

Trust And Governance in a Rethinking of Classical Knowledge Management Paradigms: Toolkits for Public Sector During the COVID-19 Emergency

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Abstract: The post Covid-19 world is characterized by new technologies and a smart city approach. For this reason, the public sector must shift from the classic paradigms to a new way, following a Knowledge Management (KM) approach, to perform its role in dealing with emergency situations. Starting from classical KM models, we conducted a regional case study, showing how the process of rethinking is boosted by citizens' needs and pushed by the trust of the stakeholders in the central authority. In fact, as highlighted by part of the international literature, local authorities' planning aims to achieve public value and alignment between stakeholders and policy making represents one of the main goals to be achieved. With an OLS regression we estimated the correlation between the trust of citizens and the statutory actions taken by central and peripheral government, showing that only with the alignment of public policies and the will of the citizens is it possible to overcome a crisis. Moreover, we underline the gaps in the literature and the missing links, with the aim of creating a KM model that can also be applied in the near future.

Keywords: Trust in central government, Knowledge Management in public sector

1. Introduction

Two years have passed since the first Covid-19 cases spread outside China and the WHO declaration of pandemic (Cucinotta and Vanelli, 2020). It is now clear that nothing will be the same as it was before (Caroppo *et al.*, 2021). It is equally clear that the shaping of the post-pandemic period is in our own hands (Katzourakis, 2022). Indeed, if it is true that, all around the world, we have been experiencing modifications that have had an impact on our lives, the important thing now is how we are escaping from this, and the possible legacies for our near future.

The increased use of digital tools transformed our working arrangements as well as our interactions with relatives and friends. Pupils and students experienced different ways of learning and interaction. We modified our notion of freedom, and our shopping and leisure time arrangements were revolutionized, with consequences for logistics and delivery. Most of all, our respect for public health services and our ideas about medical research changed (Bargain and Aminjonov, 2020).

The objective now is to detect and improve those aspects that grew from the state of emergency of the pandemic and can be opportunely applied in the near future to guide us towards general systematic improvement.

Starting from the above considerations, this paper, based upon an Italian case study, focuses on the legacy, in terms of Knowledge Management, of the lessons learnt in the interaction between local administrations and public health services, on the one side, and citizens and users on the other. The relevance of Italy as a study case is given by the fact that it was the first country, after China, to decide to have a complete lockdown and to follow this with other extraordinary measures (Sebastiani, Massa and Riboli, 2020), while becoming, in autumn 2021, a country with one of the greatest numbers of vaccinated people (Mathieu *et al.*, 2021). It was one of the European countries which, in economic terms, suffered most in the first wave of the pandemic (Prometeia, 2020) and was then the one in Europe with the greatest growth in GDP in 2021 (Eurostat, 2022). A great role, in this turnaround from being hit by the pandemic and then having a recovery in terms of economic growth, was played by public bodies and by the local branches of the Italian national health service (Cepiku *et al.*, 2021).

Taking into consideration the fact that there is a long history of a lack of relevance, and especially of awareness, of Knowledge Management within the public sector (Cong and Pandya, 2003) and that measuring service productivity is challenging because of its intangible nature (Jääskeläinen, 2009), and also taking into account the relevance and specificities of Knowledge Management in the healthcare sector (Sousa, Dal Mas and Da Costa,

2021; Vold and Haave, 2020), we aim, in our paper, to contribute by defining the specificities regarding Knowledge Management issues related to public intervention in an health emergency situation.

In particular, using the Knowledge Management toolkit for the public sector (Robinson *et al.*, 2010), our aim is to investigate which positive indications led to change in the Italian situation, and, especially, to detect any future positive legacies to be applied elsewhere, we intend to answer the following research question:

Research question: Do trust and governance have an impact in the knowledge management toolkit for the public sector, and, if so, how?

Since it is part of a larger, and still ongoing, piece of research into the modifications of local public administrations and local national health services, this study presents the results of an investigation made in an Italian Region (Abruzzo), focusing upon the changes that occurred in the design and implementation of local public health services and on the possible positive legacies for the future. In particular, we focus on the “counterparts” in the interactions, that is, the citizens and users who positively considered the indications given by public bodies. We explicitly investigated, through the submission of questionnaires, the opinions and considerations of citizens and users, looking at their role in following and respecting, in a collaborative manner, the indications given by the public agencies. We are specifically interested in any possible gap between what was perceived and implemented by the local public agencies and what was understood and considered by the citizens and users, thus guiding their actions in playing an active role in the recovery of the whole community.

2. Italian reaction to Covid-19 pandemic

The Covid-19 health emergency represented the most dramatic international event since the Second World War, hitting the entire global population in a silent and universal manner. Italy was one of the nations that was most severely hit in the first two quarters of 2020 (Balmford *et al.*, 2020). In the first year of the pandemic, it had more than 90,000 deaths and over 2,500,000 Covid-19 cases (Senate of the Italian Republic, 2021). In 2020, faced with an international health emergency and to avoid the spread of the virus, the prime minister, Giuseppe Conte, ordered various restrictions on Italian citizens, with an initial severe lockdown lasting three months and then a series of other restrictions. This strategy strongly pushed, among other things, a rethinking of the way in which public services acted, based upon the rapid digitalization of the Italian public sector through Knowledge Management patterns, and thus a rethinking of the “public administration mindset” with a smart governance approach (Governo Italiano, 2022; Heeks, 2002, 2003).

The new government, guided by Mario Draghi from February 2021 onwards, although not dismantling the logic of the restrictions, invested a great deal in the new weapon that had become available: vaccination. Although it did not enact, before the end of 2021, any rule for mandatory vaccinations, except for those in specific risky categories (e.g. health professionals, personnel caring for the elderly, and teachers), Draghi’s government designed and implemented several measures aiming at a kind of “moral suasion” of citizens (Governo Italiano, 2022). Concurrently it designed and implemented specific logistic and delivery strategies to allow the “mass vaccination” of Italian citizens. In particular, the strategy foresaw the exploitation of the military logistical structure that already existed (Ludovico, 2021), together with the modification of already existing web-portals of the national health service and the national postal service, to allow the proper and careful booking of vaccinations, according to the priorities given to categories defined by age and health conditions (Carli, 2021).

At the end of 2021 the increase in deaths – despite the greater infectivity and incidence of the alpha and then delta variations that had arrived in the meantime (Pouwels *et al.*, 2021) – was 50,000 over the year, and the pressure on the health services was constantly decreasing (Dipartimento Protezione Civile, 2022). It is also important to note that this decrease occurred despite the fact that, from spring 2021 onwards, although there may still have been some restrictions, hardly any activities (the exceptions were discotheques and ski resorts) were still closed (Governo Italiano, 2022).

The turnaround was caused by the choice made by the great majority of people to continue to respect the rules for interacting with others (in places of work to places of leisure and on public transport) and, in particular, to choose, as soon as their turn arrived according to their age and health condition, to be vaccinated. The efficiency of the mass vaccination campaign designed by the government and implemented by the Italian Regions at local level led to Italy having, in autumn 2021 and while vaccination was still not mandatory, one of the highest percentages of vaccinated people (Mathieu *et al.*, 2021). In summary, respect for rules and vaccinations really

changed the situation in Italy (Marziano *et al.*, 2021). Indeed, even if there were, in Italy as in other countries all around the world, movements against vaccines, citizens' trust in science and public services was very high (Battiston, Kashyap and Rotondi, 2020).

The effects of this change on the situation of the fight against Covid-19 were important for the re-opening of economic activities. From the middle of 2021, along with the increase in vaccinations, a series of measures were enacted to allow people to enter activities open to the public (Governo Italiano, 2022). The so-called "green pass", and, especially, the consequent electronic control strategy (which was without precedent in Italy), allowed the unlocking, as safely as possible, of all economic activities open to the public (D'Eri, 2022).

The effects of the turnaround were very evident in terms of economic recovery. Indeed, although the European strategy, as set out in the Recovery Plan, did not start during 2021 (European Commission, 2022), there was a complete turnaround in the Italian economic situation. Indeed, hit by the first wave of the pandemic, the Italian economy lost 150 billion euros GDP in 2020, with a collapse in its gross domestic product (GDP) of 8.9%, more than double the percentage change in GDP across the world (-4.4%). The loss was divided as follows: 108 billion in consumption expenditure, 16 billion in investments, and 78 billion in facilities (Prometeia, 2020). By contrast, by the end of 2021, Italy had had the greatest increase in GDP among all the European countries, with an increase of 6.4%, while the EU average was 4.8% (Eurostat, 2022).

Considering the peculiarities of Italy, and especially the turnaround between the first year and the second year of the pandemic, this work presents the results of an investigation, conducted through the "Knowledge Management toolkit" (Robinson *et al.*, 2010), that aimed to look at the main reforms that took place. Guided by the toolkit, we concentrate our analysis upon the counterparts, that is, the citizens and users in respect of whom, and for whom, these changes were designed and implemented. In particular, we attempt to detect the components that allowed them to take an active role in ensuring the effectiveness of the enacted rules and services. Indeed, during the pandemic, the Italian public sector conducted a silent revolution led by two words: digitalization and Knowledge Management (Riege and Lindsay, 2006; Velasquez and Mejía Lara, 2021).

3. Research framework

It is widely known that organizations wishing to cope with an increasing rate of environmental change must create and share information and knowledge (Gore and Gore, 1999). Often, creative solutions appear when things are looked at in a new way and problems are redefined (Sternberg, O'Hara and Lubart, 1997). This requires knowledge creation and sharing, to change the point of view on an assumption that already exists (Koestler, 1989). Knowledge creation, in fact, emerges from interactions among individuals (Nonaka and Toyama 2005). In our research setting, we aimed to investigate the interaction between the enacting and delivery parties (public bodies) and the recipient parties (citizens and users), because this interaction is an important component in the efficiency and effectiveness of impactful public initiatives designed and delivered by one side and having an impact on the other.

We note that Knowledge Management in the public sector has historically revealed a lack of relevance, and especially of awareness (Cong and Pandya, 2003). An important aspect here is the relationship between social capital and the welfare state, where the latter might discourage civic engagement and therefore social trust (Stolle and Rochon, 1999). Indeed, if, on the one hand, the welfare state boosts trust by reducing inequalities and improving the performance of public bodies, on the other hand, it may stem from the erosion of social networks or individuals' morality (Tamilina, 2009).

When looking specifically at health services, it is known that measuring service productivity is challenging because of its intangible nature (Jääskeläinen, 2009), and Knowledge Management in the healthcare sector must be properly addressed (Sousa Dal Mas and Da Costa, 2021; Vold and Haave, 2020). When talking about innovation in a healthcare system, we should note that the rising number of internal and external collaborations between hospitals and other parties calls for a specific analysis of how healthcare innovation environments behave, and of how knowledge flows within them are managed (Polónia and Gradim, 2021).

Taking into account all the above, our aim is to investigate, using the Knowledge Management toolkit, the contribution of trust throughout governance decision-making policies on impactful healthcare services in the case of an emergency, where the risks are high and the tools for intervention are unknown (Cepiku *et al.*, 2021).

In particular, we consider that, in the case of public health, where there is an imposition upon the citizens from the public side (even though this imposition is enacted in the name of the greater community interest), the recipients must understand and agree with the public request, in order to act accordingly. If this happens there is public trust.

In our case, the impact of the pandemic on the Italian health system was devastating, to say the least, “as several governments indicate that they aim to push down the epidemic curve, the evolution of the epidemic in Italy supports the WHO recommendations that stricter containment measures should be introduced as early as possible in the epidemic curve” (Sebastiani, Massa and Riboli, 2020, 344).

As a matter of fact, the government, apart from the initial complete lockdown of three months, had to request citizens to modify their daily activities to limit the effect of the pandemic. In the second phase, from the beginning of 2021, the government had vaccines, but it had, on the one hand, to create a new system for mass vaccination and, on the other, to persuade people to accept vaccination.

In this scenario, Italian public administrations, from the central government to the local ones, adopted a political strategy inspired by the Knowledge Management Toolkit (Figure 1). This is a new approach that has been implemented for “knowledge sharing and dissemination mechanism to manage and safeguard knowledge for a competitive advantage through communities of practice” (Velasquez and Mejía Lara, 2021) and that has become the “Masterpiece” of planning to manage an emergency.

Although the model introduced by Robinson *et al.* (2010) was designed to support public–private partnerships, we considered the same KM approach to be valid in terms of “process management”. Indeed, as we will explain hereafter, we apply it to analyse the interventions to tackle the pandemic, with different variables also considered, to give a better fit for the model using the analysed case study.

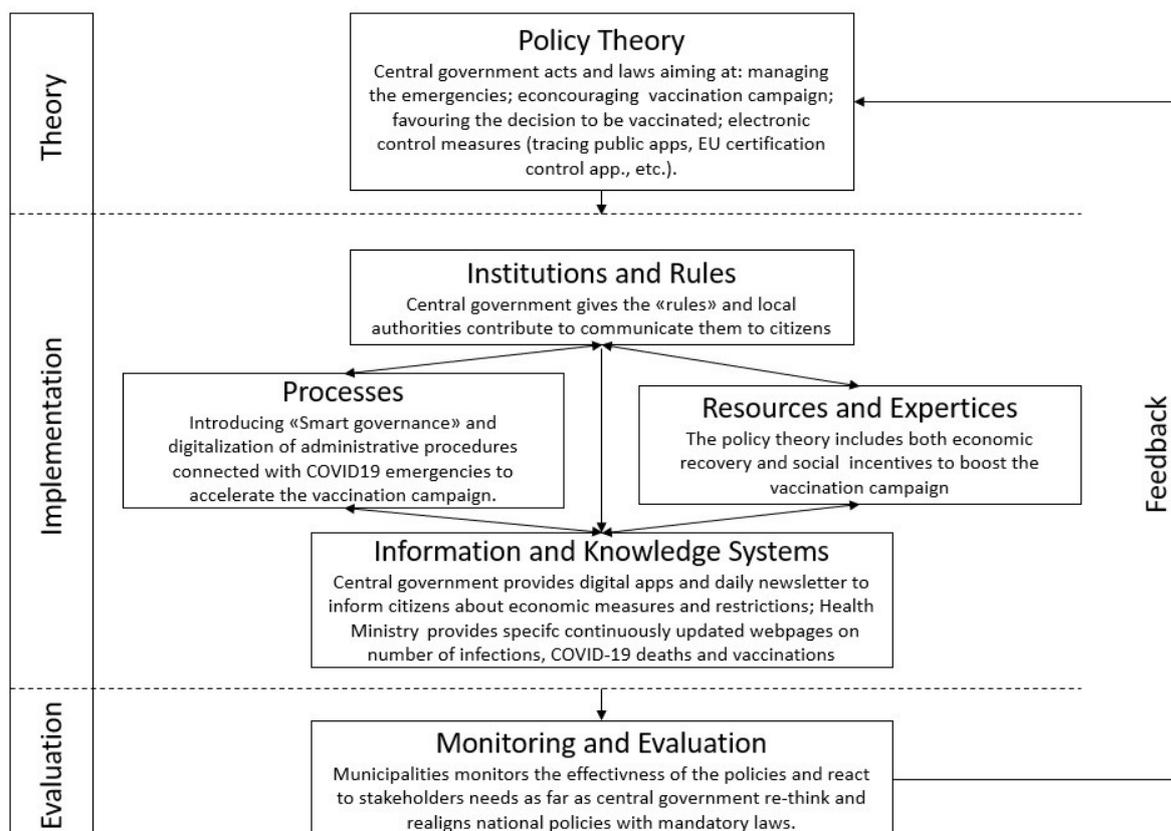


Figure 1: The Knowledge management toolkit for public policies (Robinson *et al.*, 2010) to manage the emergency

As a matter of fact, a KM approach in the public sector sets out a policy theory that is applied by institutions – within the management of processes, resources and information acquired “in the field” – to implement or

change the effectiveness of a policy (Bhatt, 2001; Massaro, Dumay and Garlatti, 2015). Moreover, considering new public management theory, this process achieves affordability in the long term (Boyne, 2002; Hood, 1991) when, as part of the management, the policy is monitored or at least evaluated.

As highlighted by some of the international literature, “decisions on the nature of public services required and how they should be provided are fundamental in public policy as the effectiveness of the policy framework influences the outcome of a policy. However, this depends on fundamental components such as the policy theory and objectives defining the types of services and outcomes expected, the institutions involved and their roles” (Berardi and Ziruolo, 2021).

The KM toolkit (De Gooijer, 2000; Robinson *et al.*, 2010) provides a key to understanding the measures adopted by the Italian public administration to slow the spread of the pandemic and introduce best practices – commonly used when interacting with the population (users / citizens / communities / stakeholders) – which have already proved themselves to be easy to implement and which could also have an immediate effect, according to Robinson *et al.*'s model (2010) (Figure 1), even if this is partially reset. What happened during Covid-19 in Italy was that, to deal with the emergency, classic models of management were blown away by the extreme urgency of saving lives. That was only possible if the citizens had deep trust in public policies and initiatives. Indeed, for as long as the numbers of casualties and cases were rising, the Italian central government introduced strict measures (including a total lockdown of the country for three months). This was possible only because the citizens had huge trust in the measures adopted by the public authority. Consequently, trust was necessary in the “evaluation phase” when planning the “exit strategy from the emergency”.

Figure 2 resets the Knowledge Management toolkit created by Robinson *et al.* (2010) by taking into account the measures adopted by the Italian government in the face of the Covid-19 pandemic, through a restrictive policy, in terms of social measures and the vaccination campaign, and it includes one additional variable: “Trust of people in policies and governance while a natural disaster is approaching” (Grossi and Vakulenko, 2022; Sargiacomo and Walker, 2021).

The toolkit divides the actions of the public authority into three phases: Theory, Implementation, and Evaluation.

In the first phase (Theory or “policy making”) (Kamara, Anumba and Carrilo, 2002; Robinson *et al.*, 2010), there was the formalization by central government of ad hoc laws that were aimed first at counteracting the onset of the pandemic and then at encouraging the decision to be vaccinated, while also respecting the vaccination slots provided according to age and health condition.

In the Implementation phase, the local authorities then acted, on the basis of the central mandatory laws, and reset the management of public actions. In this regard, the “smart cities” approach (Vial, 2019), in the way it introduces specific digital apps, acted as a “planning revolution” in the local authorities, contributing to the main goal of the theoretical policy: to save lives.

Local authorities therefore managed the emergency with a “smart approach” that contributed to building trust between government and citizens.

As a matter of fact, the municipalities started to “collaborate” with local communities to preserve “public value” and, during the Evaluation phase, when the citizens were directly committed to the local authorities’ actions, the policy makers had the opportunity to reset the “policy theory”. As citizens contributed to the Evaluation phase because there was trust, then, as fast as the trust between policy makers and local communities grew, vaccination rates increased, thus introducing a new variable to the KM toolkit: trust (Figure 2) (Prometeia, 2020).

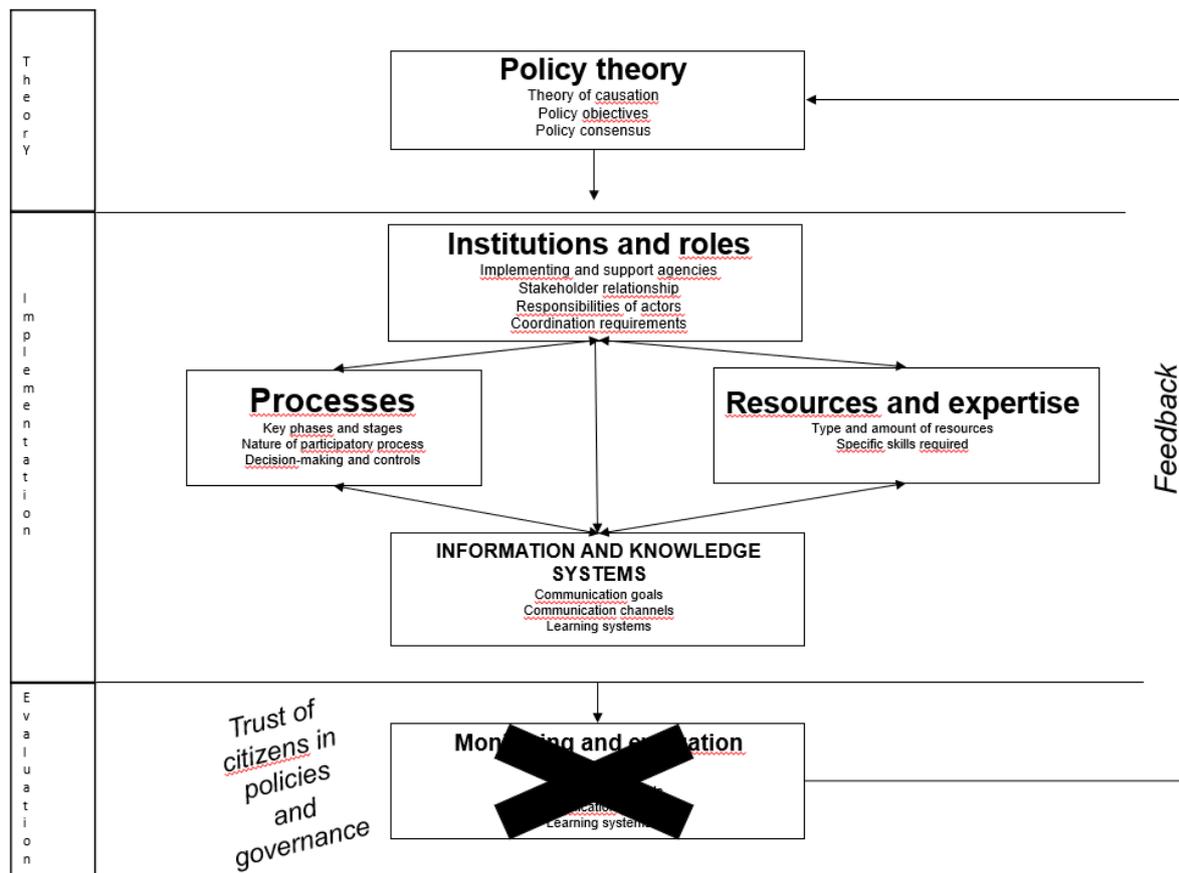


Figure 2: The introduction of new variables to the KM toolkit: citizens’ trust in policies and governance

What emerges from this scenario is a direct correlation between the number of vaccinated people and the trust of the citizens in the central government actions. We conducted a quantitative study considering trust as dependent variable (Y) that, as we will highlight in the next section, empirically shows the correlation between KM toolkit and citizens’ trust.

By investigating which positive indications led to this swift change in the Italian situation, and, especially, by fulfilling our aim to detect any future positive legacy that could be applied elsewhere, we intend to answer the following research question:

Research question: Do trust have an impact in the governance through knowledge management toolkit for the public sector and, if so, how?

4. Methodology

In the period when mass vaccination, open to all age categories, began (the second half of 2021), we submitted a survey to citizens who were attending for vaccination in the city’s hub. We included in our data set the metropolitan area of Chieti–Pescara, where one-third of the entire Abruzzo population lives.

We organized our data collection by asking people to answer our questions while they were waiting their turn to be vaccinated by the local health service; the vaccinations were given within dedicated temporary structures appropriately arranged within areas usually used for exhibitions or for indoor sports. We chose one person from each queue to collect data on different days of the week and at different times to avoid any bias due to a possible greater presence of some categories on specific days and/or times (e.g., there was a greater proportion of schoolteachers on Saturday mornings). We had previously been specifically authorized by the local public body (the health service or municipality, depending on the site) to submit the questionnaire, and the public bodies had requested us, whether or not we had been vaccinated, to provide a negative swab before the data collection. We were in any case properly equipped to avoid any risk of contagion. The data were collected directly by us to avoid any exchange of papers, pens etc.

Although they were not obliged to, nearly all those present agreed to answer the questionnaire. The average duration for the data collection was around 15 minutes, with a maximum of 30 minutes. The longest interviews were usually with people aged over 70 who, in some cases, needed more explanation (specific control questions were asked in these cases to be sure there were no misunderstandings with the interviewees).

All the collected data were then manually transcribed onto electronic spreadsheets to allow us to work on the data (we initially tried to use tablets to collect the data directly, but we soon found that this was not practicable, because we could not repeat a question to check whether the answer was the same as previously given; moreover, in some cases, when asking the control question, we used local slang and dialect instead of Italian).

We collected 343 completed questionnaires. Table 1 shows the demographic characteristics of the respondents to the survey, reporting their age, gender, and level of school education,

Table 1: Demographic characteristics of the respondents

ITEMS	Citizens (343)	
	Frequency	%
Age		
<i>18-30</i>	46	13%
<i>31-44</i>	93	27%
<i>45-59</i>	157	46%
<i>60-79</i>	42	12%
<i>80+</i>	5	1%
Gender		
<i>M</i>	205	60%
<i>F</i>	138	40%
Education		
<i>No schooling completed</i>	7	2%
<i>Nursery school to 8th grade</i>	117	34%
<i>High school</i>	196	57%
<i>Bachelor or Master's degree</i>	21	6%
<i>PhD</i>	2	1%

The survey was structured with questions that required answers on a Likert scale (0-5) or with a binary choice (yes-no), and the degree of agreement of each respondent to the specific variables is described hereafter.

In accordance with the KM toolkit, each variable being considered was related to specific research items (Berardi and Ziruolo, 2021). These items, for which the results are reported in Table 2, refer to:

1. **Governance**, which measures the citizens' alignment with the emergency policy that was adopted (Policy theory in the KM toolkit). We decided to measure this through their perception of how the local policy met the national requirements; their own alignment with the imposed requests; and their confidence in the effectiveness of the adopted measures.
2. **Interaction with decision makers**, which measures the communication system and goals (Information and knowledge systems in the KM toolkit). We chose to estimate this through the citizens' participation in any public debate initiative or meeting with local administrators, while also considering opportunities for public debate about the measures adopted.
3. **Influence of public opinion**, which measures the interaction with stakeholders (Institutions and roles in the KM toolkit). In this case, considering the novelty of the role assumed by digital communication tools (especially during the lockdown period), we measured the perceived influence of these tools upon citizens' beliefs.
4. **Interaction with different governance levels**, which is referred to among the Processes in the KM toolkit. We measured this through the citizens' perceptions of the alignment and interaction among the different government levels (from national to local) and the possibilities they had to "interact" with them.
5. **Resources and expertise**. To measure this variable we decided to consider the citizens' willingness to follow the requested restrictions that had been decided on by the Wisemen Committee. This was done because we considered that if the citizens were following the enacted measures that had been fixed by the appointed panel of experts with the allocated budget, they must be considering them to be efficient and effective.

As shown in the literature (Boyne, 2002), an effective policy making strategy tends to build trust between citizens and administrators.

Therefore, following previous studies conducted on KM in the public sector (Carnevale, 1992; Berardi and Ziruolo, 2021; Bhatt, 2001; Ramirez, 2021), we tested the correlation with trust as the dependent variable, influenced by the independent variables defined as described above, with the results being shown in Table 3.

Through an OLS regression model, we estimated the correlation between the indicators in the toolkit and the “trust” of the 343 citizens who decided to participate in our research, taken from the almost 3400 citizens who received their vaccinations on the days we administered the survey (10% of those attending).

Table 2: Survey results by averages (Likert scale 0-5)

Items	Citizens' answers Likert scale average
Governance	3
Local policy making aligned with the national protocol	2.6
Citizens aligned with the prescriptions/restrictions	3.8
The protocol adopted is effective for public health	2.8
Interaction with decision makers	3
Public debate or virtual meeting to define a common strategy to avoid the spread of the virus	2
Opportunities for public debate on the measures adopted	4.7
Influence of public opinion	3
Any influence from social networks and media (including SMS and WhatsApp) on your opinion on the adequacy of the measures adopted	3.8
Any influence on your beliefs about the healthcare protocols	2.1
Interaction with different governance levels	2.6
Any opportunity to debate with national or local politicians or members of the “Wise Man Committee”.	1
Alignment with and respect for different local government prescriptions	3.8
Respect for health protocols	4.8
Personal compliance with protocols	4.7
Acknowledgement of the lack of respect for the measures shown by others	5

Once the indicators were defined, the following regression model was applied to take into account all the variables included in the survey:

In the equation below, α represents the constant of the model, β represents the coefficient of the estimation of the variables, $\log x_i$ represents the logarithmic conversion of the variables measured with Likert scale 0-5 as per the survey (Table 3), while ϵ represents the standard error (Bun and Harrison, 2019). The logarithmic conversion of some variables has been applied to reconstruct the model to a Gaussian distribution. As a result we have:

Model 1

$$Y_{1i} = \alpha + \beta x_1 + \beta \log x_2 + \beta \log x_3 + \beta \log x_4 + \beta \log x_5 + \beta \log x_6 + \beta x_7 + \beta x_8 + \beta x_9 + \beta \log x_{10} + \beta \log x_{11} + \epsilon_i$$

The combination of the 11 variables which were considered showed evident problems related to heteroskedasticity (Breusch–Pagan tests) and specificity (Ramsey test), as well as autocorrelation of some variables. It was therefore decided to proceed through step-wise regression to identify the combination of variables for the two models with the best performance.

Step-wise regression led to the identification of two new models:

$$Y_{1i} = \alpha + \beta x_1 + \beta \log x_2 + \beta \log x_3 + \beta \log x_4 + \beta \log x_5 + \beta \log x_{11} + \epsilon_i$$

$$Y_{2i} = \alpha + \beta x_1 + \beta \log x_2 + \beta \log x_{10} + \beta \log x_{11} + \epsilon_i$$

These models were found to be able to overcome, brilliantly, the problems related to the heteroskedasticity of the variables that had previously been encountered. The Breusch–Pagan test was performed again ($\chi^2 = 0.00$; Prob> $\chi^2 = 0.876$ for the Y_{1i} model, $\chi^2 = 0.00$; Prob> $\chi^2 = 0.937$ for the Y_{2i} model).

Furthermore, the Ramsey test relating to the “specificity” of the two models does not show significant specificity problems: $F(2.76) = 0.78$; $\text{Prob} > F = 0.373$ for the Y1i model and $F(3.03) = 0.06$; $\text{Prob} > F = 0.877$ for the Y2i model. Moreover, the Shapiro–Wilk test highlights the traceability to a normal distribution for the Y1i model (p -value = 0.697), which seems to be affected only in part by the limited numbers in the data set, and for the Y2i model (p -value = 0.737).

5. Analysis of the results

What emerges from the OLS regression is a direct link between the citizens’ needs and their trust in the government (Vial, 2019; Walker, Jung and Boyne, 2013).

Table 3 shows the variables that have been considered for Model 1 and Model 2 after the application of the “Step-wise regression” methodology (Bun and Harrison, 2019). Therefore, Model 1 shows a direct correlation between trust in the action of the government, the degree of interaction with decision makers and respect for health protocols, showing that measures became effective because of the “link” between government planning and the “citizens’ actions in the game”. As confirmed by some of the international literature, the effectiveness of a policy (Vial, 2019) is a direct consequence of “trust in the action regarding central authorities”. In this sense, this model shows that the experience of fighting against the Covid-19 pandemic, including the extraordinary measures that occurred in recent months, can be reliable and effective only if citizens have trust in the policy adopted by the central government.

Moreover, Model 2 emphasizes this correlation, as respect for the health protocols seems to be strictly connected to the central authority’s ability to be “concrete and at the same time effective”.

Table 3: Analysis of the proposed regression models

Item	Regressor	Model 1	Model 2
Governance	X ₁	4.176* (2.510)	-2,106 * (2.433)
	logx ₂	6,678** (1.978)	-1,760 * (1,877)
	logx ₃	7.703*** (1.994)	
Interaction with decision makers	logx ₄	3,987* (1.731)	
	logx ₅	6,898*** (1,787)	
Respect for health protocols	logx ₁₀	- 0,267 ** (0.104)	2,367** (1,237)
	logx ₁₁	- 0,267 ** (0.104)	2,367** (1,237)

As shown in the first part of our paper, the extraordinary results of the vaccination campaign were achieved because of the capability of the central government to create a “government of trust” (Walker, Jung and Boyne, 2013), with performance objectives being planned as a long-term goal that must be achieved in order to create and preserve public value (Papi *et al.*, 2018).

The experience of the “management of the healthcare crisis” has shown that planning is only effective if there is a strict correlation between public policies and “citizens’ need”. In this sense, public entities must empower citizens during the “public auditing” phase, encouraging public debates and public meetings so that there is a thorough investigation into what the real needs of citizens are, rather than merely a formal planning phase. In this sense, some of the literature (Papi *et al.*, 2018) offers a direct contribution to this debate by showing that, even if the planning by a central government fits in terms of “formality”, there might sometimes be a misalignment of the planning because there is not a strong contribution by the citizens in the “planning phase”.

As happened during the emergency, the trust of the citizens in the government’s actions and plans increased as the local authorities “realigned the activity of planning measures regarding special needs of territories and specific areas”.

For this reason, there was no need for a penalty for non-compliance, since the trust of the citizens in the government's planning was strictly connected with the people's acknowledgement that the public policy ensured the achievement of public value in terms of the effectiveness of the services provided (Walker, Jung and Boyne, 2013).

We should only say that public value has been achieved if there is almost total alignment between the political will and the citizens' needs, even if there are no fines or "punishments". This contributes to a re-engineering of the processes, with the Knowledge Management approach being boosted by a smart governance "state of mind" (Heeks, 2002, 2003).

Moreover the "Monitoring and Evaluation" phase was completed when the trust of the citizens in public policies grew, leading to more vaccinations and a decrease in Covid-19 casualties.

6. Conclusions

This paper contributes to the debate in the literature about KM methods and systems helping processes of change. As regards the theoretical toolkit, we looked at how an "emergency situation" (Sargiacomo and Walker 2021; Grossi and Vakulenko, 2022) contributed to a rethinking of the management of local authorities and public health services, and we revised the KM public policies model (Cong and Pandya, 2003; Robinson *et al.*, 2010) by considering other variables such as trust.

In this sense, we showed that a resetting of the KM toolkit as framed by Robinson *et al.* (2010) can be useful for both practitioners and academics in setting up new studies or even models that rethink the traditional KM approaches for public bodies, especially when conducting initiatives that need immediate collaboration from the side of the users in order to achieve the result. The Covid-19 experience showed us, indeed, that a classical theoretical lens cannot be appropriate when the external context is changing so quickly. In this sense, changes to KM models, processes, and approaches can be taken from the challenges created by the pandemic, and used again when thinking about future policies and management theories.

The main aspect that emerges from our research is the importance of trust between policy makers and stakeholders, as suggested by some of the literature. Alignment between policy makers and stakeholders is key for managing a local authority and preserving public value (Al Ahababi *et al.*, 2019; Walker, Jung and Boyne, 2013).

The sharing of information and knowledge (Gore and Gore, 1999), along with the creative solutions that come from seeing things in new ways and redefining problems (Sternberg, O'Hara and Lubart, 1997), has been pushed by a "smart governance" approach that, during the pandemic, overcame the traditional management method of Italian local authorities.

As a matter of fact, the pandemic has been a booster for a general rethinking of policy making, public procedures and services, since citizens' attitudes have been aligned with local policies that are, in turn, aligned with national protocols.

Moreover, this investigation showed that a KM strategy tends to build trust. As the trust of the citizens grew day by day, the policies adopted became more effective, and this is also shown by the decrease in case numbers and numbers of casualties along with the increasing numbers of vaccinated citizens. This conclusion has practical implications for helping public bodies to design, set and implement strategies to deal not only with emergencies but with all cases in which the public body can achieve its aim only if there is active participation by users. In this sense the relevance of trust is fundamental, because some actions cannot be imposed on a long-term basis, as the initial phase of lockdown showed.

Even if this paper is limited by being tested only for a regional case study, the proposed KM toolkit has been used in all Italian regions, proving its effectiveness. So, as a matter of fact, starting from a "micro analysis", we have contributed to the literature by merging the traditional KM toolkits for public sector with new variables that have been considered, in the literature, to have a "positive impact" on KM (Jääskeläinen, 2009).

During the Covid-19 pandemic, all countries experienced a sudden change in their ways of living, working, producing, and consuming, and these challenges demanded immediate solutions to ensure continuity of service and operation in many areas.

So, the rethinking of local authorities with a knowledge management approach contributes to a positive rethinking for local entities and public local health services. Moreover, we also found that the re-engineering of the processes is strictly connected with a “smart governance approach”, as trust boosts the rethinking of public administrations and achieves public value (De Gooijer, 2000; Robinson *et al.*, 2010; Walker, Jung and Boyne, 2013).

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