermore, a few brainstorming sessions were performed, to collect feedbacks and suggestions from academics and professionals, from the SW Observatory, involved in the research. This resulted in several revisions of questions and scales. The outcome of this process was the final version of the survey, ready to be delivered to the specific sample.

The choice was that of making a quite short survey, so that it would not take over then 10 minutes to be completed, to assure the level of attention of each respondent staid high through the whole test. For the same reason, the questionnaire was delivered in Italian, the mother tongue of the employees constituting our samples. Although some general information regarding the person was asked, the survey was completely anonymous. All these elements assured a high comprehension of each item and a high veracity of the answers.

The respondents have been reminded several times to refer to the situation previous to the Covid-19 emergency. In fact, on one side the emergency lived in the first quarter of 2020 represented a boost to the SW; on the other side, this research has been designed to be objective in the verification of the hypothesis. For this purpose, it was important that each employee

answered referring to a "normal" work context, without considering the altered perceptions that a state of emergency leads to.

The final version of the above questionnaire presents the following structure: a total of 55 questions divided in 3 macro areas. The macro areas are:

1. *General data*: the focus of this first set of questions is on demographic variables as well as generalities of the respondents (gender, age, type of role they cover, responsible for elderly people or kids, number of sick days required in the previous year, etc.). This area has also helped to disclose the presence of some control variables to take in consideration. This section consists of 13 of the 55 questions.

2. *Smart Working*: the second section aims at investigating the SW initiatives already in place and implemented in the PA for which each respondent works. In particular, it investigates the degree of time flexibility and special flexibility that the employee enjoys, as well as the digitalization of the PA. This section presents 15 of the 55 questions.

3. *Employee's Perceptions:* the last section aims at gathering information on each respondent's perceptions on his job satisfaction, work-life balance, motivation, engagement, and empowerment. It also investigates the working environment of the PA, in terms of organizational culture on issues such as promoting innovation, creativity, performance-oriented culture rather than process oriented. This is the larger macro area, counting the last 27 questions.

The questions within the first macro area are either multiple choices or blank spaces that the respondent had to fill in. instead, the second and third sections are in the form of statements, to which the respondent has to indicate to what extent he/she agrees on a scale from one to five. The choice of the modalities of answers and the scale itself are supported by previous examples present in literature. The complete version of the survey can be found in chapter 7.1: Questionnaire.

2.4.2 Distribution of the questionnaire

The final version of the questionnaire has been uploaded on SurveyMoneky. The platform allows the generation of a link to the survey.

This link, together with a short presentation of the research work and an invitation to complete the survey, has been sent to the sample, via newsletter. This was possible thanks to the collaboration with Synergia, an Italian company that works in the field of culture, social policies and welfare, doing research and offering counselling service, since 1989. This company's newsletter reached 18500 certified mail addresses. The historical data from Synergia show that between 9% and 13% of the people reached actually open the mail. The click rate instead is between 0,3% and 0,7%. Using these figures, about 100 responses have been the initial target to reach. Among the PAs, the newsletter managed to contact mostly Municipalities, Universities, Public Service Providers, Public Research Institutions and Consortia Among Local Administrations.

The first newsletter was sent at the beginning of April 2020. Unfortunately, the frequency in checking the mailbox for certified addresses is usually lower than the personal one. For this reason, following the first newsletter, Synergia sent weekly reminders to those who had not answered for the following two months, to allow the reaching of the minimum number of answers required. By the end of May, it has been managed to reach 197 answers, well above the target.

The original procedure should have been that of personally meeting with the managers of the selected PAs, to be able to explain the model to be tested, and collect the answers quickly, along with spreading an online-based survey as a support. Unfortunately, this was not possible due to the Covid-19 pandemic outbreak in March 2020, and the consequent complete lockdown and social distancing imposed through April and May 2020. The initial worry was that the Italian PAs had to deal with an overwhelming load of extra work, to respond to the emergency, which could have brought to reluctance, and lack of time, of the employees in responding to our survey. These factors made it more difficult to collect data, as it was needed to send several reminders. The data collection phase lasted two months, a time window longer than what was expected, but nonetheless the target answers was reached and stretched.

2.4.3 The measures

Each construct of the model was presented, one by one, in chapter 2.3: The Model. To build each construct, different items have been introduced in the survey. Each item corresponds to one question. Gathering the answers to each question and grouping the consistent ones it has

been possible to define the constructs. Thanks to the survey all the different constructs have been tested. Thanks to the first step of the data analysis, better explained in the following chapters, it was possible to identify those items that actually generated useful and consistent data. Only those have been considered and included in the following steps of the analysis, to test the hypotheses of the model. For this reason, some of the extra questions, representing each an item connected a construct, have not been used. They have been included in the survey for safety. The Table 4 shows all the questions eventually used for the analysis and the correspondent items, and constructs. The complete survey can be found in the chapter 7.1: Questionnaire. It is worthy highlighting that the construct "Smart Working" has been divided in its three elements: "Time Flexibility", "Space Flexibility", and "ICT Element".

CONSTRUCT	ITEM	STATEMENT OF THE SURVEY	SOURCE
Smart Working	time_1	I have the freedom to choose in which time window of the day I can work	Ten Brummelhuis et al. (2011)
	time_2	I have the freedom to choose how many hours I have to work	
	time_3	I have the freedom to choose when to start my working day	
	time_4	I have the freedom to choose when to end my working day	
	space_1	I can work from home in some occasions / days	
	space_2	I can work outside the office from different locations	
	space_3	The spaces and offices provided are adequate to complete my tasks	
	tech_1	I have all the ICT and digital tools needed to complete my tasks	
	tech_2	I can use instant messaging and chats to communicate with colleagues	
	tech_3	I have access to platforms and online material necessary to complete my tasks	
Work-Life Balance	wlb_1	I feel I have enough time for both my work and my family	Ter Hoeven & van Zoonen (2015)
	wlb_2	I am satisfied with hoe my time is split between work and home	
	wlb_3	I am frustrated because I cannot handle home or family related business during the day	
Empowerment	emp_1	I have the freedom to choose how to accomplish to my tasks	Van De Voorde et al. (2016)
	emp_2	My job requires personal initiatives	
	emp_3	I think to brilliantly do my job	
	emp_4	I feel I can achieve my personal career ambitions and goals	
	emp_5	I feel free to express my most innovative and creative ideas	
Job Satisfaction	js_1	My job responds well to my personal needs	Camman et al. (1979)
	js_2	I would recommend my job to other people	
	js_3	I am full of energy at work	
Engagement	eng_1	I am proud to be part of my organization	Schaufell & Bakker (2006)
	eng_2	I am proud of working for the achievement of my PA's goals	
	eng_3	I am proud of helping my colleagues or other people with my job	
	eng_4	When I wake up, I am happy to go to work	
Cultural Shift	cult_1	The PA worries more about procedures than performance	Brown & Leigh (1996)
	cult_2	The PA puts enough effort in employees' training and education	
	cult_3	The PA gives the employees all the opportunities for career growth	
	cult_4	I feel I am gratified by the PA for goal achievement and good performance	

Table 4: Items, statements, and sources of the questionnaire

2.5 The sample

The Italian PAs employees represented the perfect sample to pursue this research. After a careful analysis, it was decided that the investigation should concern various PAs of different nature and across the whole territory. The choice was made to avoid gathering data spoiled by a particular context. The research and the questionnaire have been designed to investigate objectively the effects and effectiveness of SW across the public sector in the Country. In fact, targeting only a specific reality either already familiar with SW practices or not, could have led to different results, driven exclusively by the pre-existing habits and customs of the respondents, and thus subjective. As the purpose of the following analysis is not that of examining the effectiveness of SW in a specific PA, but to understand the possible benefits of it at a National level, it was found appropriate to proceed as explained.

Thanks to the collaboration with Synergia, over 18,500 PAs employees have been reached, from various types of PAs across the whole territory. The newsletter made possible to achieve the target of 197 answers. The following list discloses the names of the different PAs that answered to the questionnaire.

- ARPA Veneto
- ASL
- ASP Beata Lucia
- ASP dei Comuni della Bassa Romagna
- Camera di Commercio di Milano
- Comune di Broni
- Comune di Buccinasco
- Comune di Caltavuturo
- Comune di Carmignano di Brenta
- Comune di Castellaneta
- Comune di Castelplanio
- Comune di Cona
- Comune di Formello
- Comune di Grugliasco

- Comune di Marone

- Comune di Perito

- Comune di Peschiera Borromeo

- Comune di Piobbico

- Comune di Predaia

- Comune di Putignano

- Comune di Santa Fiora

- Comune di Venezia

- Comune di Verona

- Comune di Vologno

- Comunità Montana Lazio

- Consorzio Culturale del Monfalconese

- Consorzio Universitario Piceno

- Istituto per la Storia della Resistenza e della Società Contemporanea in Provincia di Alessandria

- Istituto Tecnico Agrario "A. Trentin" di Lonigo

- MEF

- Ministero dell'Istruzione

- Politecnico di Torino

- Provincia di Cremona

- Regione autonoma della Sardegna

- Regione del Veneto

2.5.1 Control variables

Control variables have been added to the survey. Thanks to these, it is possible to statistically remove any distortions, legitimate or, otherwise, associated with extraneous variables, thereby purifying results, and exposing "true relationships" (Atinc et al.,2012). Indeed, some researchers believe that the inclusion of control variables is a safer and more statistically conservative approach than not including them (Bernerth and Aguinis, 2016). The extraneous variables hinted above could indeed result from the wide variety of the sample.

The first control variable is represented by the age of the respondent, as it is legit to associate an older age to some sort of resistance towards ICT tools and digital technologies, that are a necessary precondition for a correct implementation of SW.

The second control variable is represented by the amount of years the respondent has been working for the PA. It is legit to believe that someone used to a certain way of working - with standardized processes and practices - will be reluctant in changing habits or organizational culture, therefore less welcoming to the new SW philosophy.

2.6 The data analysis

This section aims at explaining in detail the techniques used to obtain the results presented in the next chapter, starting from the analysis of the survey responses.

Firstly, all data have been downloaded from SurveyMonkey and imported on an excel file. All the respondent's individual answers have been registered by row, so that each answer to the same questions was aligned by column. Each column has been renamed with an appropriate variable name. The layout of the file has been modified to be clearer and more readable, at the same time all the data have been "cleared" to be displayed in the same format and ready to be tested. Responding to each question was optional, the employees have been given the possibility to leave some of them blank. Looking at the entire database, 2.25% of the overall number of cells has been left empty (261 out of 11,623 total cells).

All the scales have been arranged in order to guarantee consistency between answers. The survey was formulated so that, for most answers, a rate equal to 1 is associated to a low value for that item, while a rate equal to 5 to a high value. For instance, when it was asked if the respondent agreed to the statement "my working hours are flexible", 1 meant he/she very much disagreed, meaning low flexibility, and 5 that he/she very much agreed, meaning high flexibility. When cleaning the data, the results of some questions - asked the other way around - have been swapped to align them to the rest of the survey. For instance, for a question asking how much "my job makes me feel frustrated", within the job satisfaction construct, the scale of the answer has been inverted so as to obtain maximum grade (5) when the respondent strongly disagree, thus he/she likes his/her job.

The next step consisted of preparing the excel database: the quality and robustness of each construct have been assessed with the computation of the Cronbach's Alpha. Finally, the hypothesized model has been tested using the Structural Equation Modelling (SEM) technique.

All these analyses have been undertaken using the software Stata. The next paragraphs offer a better explanation of the above-mentioned methods and tools from a theoretical viewpoint.

2.6.1 The Cronbach's Alpha

The Cronbach's Alpha is a measure of internal consistency, which is needed to verify the construct robustness. It is computed among the items of the same construct and provides information about the correlation level. The closer to 1 the value of Cronbach's Alpha, the higher the level of correlation among items of the same construct, thus each item provides a valuable contribution and all the items refers to the same construct. Conversely, when the Cronbach's Alpha is close to 0, the level of correlation among the items in the same construct is low, hence some of them do not measure the construct appropriately. In this case, it is needed to reformulate the construct and eliminate the items that reduce the value of Cronbach's Alpha (Cho and Kim, 2015).

2.6.2 Structural equation modeling

Structural equation modeling (SEM) is a statistical technique for simultaneously testing and estimating causal relationships among multiple independent and dependent constructs (Gupta et al., 2013). This technique is adopted to analyze the structural relationship between measured variables and latent constructs, and it consists of the combination of factor analysis and multiple regression analysis. SEM is based on an a priori hypothesis about a pattern of linear relationships among a set of observed and unobserved variables. It aims at determining whether the a priori model is valid, rather than 'finding' a suitable model (Gefen et al., 2000).

SEM is a technique to specify, estimate, and evaluate models of linear relationships among a set of observed variables in terms of a generally smaller number of unobserved variables. SEM models consist of observed variables (also called manifest or measured, MV for short) and unobserved variables (also called underlying or latent, LV for short). LVs are hypothetical constructs and hence theoretical concepts that cannot be directly measured. They denote that the variables in the theories and hypotheses are typically framed as abstractions.

In SEM unobserved variables are typically represented by multiple MVs needed as indicators of the underlying constructs. LV can be independent (exogenous) or dependent (endogenous) in nature. Exogenous variables generate fluctuations in the values of other LVs of the model. Endogenous variables are impacted, either directly or not, by exogenous variables (Shah & Goldstein, 2006). SEM models are commonly described in visual form using path diagrams,

which specify patterns of directional and non-directional relationships among MVs. The only LVs in these models are error terms. Thus, Path Analysis provides for the testing of structural relationships among MVs when the MVs are of primary interest or when multiple indicators for LVs are not available (Shah and Goldstein, 2006). Path diagrams consist of two parts: measurement model and structural model. The first one aims at answering the question "how are the constructs related to measurable variables?"; the structural model answers the question "what are the relations between the constructs?". The specification of the measurement model is a crucial factor in SEM. The Confirmatory Factory Analysis (CFA) is a tool used to validate the measurement model before specifying and estimating the structural model. CFA concerns the issue of how to measure a theoretical variable in a study. In particular, CFA aims at defining the measurement model and hence if the constructs are unidimensional, if the model is congeneric and if there is a sufficient number of indicators per construct. A model is congeneric when each measured variable is related to exactly one construct. The second step is to set the scales for the different constructs and verify whether the sample size is sufficiently large. The sample size adequacy has a significant impact on the reliability of the parameter estimates, model fit, and statistical power. Suggested approaches for determining this include establishing a minimum size, having a certain number of observations per MV, and having a certain number of observations per parameters estimated and through conducting power analysis (Shah and Goldstein, 2006).

The researchers can now estimate the validity of the model. SEM could be used to evaluate the validity of the constructs, which means to what extent the measured items reflect the theoretical latent constructs. Factor loading is an interesting index to assess the correlation between observed and latent variable. The computation of this value allows establishing whether the items that define the construct are all contributing to a correct measurement of the latent variable.

Other important aspects of the constructs' validity are the convergent and discriminant validity. The firs one takes two measures that are supposed to assess the same construct, showing that they are related. Conversely, discriminant validity shows that two measures - which are not supposed to be related - are, in fact, unrelated. Both types of validity are a requirement for excellent construct validity.

The first indicator of the convergent validity category is the Average Variance Extracted (AVE). It is given by the sum of the squared standardized factor loadings over the number of items in the specific construct taken in consideration.

$$AVE_j = \frac{\sum_{i=1}^{p} L_i^2}{p}$$

In particular, the squared standardized factor loadings indicate the amount of variation in the indicator, which can be explained by the factor. AVE > 0,50 shows an adequate convergence. The second indicator of the convergent validity is the Construct Reliability (CR). $CR >$ 0,70 implies high internal reliability (Bagozzi, 2011).

$$CR_j = \frac{\left(\sum_{i=1}^{p} L_i\right)^2}{\left(\sum_{i=1}^{p} L_i\right)^2 + \sum_{i=1}^{p} V(e_i)}$$

Where $V(e_i)$ is the error variance in the variable i and it is given by: $V(e_i) = 1 - L_i^2$.

The discriminant validity aims at evaluating if each construct is unique and differs from the others within the considered model. Therefore, the construct validity checks the constructs robustness, valuating if each one is both internally homogenous and externally inhomogeneous.

After the construct validity, researchers should assess the model validity. In order to understand if it is consistent with data, some parameters (fit indices) must be analyzed. In general, absolute fit indices indicate the degree to which the hypothesized model reproduces the sample data. The Chi-Square statistics is the most basic measure of absolute fit. It can be used to test the null hypothesis that the estimated or implied variance-covariance matrix of indicators reproduces the observed or sample variance-covariance matrix. In SEM, a good fit is obtained when the Chi-square statistic is not significant, which by convention is taken to happen for $p - values \geq$ 0,05. Achieving satisfactory models fits become harder as the sample size increases, considering the sample-size sensitiveness of the Chi-square statistics (Shah and Goldstein, 2006). So, researchers have proposed new indexes of practical fit in addition to the Chi-Square statistics. Other commonly used measures include root mean square error of approximation (RMSEA) that gives the average amount of misfit for a model per degree of freedom. When the misfit is small, the model can be considered a satisfactory proxy of the reality. The opposite

happens in case the misfit is relevant. $RMSEA < 0,05$ suggests a good performance; values until 0,1 are considered a reasonable approximation of the population; values higher than 0,1 show a low proxy of the reality.

Another fit index is the coefficient of determination (CD), which assesses the goodness of how a model explains and predicts future outcomes. CD is used as a guideline to measure the accuracy of the model. $CD > 0,8$ indicates a good fit of the model.

Although no model fits the real world exactly, a desirable outcome in SEM analysis is to show that a hypothesized model provides a good approximation of real-world phenomena, as represented by an observed set of data. When an initial model of interest does not satisfy this objective - hence when the parameters do not reach satisfactory values - researchers often alter the model to improve its fit to the data. Modification of a hypothesized model to improve its parsimony and/or fit to the data is termed a "specification search". A specification search is designed to identify and eliminate errors from the original specification of the hypothesized model (Shah & Goldstein, 2006).

Jöreskog and Sörbom describe three strategies in model specification (and evaluation):

1) *Strictly confirmatory*: a single a priori model is studied.
2) *Model generation*: an initial model is fit to data and then modified (frequently with the use of modification indices) until it fits adequately.
3) *Alternative models*: multiple a priori models are studied.

This analysis is focused on the model generation strategy: an initial model has been defined based on the literature analysis and the gaps; then, according to the data, some small modifications have been tested to better fits the threshold parameters.
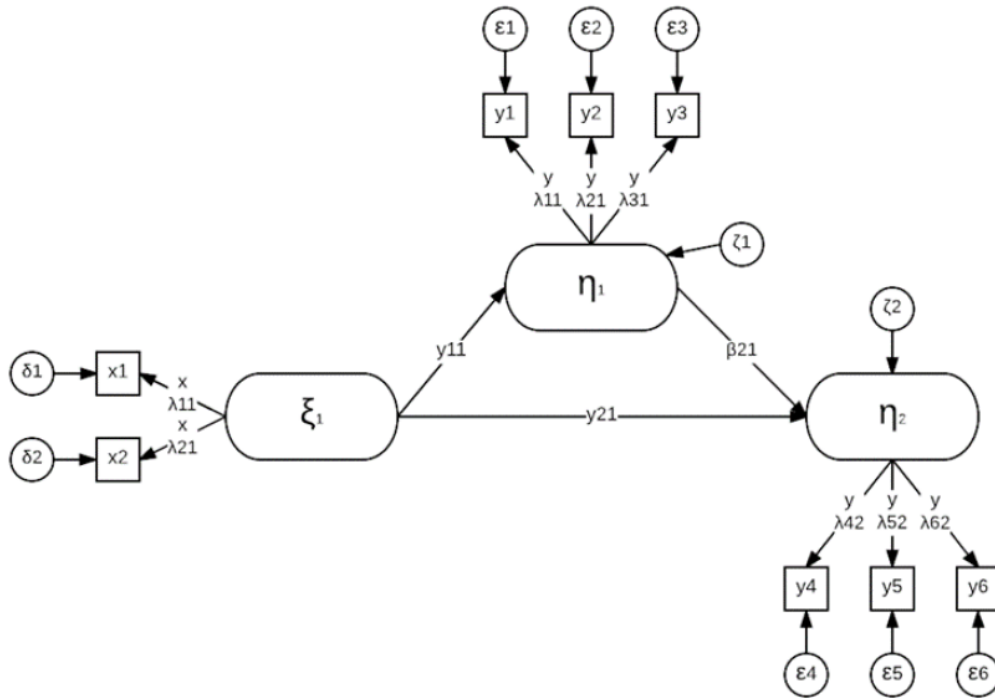
Figure 6: The mathematical model

In Figure 6, each latent variable (ellipse) is connected to one or more rectangles, which designate measurements of the latent variables. The connections of latent variables to manifest variables are represented by arrows. Latent exogenous variables are labelled with ξ; latent endogenous variables with η; indicators of ξ with x, and indicators of η with y. Error terms for indicators are δ for x and ε for y. Error terms for latent endogenous variables are drawn as ζ. Depending on custom, some researchers call error terms disturbances or residuals (Bagozzi, 2011). There are three fundamental equations to SEM:

1. $x = \Lambda_x \xi + \delta$
2. $y = \Lambda_y \eta + \varepsilon$
3. $\eta = B\eta + \Gamma\xi + \zeta$

Where:

- x = measures of exogenous manifest variables
- Λ_x = effect of exogenous LVs on their MVs (matrix)
- δ = error of measurement in exogenous manifest variables
- y = measures of endogenous manifest variables
- Λ_y = effect of endogenous LVs on their MVs (matrix)
- ε = error of measurement in endogenous manifest variables
- ξ = latent exogenous constructs
- η = latent endogenous constructs
- Γ = effect of exogenous constructs on endogenous constructs (matrix)

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- *B* = effect of endogenous constructs on each of the other endogenous constructs (matrix)
- ζ = errors in equations or residuals.

Equation 1 represents the directional influences of the exogenous LVs (ξ) on their indicators (x). Equation 2 represents the directional influences of the endogenous LVs (η) on their indicators (y). Thus, Equations 1 and 2 link the observed (manifest) variables to unobserved (latent) ones through a factor analytic model and constitute the "measurement" portion of the model. Equation 3 represents the endogenous LVs (η) as linear functions of other exogenous LVs (ξ) and endogenous LVs plus residual terms (ζ). Thus, Equation 3 specifies relationships between LVs through a structural equation model and constitutes the "structural" portion of the model (Bagozzi, 2011).

3. The Results of the Investigation

In this chapter, the results of the questionnaire will be presented, together with the proof of their statistical validity and all the steps performed to test and adjust the econometrical model.

Firstly, the statistical validity of each item and construct has been tested. Consequently, all the hypotheses have been verified by computing the SEM analysis through the software Stata. Lastly, the computation of some indicators has been used to assess validity and reliability of the model.

3.1 The sample

This section provides a complete overview of the respondents' characteristics in order to contextualize the results of the research.

The questionnaire reached 197 responses. The mean age of respondents (51.48 years of age) and the gender distribution (64% of women and 36% of men) are in line with the actual estimations of the Italian PA's employees, already mentioned in chapter 1.3: The Italian Public Administration.

Analyzing the age distribution of the respondents (Figure 7), as expected, the great majority of employees is between 40 and 60 years old.
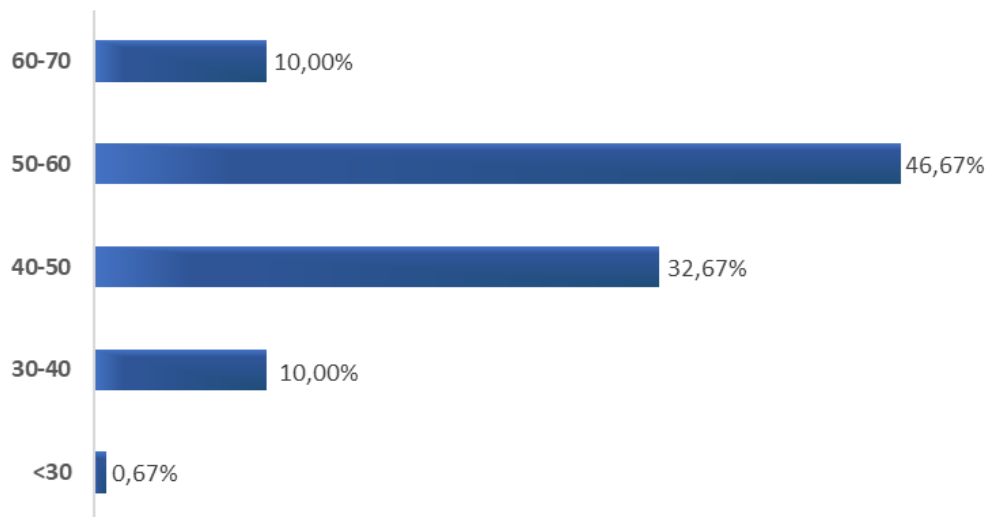
Figure 7: Age distribution of respondents

Continuing the analysis, it also emerged that the employees work on average 38 hours per week, have children at home in the 38% of cases, are responsible for elderly people in the 26% of cases and, finally, are responsible for both children and elderly people in 9% of cases, as depicted in Figure 8.
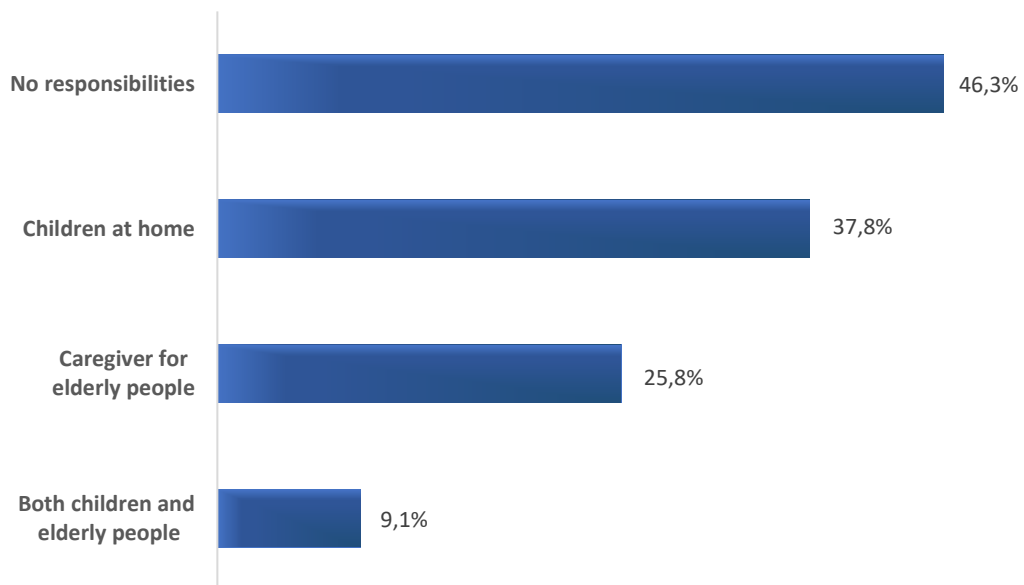

Figure 8: Responsibilities of respondents

This is such a relevant aspect since people who are responsible for someone else are expected to struggle more in balancing work and private life and thus, flexibility practices could represent a bigger benefit especially for them.

Lastly, the respondents on average take 42.2 minutes to reach their workplace. Still, employees who spend longer time to get to work are expected to be more willing to adopt Smart Working practices.

3.2 Results from the questionnaire

Some preliminary analysis on the collected data have been performed, as preliminary step to verify the relationships among the constructs of the model. The number of valuable observations, the mean, the standard deviation, the minimum and maximum value for each construct of the theoretical model are depicted in Table 5.

CONSTRUCT	ITEM	N. OBS.	MEAN	ST. DEVIATION	MIN	MAX
Smart Working	time_1	192	2.25	1.26	1	5
	time_2	192	2.35	1.30	1	5
	time_3	193	3.19	1.44	1	5
	time_4	192	3.29	1.39	1	5
	space_1	193	1.83	1.30	1	5
	space_2	193	1.72	1.30	1	5
	space_3	195	1.55	1.07	1	5
	tech_1	190	3.50	1.14	1	5
	tech_2	193	3.31	1.42	1	5
	tech_3	193	3.60	1.17	1	5
Work-Life Balance	wlb_1	196	3.09	1.11	1	5
	wlb_2	195	2.94	1.16	1	5
	wlb_3	196	2.67	1.21	1	5
Empowerment	emp_1	196	3.57	1.07	1	5
	emp_2	196	3.36	1.22	1	5
	emp_3	192	3.39	1.13	1	5
	emp_4	196	2.44	1.26	1	5
	emp_5	196	2.58	1.16	1	5
Job Satisfaction	js_1	193	3.06	1.22	1	5
	js_2	193	3.06	1.13	1	5
	js_3	196	3.18	1.12	1	5
Engagement	eng_1	195	3.54	1.08	1	5
	eng_2	196	3.44	1.19	1	5
	eng_3	195	4.28	0.87	1	5
	eng_4	193	3.06	1.15	1	5
Cultural Shift	cult_1	193	3.25	1.14	1	5
	cult_2	195	2.67	1.20	1	5
	cult_3	196	1.93	1.12	1	5
	cult_4	196	2.80	1.20	1	5

Table 5: Number of observations, mean, standard deviation, minimum and maximum values

The following considerations, of the Italian PA's employees included in the sample, for each construct, can be stated, by analyzing the results of the questionnaire. Even though all the questions of the survey required to answer by referring to the situation antecedent to the Covid-19 emergency, it is really unlikely to expect that the respondents have been able to completely free themselves from the emotional bias which ensued from the Italian lockdown restrictions characterizing the period in which the survey have been shared. However, the extent of the Covid-19 effect on responses as well as whether it has been positive or negative can only be supposed.

1. *Smart Working:* the average value is slightly lower than the sufficiency level (3), mainly due to an extremely low space flexibility. In particular:
   a. *Time Flexibility:* the results are in line with the ones of Smart Working as a whole, mainly showing that employees have low flexibility on the length of the working day, while great autonomy on the distribution of workload during the day.
   b. *Space Flexibility:* the average value is really low since employees have very few possibilities to work outside their office (home, coworking spaces, public places, etc.).
   c. *ICT Element:* all the items show high values. This means that all technologies are accessible when needed.

   These results can be affected by the fact that the survey has been shared during the Covid-19 pandemic, where the concept of SW was more discussed than ever, thus the employees could have put higher emotional emphasis than in a usual situation on answering to these kinds of questions.

2. *Work-Life Balance*: the average value is slightly higher than the sufficiency level. Therefore, the sampled employees of Italian PA feel to dedicate the fair time to both their job and their family or personal interests, that is why they confirm to have a not so frustrating life. Of course, this result can be biased by the lockdown restrictions, and the employees would have unconsciously answered referring also to how many time they have dedicated to their private life during the Covid-19 period.

3. *Empowerment*: the average value is still slightly higher than the sufficiency level. The workers perceive to have the right amount of job autonomy and they are overall satisfied

about how they work. The feeling of having good autonomy is likely to be increased by the Covid-19 situation, where employees have not been constantly supervised since they have worked from home. However, they feel that their ideas are not considered enough as well as they will never reach their expected career goals.

4. *Job Satisfaction*: all the items have a minimum value of 3, which means that the workers are satisfied about their job and how they perform that. Moreover, the employees state to be full of energy on their workplace. A degree of bias due to the pandemic emergency period is likely to be expected, which could have made employees either more or less satisfied and happier to work from home, according to their individual preferences about this brand new way of living the workday.

5. *Engagement* shows the highest average value. In particular, the employees show extreme willingness to help colleagues in difficulty, and they are happy to contribute in reaching the goals of their PA, feeling proud to be part of their organization. Still, this result could be spoiled by the Covid-19 situation. In particular, the sense of patriotism characterizing that period could have made public employees prouder of working for their Country, and helping both their colleagues and the whole Italian population.

6. *Cultural Shift* shows the worst average value. The perception of the sampled workers is that their PA does not care at all about both their workers' training and their career opportunities. Moreover, they think to have much lower benefits compared to the ones in similar positions in other companies. In conclusion, this very bad result can be also due to the employees' perception on their supervisors while managing the really tricky, unexpected, and never experienced before Covid-19 situation.

3.3 Results from the statistical analysis

As briefly explained, to perform a SEM analysis it is, firstly, important to validate the measurements. Only after it will be possible to validate the model itself. The first step is needed to validate the relations among the items of the same construct and the robustness of the constructs. The second one to validate the relations among the constructs, hence test if the hypothesis are reasonable.

3.3.2 Measurement model

To assess the quality of the measurement model, few indicators have been computed. The first one is the convergent validity, which defines how well the items of a construct converge on the construct itself. The convergent validity has been assessed through two indexes: composite reliability (CR) and average variance extracted (AVE). As previously defined in chapter 2.6.2: The structural equation modeling, these two indicators can be computed as following:

$$AVE_j = \frac{\sum_{i=1}^{p} L_i^2}{p}$$

$$CR_j = \frac{\left(\sum_{i=1}^{p} L_i\right)^2}{\left(\sum_{i=1}^{p} L_i\right)^2 + \sum_{i=1}^{p} V(e_i)}$$

Where:

- j = construct under analysis
- L_i = factor loading of the item i (relationship from construct j to item i)
- $V(e_i)$ = error variance in the variable i: $V(e_i) = 1 - L_i^2$

The thresholds are 0,5 and 0,7 for the AVE and CR indexes, respectively. All results should be higher than those thresholds. If this condition is verified, the construct can be considered robust enough, meaning that all the items considered for the construct are consistent with each other. The results of the indexes are reported in Table 6. As previously mentioned, some items originally included in the survey where not considered for the analysis, as their AVE and CR values did not respect the thresholds, so they could not be considered valid. Those items are not

reported in the following tables; however, the full questionnaire can be consulted in the chapter 7.1: Questionnaire.

CONSTRUCT	ITEM	FACTOR LOADING	AVE	CR
SMART WORKING	time_1	0,8305	0,706	0,960
	time_2	0,8494		
	time_3	0,8463		
	time_4	0,8906		
	space_1	0,7919		
	space_2	0,8605		
	space_3	0,8660		
	tech_1	0,8489		
	tech_2	0,8299		
	tech_3	0,7837		
WORK-LIFE BALANCE	wlb_1	0,9267	0,680	0,858
	wlb_2	0,9309		
	wlb_3	0,5586		
EMPOWERMENT	emp_1	0,6213	0,655	0,903
	emp_2	0,8438		
	emp_3	0,8682		
	emp_4	0,8801		
	emp_5	0,8047		
JOB SATISFACTION	js_1	0,8744	0,729	0,890
	js_2	0,8384		
	js_3	0,8482		
ENGAGEMENT	eng_1	0,8152	0,637	0,874
	eng_2	0,8786		
	eng_3	0,6722		
	eng_4	0,8113		
CULTURAL SHIFT	cult_1	0,4879	0,583	0,843
	cult_2	0,7957		
	cult_3	0,8863		
	cult_4	0,8224		

Table 6: Factor loading, AVE and CR values

Furthermore, to confirm the robustness of the constructs the Cronbach's Alpha has been computed. The acceptance threshold of this parameter is 0,7: the closer the value to 1 the better it is. As depicted in Table 7, all the constructs of the model present a value above 0,7.

CONSTRUCT	ITEMS	ALPHA
Smart Working	time_1; time_2; time_3; time_4; space_1; space_2; space_3; tech_1; tech_2; tech_3	0,7655
Work-Life Balance	wlb_1; wlb_2; wlb_3	0,8068
Empowerment	emp_1; emp_2; emp_3; emp_4; emp_5	0,8547
Job Satisfaction	js_1; js_2; js_3	0,8480
Engagement	eng_1; eng_2; eng_3; eng_4	0,7564
Cultural Shift	cult_1; cult_2; cult_3; cult_4	0,7510

Table 7: Composition of constructs and their Cronbach's Alpha

In conclusion, the structure of the constructs and the model is solid enough and appropriate.

3.3.3 Structural model

In order to assess the validity of the hypotheses, the SEM analysis has been conducted, through the software Stata. In order to confirm the hypotheses, it has been taken in consideration the p-value. The smaller the p-value, the stronger is the evidence supporting the hypothesis. As a norm in the academic field, p-values lower than 0,05 can be accepted however the ones lower than 0,01 are considered really good values. If the p-value of a path going from one construct to the other is low enough, it means there is a clear relationship between the two constructs, hence the hypothesis is verified. The sign of the path coefficient instead, indicates if the relationship between the two constructs is negative or positive.
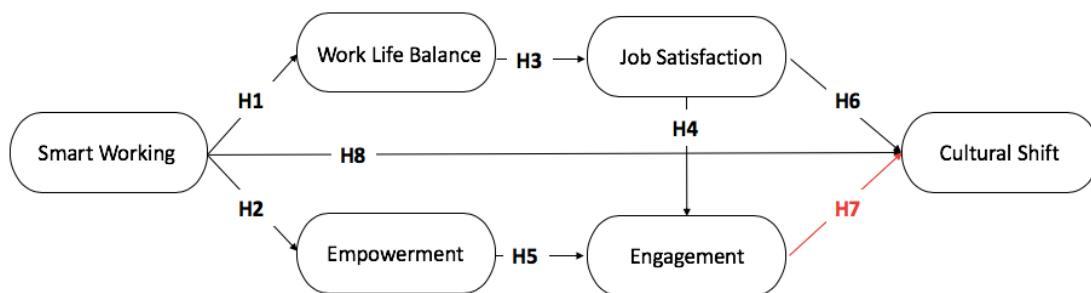

Figure 9: The model validation

In Figure 9, the model is presented with red arrows representing those hypotheses that have not been supported by the SEM analysis.

In Table 8, the p-values and path coefficient for each hypothesis are reported.

HYPOTESIS	PATH COEFFICIENT	P-VALUE	STATISTICAL VALIDITY
H1: Smart Working → Work-Life Balance	0.19	0.043	Supported
H2: Smart Working → Empowerment	0.50	0.000	Supported
H3: Work-Life Balance → Job Satisfaction	0.43	0.000	Supported
H4: Job Satisfaction → Engagement	0.24	0.002	Supported
H5: Empowerment → Engagement	1.13	0.000	Supported
H6: Job Satisfaction → Cultural Shift	0.37	0.000	Supported
H7: Engagement → Cultural Shift	0.03	0.631	NOT Supported
H8: Smart Working → Cultural Shift	0.41	0.003	Supported

Table 8: Hypothesis' Path Coefficients, P-values, and statistical validity

With the objective of assessing the goodness of fit of the model, the fit indices have been computed. Indeed, the RMSEA and the Coefficient of Determination (CD) have been selected as good proxies to evaluate this aspect. The first one indicates to what degree the hypothesized model reproduces the sample data, while the second one is a measure used to assess how well a model explains the outcomes. Both indexes successfully respect the threshold.

T INDEX	THRESHOLD	RESULT
RMSEA	<0.1	0.081
CD	>0.8	0.918

Table 9: RMSEA and CD Values

4. Results Discussion

4.1 Verification of the model hypotheses

Within this section, the results of the single hypotheses are commented and discussed, also considering the impact on the overall model.

H1: The adoption of SW policies positively affects the employees' work-life balance.

PATH COEFFICIENT	P-VALUE	RESULT
0.19	0.043	SUPPORTED

Performing the SEM analysis, both the p-value and the sign of the path coefficient support the hypothesis. The analysis of the results shows how Italian PA are not yet pioneers in the adoption of SW. The average response to the level of SW adopted in the respondent's PA was not sufficient. This low result could be partially explained by the fact that during the lockdown due to the Covid-19 pandemic, many Italian public employees could have understood how their education on SW, the general SW culture and the tools they had were not sufficient to work from home for a long period. This result is associated with the work-life balance perceived by the respondents, which was slightly sufficient. However, the SEM analysis shows a clear correlation between the level of SW adopted in the single PA and the perception of work-life balance by employees of that institution. This result is not unexpected, as the literature presents wide proof of a positive correlation between these two constructs, and the present model confirms that this phenomenon applies to the public sector as well.

H2: The adoption of SW policies positively affects the employees' empowerment in the workplace.

PATH COEFFICIENT	P-VALUE	RESULT
0.50	0.000	SUPPORTED

The second hypothesis is supported by the SEM analysis. The employees of the Italian PA perceive great level of autonomy but low support to their creative and innovative ideas. As already explained, both these elements compose the general construct called "Empowerment",

but a medium general level of perceived empowerment could be obtained through a high level of one component and a low one of the other. The reason why different components of empowerment show different results may be that probably the Italian PAs leave the right space to autonomous decision making, which might have been even more fostered by the Covid-19 pandemic. In fact, the necessity to take autonomous decisions could be due to the fact that employees could not work from office, thus they could not be constantly supervised. At the same time, however, the Italian PAs do not encourage creativity and innovation, in the sense of stimulating the employees to discover new ways of working and processes. These results are in line with the ones concerning the level of SW: none of them still reaches high values, showing how more and better SW practices could be implemented in the Italian public sector, fostering even higher empowerment. This effect, for which trough higher SW it could be reached also higher empowerment, is supported by the fact that there is a clear correlation between the two elements, as Stata highlights. Furthermore, the fact that the levels of SW are still not high enough, could explain how the answers to the items asking the employees about their expectations for the future and for their career present lower values.

H3: A higher work-life balance positively impacts the job satisfaction.

PATH COEFFICIENT	P-VALUE	RESULT
0.43	0.000	SUPPORTED

Performing the SEM analysis, both the p-value and the path coefficient support the hypothesis. Higher work-life balance corresponds to higher job satisfaction, which is perfectly in line with the evidence from the literature. Many studies have already demonstrated the robustness of this relationship in the private sector. The hypothesis made here is that this results valid also in the public one. Indeed, it is likely to believe that an employee - regardless of the industry he/she works for - perceives higher job satisfaction if the general satisfaction concerning his/her private life is higher. These constructs can be linked not only to managerial studies, but also to phycological ones, which state how being able to fulfill basic needs - such as building and dedicating time to each own's family - brings each individual to a general higher satisfaction level that impacts on all aspects of his/her life, including the job. These statements look at the individual as a person, without distinction between public or private employee, justifying why the relationship is universally valid.

H4: Job satisfaction is positively correlated with job engagement.

PATH COEFFICIENT	P-VALUE	RESULT
0.24	0.002	SUPPORTED

The fourth hypothesis is supported by the SEM analysis. High job satisfaction brings the employees to feel more engaged to the job itself, hence to the goals of the PA itself, resulting in high motivation to perform well. Although the correlation between the two constructs is surely verified, it is interesting to find how the values gathered for job satisfaction are around the sufficiency level, as the ones for both SW and work-life balance (in average around 3/5); while, instead, the mean of responses regarding engagement is slightly higher (3,6/5). The sampled employees indeed show good values of engagement, contrarily to the widespread prejudices about Italian PA. Going back to the hypothesis itself, it is evident how the concept of engagement is strictly linked to the one of job satisfaction: an engaged employee puts personally effort on the achievement of organizational goals, taking by heart the success of his/her company. It is more likely that this attitude is shown by those workers who like or enjoy their job, hence are satisfied.

H5: Employees' empowerment is positively correlated with job engagement.

PATH COEFFICIENT	P-VALUE	RESULT
1.13	0.000	SUPPORTED

Similarly to what happens between job satisfaction and engagement, also employees' empowerment fosters engagement. This hypothesis is in fact supported by the low p-value and positive path coefficient. Higher empowerment helps create the right confidence and provide employees with the right means to take their responsibilities, stimulate creativity and innovation, and help them perform well in their job. The higher self-confidence stimulated by job empowerment brings the workers to believe they can perform well their job, resulting in higher energy and efforts to successfully achieve their task. The implication of this hypothesis is that the effort is not only addressed to the achievement of personal goals, but, in general, to the achievement of the objectives related with work, hence with the success of the company.

H6: High job satisfaction has a positive impact on the organizational culture.

PATH COEFFICIENT	P-VALUE	RESULT
0.37	0.000	SUPPORTED

Performing the SEM analysis, this hypothesis results supported. Those employees who are more satisfied with their job also perceive a positive organizational climate and better leadership style than the others. The result is promising, and in line with the assumptions made. The main idea of the overall model was that of connecting SW to the shift of the Italian PA's culture (from process- to goal-oriented). This phenomenon is allowed and mediated by various intermediate steps, like fostering job satisfaction. The implications are extremely important, as this relationship finds less support in literature then the previous ones. The relationship is highly likely to be supported also the other way around: a better organizational culture and environment fosters higher job satisfaction. What this research analyzes trough the items of the "Cultural Shift" construct are the employees' perceptions on their leaders, the leadership style adopted, the attention and focus on performance rather than on processes, and whether the level of communication is high enough to make the employees feel part of the company. The literature shows evidence that high levels of these elements contribute to higher job satisfaction, at least in the private sector. However, the Italian PA usually performs worse on each of the above-mentioned level. The result of this thesis states that fostering job satisfaction can originate a virtuous cycle, helping the Italian PA to deal with these issues. Those employees happier about their jobs can play an active role in improving the culture and environment of the company and perceive these improvements, thus improving furthermore their satisfaction.

H7: High job engagement has a positive impact on the organizational culture.

PATH COEFFICIENT	P-VALUE	RESULT
0.03	0.631	NOT SUPPORTED

This hypothesis is not supported by the SEM analysis. The PA's employees do not perceive any connection between their engagement and the organizational culture and climate of the company. This result is unexpected, especially given the previous hypothesis being supported: this particular hypothesis does not seem valid, but the overall results show consistence between SW and cultural shift. Eventually, this result highlights the existence of better paths and mediators to connect the two constructs. Firstly, it can be explained by the fact that the survey has been conducted on a sample which is still quite new to SW practices since just recently

explored. This makes the present investigation more explorative and less anchored to the historical data. Moreover, the general level of job engagement is sufficiently high – this is the construct performing best in the model - while the general level of the construct "Cultural Shift" is lower. These results could hint that the responses to the engagement construct have been spoiled by some external factor, as they are the only ones not aligned with the rest of the results. For instance, the Covid-19 pandemic arose in most Italian people a feeling of patriotism and willingness to help their Country: the employees of PAs, who work for the government, could have seen their job as a way through which help the Country, a service to the people who, even if slightly, could have helped to handle a bit better the crisis. These kinds of feelings could have increased the job engagement, but not have impacted on the other constructs, explaining why the relationship is not supported. Although it has been repeated more times over the questionnaire that the respondents should answer basing themselves on the situation previous to the pandemic, it is unrealistic that an emergency like this has not influenced at all the responses.

H8: The adoption of SW policies has a positive on the organizational culture.

PATH COEFFICIENT	P-VALUE	RESULT
0.41	0.003	SUPPORTED

What was investigated with the items of the construct "Cultural Shift" was the attention to the employees' training and education, the presence of a good communication between leadership and employees, the attention to performance rather than to strict processes. All these elements require high trust, delegating to employees and are principles of the SW philosophy. What is interesting is that the literature assumes that without this kind of culture it is impossible to introduce SW practices. However, the hypothesis is that by gradually introducing SW practices these parameters could improve. "Cultural Shift" registered the lowest average value among the constructs of the model, meaning that even those employees who enjoy a medium level of SW, still do not perceive the fair support by the organization. However, the data show a clear correlation between the two constructs: the p-value and path coefficient support the hypothesis. This result, actually, is perfectly in line with the hypothesis: the Italian PA is notoriously an extremely conservative environment that shows reluctance to changes and cultural shifts: this would have brought anyone to predict very low values for the construct "Cultural Shift".

However, in the last years, some SW practices have been gradually introduced. To this data corresponds a not excellent result for the cultural shift, but not even an extremely low one: it is indeed not sufficient, but enough high to show a statistical correlation between the two constructs. This could be well explained by the fact that the above-mentioned gradual introduction of SW did contribute to the beginning of a slight cultural shift, allowing to register promising values.

4.1.1 The control variables

The SEM analysis shows no evidence of correlation between the chosen variables and cultural shift. The assumption was that the employee's age and/or for how long they worked for the PA could affect the cultural shift, as effect of some path dependency given by the fact that they worked for a long time in the same way. However, no statistical evidence supports this assumption.

4.2 The meaning of the model as a whole

After discussing singularly each hypothesis, it is now possible to look at the overall model. Most of the hypotheses made are supported by the statistical analysis.
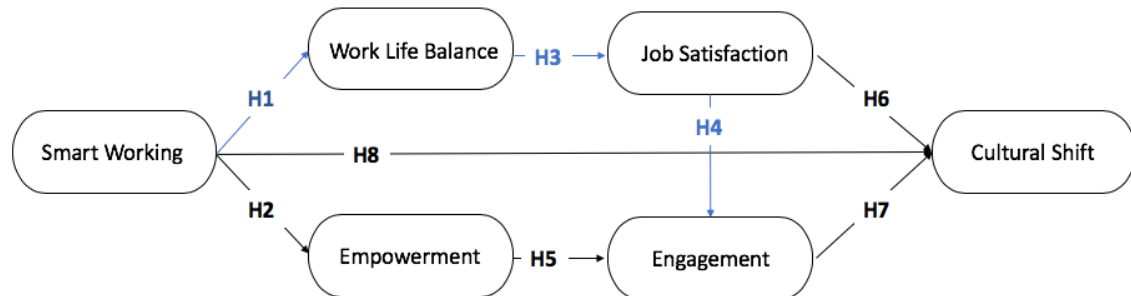
Figure 10: The model: discussion of H1, H3, H4

In particular, the fact that smart working has a positive impact on work-life balance - and consequently on job satisfaction and engagement - is easily expected (Figure 10), as the literature presents wide studies on this topic. For what concerns the private sector, the scientific community is already positive about this relationship. The aim of this research is to test this validity also in the Italian PA.
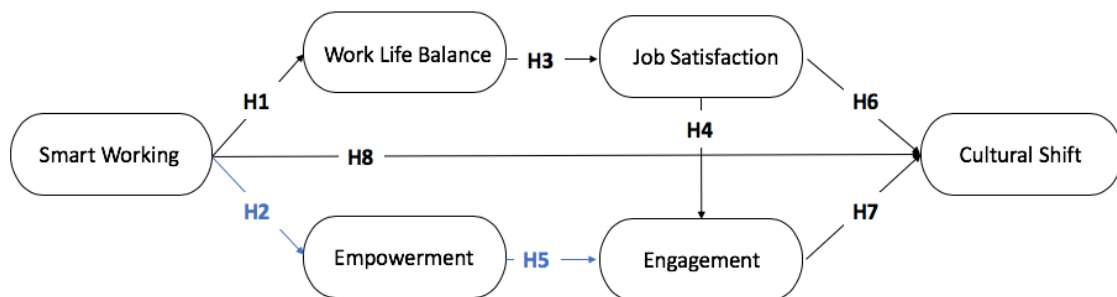
Figure 11: The model: discussion of H2, H5

Conversely, the "Empowerment" construct has been less explored by literature. Empowerment is strictly connected to become more confident, which implicates the employee's propensity to take risks and responsibilities, but also to the organization's inclination to trust and provide the right level of autonomy to workers. As largely explored in chapter 1.2: Smart Working, all these elements represent the prerequisites of SW, but also principles that can be developed along with SW. Moreover, there is wide proof in literature about the direct correlation between the capability of an employee to be engaged, and his /her level of confidence, autonomy, and

motivation. The idea that these three constructs are strictly related, even in the PA context, is supported by the analysis.

It is crucial to highlight that the average responses to the survey do not show very high values for any of the constructs. This can be explained as the sample taken in consideration includes many different Italian PAs, which do not show a homogeneous level of SW adoption. As already explained in Chapter 1.2: Smart Working, the Italian PA is new to SW: this emerges from the data and also explains the not excellent levels of work-life balance, satisfaction, empowerment, and engagement. The idea that comes out from this investigation is that of institutions where the main focus is on the processes, on leaving little space to innovation or revolutions of the ways of working, worrying about delivering the service "as it has always been done" to avoid taking the risk of any personal initiative, and respecting the clock punch.
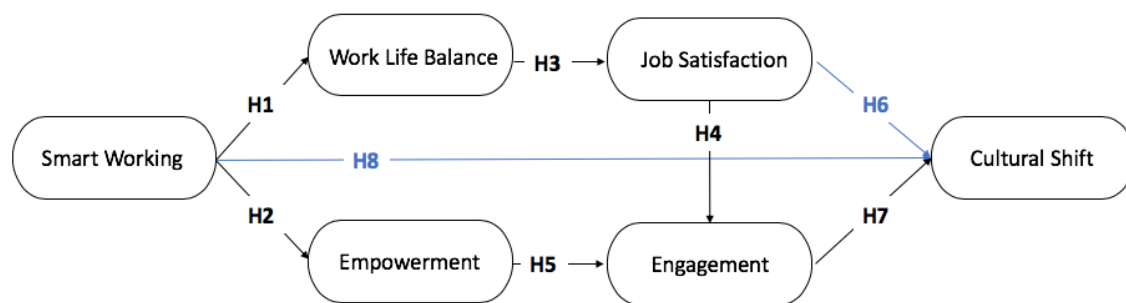
Figure 12: The model: discussion of H6, H8

The Italian PA has already taken first steps towards SW. The most promising results are those connected to hypotheses 6 and 8. In fact, those employees already adopting SW practices the most, also responded better to the "Cultural Shift" construct. This construct was composed by a series of items that specifically addressed the employee's perceptions on his/her manager's leadership style and on the PA environment. For instance, it was asked whether the PA worries about performance rather than process. The path assuming that SW could improve the PA culture indirectly - through job engagement - was not supported by the SEM analysis. However, this result can be easily explained by the fact that the SW initiatives in place are still few. The new assumption to make is that working to improve the Italian PA through more and better SW practices can also lead to a future improvement also in engagement and, especially, on the way it affects the working climate, considering that this is already leading to improvements in both job satisfaction and organizational culture.

5. Conclusions

The conclusive chapter analyzes the contributions of the thesis to the scientific research, with specific attention to the theoretical and practical implications. Furthermore, the limits of the investigation and the possible inputs for future research are examined.

5.1 Contributions

The present thesis investigates the relationship between SW and a cultural shift from process-oriented to goal-oriented, or in general, how SW contributes to a cultural shift from a conservative to a more innovative and dynamic organization. These issues have been specifically addressed to the Italian PA. This last element contributes to make the work relevant since, so far, little scientific research has focused on the SW effect within the Italian PA environment.

The first step was that of creating a model to validate, complete of all its hypotheses. Secondly, a questionnaire was designed with the purpose of gathering data. It has been tailored to address all the constructs present in the model. All the steps were carried out thinking of the Italian PA, customizing both the model and the questionnaire to best fit this environment that has been chosen as sample for the investigation. The questionnaire has been sent out to over 18,500 employees of a vast variety of Italian PAs, obtaining 197 answers.

The starting point of the data analysis was that of evaluating the general level of SW, work-life balance, job satisfaction, empowerment, and engagement of the employees. The data emerging from the questionnaire showed an average level of SW practices adopted by the sample not yet sufficient. Similar, or slightly higher results have been found for the other constructs. The first and most obvious explanation is that the Italian PA have just recently started introducing SW practices and understanding the importance of both employee's job satisfaction and engagement.

This lower propensity toward SW of the public sector is due to multiple reasons, such as the prejudice that workers would exploit the increased flexibility to pursue their own interests rather than the organizations' objectives, and the lack of digitalization. Moreover, in comparison with

the private sector, during the last decades, public companies have had much less money and technological equipment to invest in digitalization. Another reason lies in the stricter regulation of public organizations compared to private companies, which are often more flexible in innovating work configurations and approaches. The present thesis contributes to dispel some of these myths: the question addressed was, in fact, whether to provide employees with higher flexibility would increase their empowerment, instead of giving them an opportunity for free riding.

Overall, among the Italian PAs, there are surely more innovative ones, while others more conservative. As the sample includes many employees from different institutions, the answers gathered are various and different: some of the employees interviewed already enjoy SW, others have little or no flexibility. However, the overall perception is that of a public sector that has already moved the first steps, but still with a long way to walk towards SW. This kind of sample perfectly fits the purpose of the investigation to understand whether the introduction of SW could actually lead to a cultural shift. It was perfectly done by collecting answers from both employees who adopted and not SW practices, hence analyzing how differently they answered to those items concerning the organizational culture.

To perform this analysis, Stata has been the software adopted to conduct the statistical analysis. The first step was to test the robustness of the model and the goodness of the data, eventually eliminating from the survey those items not consistent either with the others or with their constructs.

After this preliminary analysis, the software allows to test the single hypothesis of the model, trough the SEM analysis. Finally, 7 out of the 8 hypotheses of the model were supported by the data.

The statistical analysis confirms the existence of a connection between SW and organizational culture, analyzing the relations between these two elements, considered respectively the independent and dependent variable of the model. The outcome of the research is that those public employees enjoying higher SW levels, also enjoy better work-life balance, which leads to higher job satisfaction. Also, the employees enjoying higher SW levels respond with higher values to those questions concerning their job autonomy, their career opportunities, and the possibility to be innovative and creative on the workplace. Summing up, they result to be more

confident and empowered. All these phenomena correspond to higher levels of job engagement: the implication is that higher flexibility does not give more opportunities to employees to evade work, but, contrarily, it engages employees to work better for the organizational goals. Finally, the same employees performing better on all the above-mentioned parameters have a more positive perception of the work environment than the others: this coincides with the aimed cultural shift. In fact, they describe their organization as a place where there is higher communication, more focus on goals rather than process, less strict procedures, and a high general level of reciprocal trust, allowing innovation, creativity, and a more dynamic way of working. Given the context of the Italian PA, this is such an important result: problems like absenteeism, long and complicated bureaucratic procedures making difficult to work, the little employees' effort and engagement have always been the main struggles of such organizations. However, the tested model provides promising results, suggesting that the gradual introduction of SW could be one of the paths leading to a radical change, hence abandoning the mentioned patterns to shift towards a better performing environment, which once was believed to be possible only in the private sector.

One last interesting aspect emerging from the questionnaire data, is that, unexpectedly, PA's employees feel to have a good level of technology at their disposal, discreet time flexibility, but complain about really low space flexibility. New SW initiatives should focus on this, redesigning workspaces in a way able to foster innovation and creativity, as well as continuing improving so to provide proper technological tools. All the changes and improvements made in this direction, necessary because of the Covid-19 emergency, constitute a good starting point.

5.1.1 Theoretical implications

The main theoretical contribute of the present work, is that it places the foundations for further studies focused on SW in the public sector. In this field, the researches focused mostly on private companies, while the effects of flexible work arrangement within the public sector have almost never been studied. It is crucial to focus on this issue, since the private and public sectors' contexts are often much different, thus making the assumptions already established and verified in the private sector unreliable or unsure for what concerns the PA context. The findings mentioned in the previous paragraph do demonstrate the existence of common aspects and relationships between public and private sector, despite their different dynamics and

criticalities. In this regard, the supported hypotheses contribute to academic theory underling the constructs which, holding out in the same way in both private and public sectors, might be generalized according to all the already done studies in private companies.

Another merit of this thesis is to be among the few studies that have grouped into one single construct – Empowerment - elements such as employee's autonomy, confidence, innovation, creativity, ability to take risks and responsibilities. It is essential to increase the number of studies on this topic since in better highlights the crucial associations between SW and increased empowerment, successively bringing to higher employee's engagement, thus a more goal-oriented culture of the public sector.

In conclusion, this thesis aims at investigating the relationship between SW practices and change of the organization culture, both directly and through the use of mediators. This finding is crucial to demonstrate how the digitalization of the Italian PA – with the consequent adoption of SW initiatives - represents a strong mean to abandon obsolete ways of working, hence making both employees and organization more oriented on exceeding goals rather than on the mere clock punch, which is an issue more pressing than it could seem, as the Covid-19 emergency brought out.

5.1.2 Practical implications

This thesis also offers practical contributions also to managers. Firstly, this research demonstrates how promoting SW initiatives in the public sector can help the shift of the Italian PA's culture. This result could be exploited by the directors of HR departments to instruct the managers of PAs about the importance of these practices. It could also be helpful to attract young talents - one of the most critical issue of the Italian PA – whom could in turn improve even more the current culture, creating a positive vicious circle. It is important to highlight that this kind of revolution will be possible only if accompanied with great investments in the digitalization of the public sector, which is still lacking in the Italian context.

Furthermore, this analysis underlines the importance of promoting better work-life balance also in the public sector: this aspect is crucial since it directly increases the job satisfaction and consequently engagement. Also, this thesis demonstrates the importance of empowering employees, hence creating a trustworthy environment, where workers are free to express their

most creative and innovative ideas, under the guidance of leaders, rather than bosses: this element becomes relevant because it has a further direct impact on the employee's engagement. To conclude, the model tests the existing relationships between job satisfaction, empowerment, engagement, highlighting how they all are levers useful to reach the objective of the cultural shift, for PAs with a more goal-oriented mindset. According to this, PAs managers should consider the potential impacts of work-life balance, empowerment, job satisfaction, and engagement for the creation of more performing public companies.

5.2 Limits and future research

As any empirical study, the investigation conducted has some limitations. Some of them are endogenous and concern either with the sample chosen or measurement model. Although they both resulted very robust, future research can test whether the same research, conducted on different samples with different measurement scales, brings to the same results. Other limitations are due to contingencies or exogenous factors.

The first limit concerns the sample. Although it was carefully chosen and believed to be the best possibility to collect data, future research can repeat the same study choosing different samples. The sample penetration, over 18,500 employees reached, and 197 answers collected, has been well over the initial target of the thesis and considered sufficiently high to conduct the present study. However, it still does not represent the totality of the Italian PA. Moreover, once the survey was forwarded via newsletter, it was not possible to further control the sample composition. For instance, among the 18,500 contacted workers, the percentage of regional administrations employees resulted higher than the one of educational institutions workers, such as universities. Moreover, although the answers obtained originated from North, Center and South of Italy, high percentage of the workers contacted work for PAs in the North of the Country. The question unanswered is whether the results would have been different vice versa. Moreover, the result of the present study provides a clear overview of the SW benefits for the Italian PA as a whole but fails in distinguishing if the implications could differ from a single PA to the other. Future research can conduct the same study, addressing specifically one kind of PA at a time, or increasing the number of employees interviewed to include even more PAs so as to be sure they all have the same weight.

The second limit concerns the measurement: constructs such as work-life balance, satisfaction, engagement, and empowerment are connected to the individual's emotions and perceptions, which are usually hard to quantify on a scale since they have a certain degree of subjectivism. This issue can be solved by increasing the sample of employees interviewed to obtain more reliable results. Although 197 responses are expected to be high enough, future research can repeat the same study on a different sample to find out if the results are unchanged, solving the doubt of an excessive weight of the subjective emotional factor.

Moreover, it must be pointed out that the present study was carried out during the Covid-19 pandemic, an unprecedented and extremely disruptive emergency. Among the day-to-day activities and routines that the pandemic has radically changed, one of the most touched has been the way of working. Being all Italians "locked-up" in their houses to avoid the spreading of the virus, they were forced to practice teleworking. It has been repeated several times during the questionnaire to answer referring to the situation before the pandemic, hence considering the precedent level of flexibility allowed. Moreover, it has been asked to try answering without the bias of current emotions like confusion, fear, pessimism about the future and isolation arose during the lockdown. However, it might be possible that these feelings have slightly influenced the employees' perceptions when answering about their work-life balance or general satisfaction level. Future research can repeat the study once the emergency is over. On top of that, the emergency brought great attention to the SW adoption. Future research can find how the employees' perspective have changed after this emergency, and how the Italian PA has been able to improve in this sense.

Aside from repeating the same study on either a different or wider sample, and in a different historical time, some new and interesting issues, to addressed in the future, rise. Firstly, future research can aim at replicating the findings, introducing new constructs by breaking "Empowerment" in mediators like "Job Autonomy", "Creativity and Innovation", "Taking Risks and Responsibilities", "Creating Confidence", to specifically address each of these elements which this thesis are summarized in only one construct. Moreover, another issue of the Italian PA is the inability to attract young and motivated talents: a shift towards SW practices and a more modern and dynamic environment is expected to help reduce this trend. Future research can analyze how the introduction of SW initiatives can attract talented workers.

In conclusion, other researches regarding SW, its benefits, and peculiar implications for Italian PA will surely take place in the next years since this topic is more actual than ever. As soon as the SW initiatives will achieve higher maturity in the public sector, future research can assess more specific elements and segment the analysis, considering the different typologies of PA. Lastly, future research can achieve a deeper understanding of the phenomenon and assess whether it actually fosters the benefits aimed and assumed in the present work.

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Appendix

7.1 Questionnaire

QUESTIONARIO PER MAPPARE LA DIFFUSIONE DELLE PRATICHE SMART WORKING NELLE PUBBLICHE AMMINISTRAZIONI

Il seguente questionario è proposto da due laureandi del Politecnico di Milano, in collaborazione con l'Osservatorio Smart Working del Politecnico. La ricerca vuole indagare sui possibili benefici e limiti dello Smart Working nelle Pubbliche Amministrazioni italiane. Si ricorda che il questionario è completamente in forma anonima e che i dati verranno trattati in modo aggregato. Preghiamo di rispondere alle domande facendo riferimento alla situazione antecedente all'emergenza Covid-19. Ringraziamo molto per la disponibilità.

Preghiamo di rispondere al primo blocco di domande inserendo le proprie generalità. Dunque, si prega di rispondere alle successive domande indicando in che misura si è d'accordo con ciascuna affermazione, su una scala da 1 a 5 (dove 1 = fortemente in disaccordo; 5 = fortemente d'accordo).

NOTA: il presente questionario non può essere riprodotto o utilizzato, anche parzialmente, senza una preventiva autorizzazione da parte del Politecnico di Milano. Tutti i dati forniti rimarranno all'interno del gruppo di Ricerca e non verranno divulgati se non in forma di elaborazioni statistiche e/o dati aggregati. Tutti i dati forniti rimarranno all'interno del gruppo di Ricerca e non verranno divulgati se non in forma di elaborazioni statistiche e/o di dati aggregati. Per visualizzare l'informativa privacy è possibile cliccare *qui*.

DATI GENERALI

Rispondere alle seguenti domande inserendo le proprie generalità	
1. Sesso	☐ Maschio
	☐ Femmina
	☐ Altro
	☐ Preferisco non rispondere
2. Anno di nascita	--------------------
3. Livello di istruzione conseguito	☐ Scuola primaria di primo o secondo grado

☐ Liceo o istituto tecnico superiore

☐ Scuola di specializzazione

☐ Università

☐ Master o dottorato

4.	Indicare per che ente lavora	-------------------

5.	Ha dei bambini che vivono in casa?	☐ Si ☐ No

6.	È responsabile per persone anziane, disabili, o che dipendano da lei?	☐ Si ☐ No

7.	Ricopre un ruolo lavorativo di supervisione di altre persone nel suo ente?	☐ Si ☐ No

8.	Da quanti anni ricopre la sua posizione o ruolo attuale?	-------------------

9.	Da quanti anni lavora per questo ente?	-------------------

10.	Quanto tempo impiega, in media, per recarsi o tornare dal posto di lavoro?	------------------- minuti

11.	Approssimativamente, quante ore lavora in una settimana tipo?	------------------- ore a settimana

12.	Per quanti giorni è stato assente da lavoro per malattia nel 2019?	-------------------

13.	Quale percentuale della sua giornata lavorativa trascorre nei seguenti luoghi (fare riferimento alla situazione antecedente all'emergenza Covid-19)?	☐ % in ufficio ☐ % in casa

☐ % presso altre sedi o aziende

☐ % sui mezzi di trasporto

☐ % in luoghi pubblici

SMART WORKING

Indichi in che misura è in accordo con le seguenti affermazioni	1 Fortemente in disaccordo	2	3	4	5 Fortemente d'accordo
Flessibilità Temporale					
1. Sono libero/a di scegliere in quale fascia oraria dover lavorare (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐
2. Sono libero/a di scegliere la durata della mia giornata lavorativa (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐
3. Posso scegliere in autonomia l'orario in cui iniziare la mia giornata lavorativa (ad esempio tra le 7:30 e le 9:30, oppure tra le 8:00 e le 10:00 etc.) (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐
4. Posso scegliere in autonomia l'orario in cui terminare la mia giornata lavorativa (ad	☐	☐	☐	☐	☐

esempio posso terminarla tra le 17:30 e le 19:00) (fare riferimento alla situazione antecedente all'emergenza Covid-19)					
5. Posso distribuire i miei compiti e il mio carico di lavoro, nell'arco di una giornata lavorativa, in maniera autonoma	☐	☐	☐	☐	☐

Tecnologia e Digitalizzazione

6. Sento di avere a disposizione tutti gli strumenti tecnologici necessari per svolgere il mio lavoro	☐	☐	☐	☐	☐
7. Ho a disposizione strumenti di Instant Messaging o Chat per comunicare con i miei colleghi (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐
8. Faccio spesso utilizzo di smartphone e tablet per svolgere il mio lavoro (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐
9. Faccio spesso utilizzo di strumenti personali per lavorare (come social network, WhatsApp, o smartphone e PC di mia proprietà etc.) (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐

10. Ho a disposizione tecnologie e piattaforme che permettono facile accesso ai contenuti aziendali	☐	☐	☐	☐	☐
11. Buona parte delle interazioni o comunicazioni con i miei colleghi avvengono tramite l'utilizzo di applicazioni di instant messaging, videochiamate o simili (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐

Flessibilità Spaziale

12. Posso decidere in autonomia in quali spazi della sede del mio ente lavorare (ad esempio open space, scrivania individuale, sale riunioni etc.) (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐
13. Ho la possibilità di lavorare da casa in alcune occasioni o giornate (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐
14. Ho la possibilità di lavorare fuori dalla mia sede (es. in spazi di coworking, in altre sedi del mio ente, luoghi pubblici, etc.) (fare riferimento alla situazione antecedente all'emergenza Covid-19)	☐	☐	☐	☐	☐

| 15. Reputo che lo spazio a mia disposizione sia adeguato al lavoro che devo svolgere | ☐ | ☐ | ☐ | ☐ | ☐ |

PERCEZIONI DEL DIPENDENTE

Indichi in che misura è in accordo con le seguenti affermazioni	1 Fortemente in disaccordo	2	3	4	5 Fortemente d'accordo
1. Sento di riuscire a dedicare sufficiente tempo si a lavoro che a famiglia	☐	☐	☐	☐	☐
2. Sono soddisfatto/a di come il tempo a mia disposizione è diviso tra casa e lavoro	☐	☐	☐	☐	☐
3. Sono frustrato/a perché sento di non riuscire a gestire e concludere gli impegni domestici nell'arco della mia giornata	☐	☐	☐	☐	☐
4. Posso scegliere come raggiungere gli obiettivi che mi vengono assegnati dal capo, nel contesto lavorativo, in modo autonomo	☐	☐	☐	☐	☐
5. Il mio capo stimola la generazione di nuove idee e si pone con atteggiamento positivo nei confronti di queste	☐	☐	☐	☐	☐
6. Devo sempre confrontarmi e consultare il mio capo prima di prendere una decisione	☐	☐	☐	☐	☐
7. L'ente si preoccupa che io segua le procedure, piuttosto che raggiunga gli obiettivi	☐	☐	☐	☐	☐

8. Sento che il mio capo mi responsabilizza in maniera adeguata	☐	☐	☐	☐	☐
9. Mi sento a mio agio nel prendere decisioni autonome e correre i rischi ad esse associate	☐	☐	☐	☐	☐
10. Giorno dopo giorno, i miei compiti sul posto di lavoro sono sempre gli stessi	☐	☐	☐	☐	☐
11. Il mio lavoro richiede creatività e iniziativa personale	☐	☐	☐	☐	☐
12. Sento che l'ente si preoccupa sufficientemente della formazione dei dipendenti	☐	☐	☐	☐	☐
13. Sento che l'ente pone la giusta enfasi sulle mie possibilità di fare carriera	☐	☐	☐	☐	☐
14. Sono orgoglioso/a del lavoro che svolgo	☐	☐	☐	☐	☐
15. Il mio lavoro è stimolante	☐	☐	☐	☐	☐
16. Sono molto soddisfatto/a del lavoro che svolgo	☐	☐	☐	☐	☐
17. Il mio ruolo all'interno dell'ente risponde bene ai miei bisogni	☐	☐	☐	☐	☐
18. Raccomanderei di lavorare presso il mio ente ad altre persone	☐	☐	☐	☐	☐
19. Sento di poter raggiungere i miei obiettivi personali legati alla carriera	☐	☐	☐	☐	☐

20. Sono fiero/a di poter lavorare per il raggiungimento degli obiettivi del mio ente	☐	☐	☐	☐	☐
21. Sono fiero/a di poter aiutare i miei colleghi o altre persone, tramite il mio lavoro, quando se ne verifica l'opportunità	☐	☐	☐	☐	☐
22. Sento di essere adeguatamente valorizzato/a per il lavoro svolto e gli obiettivi raggiunti	☐	☐	☐	☐	☐
23. A lavoro mi sento pieno/a di energia	☐	☐	☐	☐	☐
24. Quando mi sveglio la mattina sono contento/a di recarmi a lavoro	☐	☐	☐	☐	☐
25. Sento che le mie idee più creative e innovative troveranno sempre spazio e saranno ascoltate	☐	☐	☐	☐	☐
26. I benefit che ricevo sono all'altezza di quelli che riceverei in altri enti o altre aziende	☐	☐	☐	☐	☐
27. Le regole e procedure a volte rendono difficile il mio lavoro e mi rendono difficile esprimermi al meglio	☐	☐	☐	☐	☐