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Revisiting social media institutionalization in government. An empirical analysis of barriers

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ABSTRACT

Social media have become a common organizational resource of governments and public administrations in different contexts. Previous authors have stated that social media institutionalization encompasses a process including stages from experimentation to complete command of the innovation. However, an understanding of barriers to social media institutionalization in public administration needs to be developed. In this article we focus on exploring what factors operate as barriers of the social media institutionalization process. Methodologically, we use a mixed-methods strategy combining different sources of data for triangulation purposes, including a survey on social media conducted to Spanish largest local governments. Based on this data, and following the literature on social media institutionalization, we construct a Social Media Institutionalization Index (SMI). Our SMI is founded on a set of variables measuring to what extent social media have been embedded in public sector organizations. Also, we conducted a case study in a city council based on semi-structured interviews. Our results suggest that social media institutionalization has not been fully developed in our sample of local governments. In addition, different variables (including security, lack of resources for maintenance, control and evaluation, organizational culture, or absence of governance framework) are perceived by public managers as institutionalization barriers, whereas the governance scheme of social media seems to be the critical variable. At the same time, we emphasize that some inhibitors might be overvalued by public employees. This article encourages future avenues of comparative research and practical recommendations to public managers leading social media in the public sector.

1. Introduction

Institutionalization of technology denotes a process of formalization in organizations, also in the public sector. Despite institutionalization is being carried out with similar patterns to previous technologies (Reddick & Norris, 2013), social media present some differences. Social media are developed and maintained by third-party companies, and individuals can easily use these platforms. Then, IT departments, traditionally acting as gatekeepers during previous waves of technological adoption, have less power to shape the process (Mergel & Bretschneider, 2013). At the same time, it is relatively easy for public agencies to open social media profiles and promote different roles

(Wukich, 2021). Besides, communication affordances are a key asset of social media (Criado & Villodre, 2021; Zheng, 2013). Therefore, studying the singularity of drivers and barriers of social media institutionalization becomes an essential task for scholars (Criado & Villodre, 2018; Meijer & Thaens, 2013; Sandoval-Almazan, Valle-Cruz, & Kavanaugh, 2018), as emerging challenges associated to chaotic, unsupervised, and uneven path dependency processes could emerge (Bretschneider & Parker, 2016; Falco & Kleinhans, 2018). In this article, we study social media institutionalization in local governments, using an ad hoc index based on different indicators. Particularly, we will focus on the empirical analysis of barriers that may entail inhibitors to the development of social media institutionalization in the public sector.

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Adoption processes of technological innovations are not inevitable and unidirectional in public organizations. Conversely, this type of processes resembles an open journey, studied by public sector scholars from different theoretical lenses and perspectives (Janssen, Charalabidis, & Zuiderwijk, 2012; Lee, Kozar, & Larsen, 2003; Shareef, Kumar, Kumar, & Dwivedi, 2011). Regarding social media, some authors are based on different stages or categorizations (Bretschneider & Parker, 2016; DePaula, Dincelli, & Harrison, 2018; Lee & Kwak, 2012; Mergel, 2013; Mergel & Bretschneider, 2013). Others have been inspired by diffusion of innovations theory (Rogers, 2003). Not all these models have implicitly considered institutionalization as the result (Bretschneider & Parker, 2016; Mergel & Bretschneider, 2013). At the same time, empirical studies about institutionalization itself are limited in number, at least in the public sector (Criado, Rojas-Martín, & Gil-García, 2017; Mergel, 2016), and often they face problems to correctly define a dependent variable to gauge and formalize these technologies (and processes) to be analyzed. In one way or another, literature has mostly focused on the usage and the decision to adopt (Medaglia & Zheng, 2017), and not so much on the process of adoption itself (Bretschneider & Parker, 2016; Mergel & Bretschneider, 2013).

In this article we consider institutionalization as a desirable output in the process of social media adoption and enactment within the public sector. Institutionalization is context dependent, and it is difficult to generalize about potential results and outcomes (Bretschneider & Parker, 2016). In short, social media institutionalization could be defined as the formal decision to deliberately incorporate these technologies in the organization or routinize them into the organizational processes (Mergel, 2016). On its side, social media adoption is a route departing from the earliest moments of integration in the organization, by public managers or employees, only ending when the formalization is completed and social media routinization is broadly spread in the organization (Bretschneider & Parker, 2016; Mergel & Bretschneider, 2013). At the same time, this idea is also related with technology enactment (Fountain, 2001), as some institutional or organizational variables play an important role in how social media are embedded in public administrations (Criado et al., 2017; Gil-García, 2012). Therefore, social media *institutionalization* is mostly considered the conclusive moment of a wider social media *adoption* route and *enactment* process in public organizations.

Mergel and Bretschneider (2013) suggested that one of the benefits of social media institutionalization is, among others, reducing organizational failure and uncertainty (specially derived from privacy, accuracy, or problems with information access and security). Nonetheless, institutionalization is not cost free: reducing experimentation processes could make initial adoption stages more volatile, and then transforming organizations into impassive agents to transformations that continuously take place inside these digital platforms (Bretschneider & Parker, 2016; Mergel, 2016). One of the extreme results of this is known as the “red tape” effect (Bozeman & Feeney, 2011; Eggers, 2005), whereby organizational standards and guidelines become extremely inflexible, losing the ability to respond to future reorientations required by the changing context. At the same time, this effect is often produced by barriers inside the organizations (Falco & Kleinhans, 2018). These organizational barriers are key to understand why institutionalization could be minimized in some contexts.

Here, we study factors inhibiting the social media institutionalization process. Up to now, most public sector organizations are still in their infancy regarding social media usage and formalization (Sandoval-Almazan et al., 2018; Sawalha, Al-Jamal, & Abu-Shanab, 2019). Hence, scholarly literature on social media adoption has considered factors that act as barriers to adopt or use social media in some way or another (Falco & Kleinhans, 2018; Harrison & Johnson, 2019; Khan, Swar, & Lee, 2014; Zheng, 2013). Nonetheless, we have less knowledge about how these factors have an impact in the process of institutionalization itself. Therefore, organizational culture, reputation, the digital divide, or problems with data management, among others, have been described as

plausible challenges regarding different types of usage and the decision to adopt (Falco & Kleinhans, 2018; Harrison & Johnson, 2019). However, more empirical research is needed to better understand what factors inhibit these institutionalization processes in the public sector.

This article aims at exploring organizational variables hindering the institutionalization of social media in public administrations. The research question that has guided this article is: *what factors inhibit social media institutionalization in local public administrations?* Our paper provides two main contributions from a mixed-methods research strategy. First, we develop what we name *Social Media Institutionalization index* (SMI). This is an aggregate variable measuring to what extent social media platforms have been institutionalized in public agencies. This index is based on a series of indicators, such as the use of policy guides, the existence of active leadership, or governance systems. Using this index as a dependent variable, our study performs descriptive and linear regression analysis, having as independent variables some potential barriers. Data used for the construction of the SMI, as well as of the potential inhibitors, have been obtained from an original questionnaire on the use of social media, applied in the Spanish largest city councils. Second, we conducted semi-structured personal interviews within a single case study to qualitative triangulate our data collection process. This second contribution is based on in-depth analysis on how barriers of social media institutionalization operate within one organization.

The remainder of the article is as follows. The next section presents a literature review with different theoretical frameworks on social media adoption in the public sector. The third section debates the selected variables to build a social media institutionalization index. The fourth section discusses the barriers that recent literature has identified as inhibitors to social media institutionalization in the public sector. Our research strategy and methods are detailed in section five, providing more details about our methodological decisions, including the selection of cases for our survey and the statistical analysis, or the selection of a single case study to conduct semi-structured interviews. The following section presents the results of the study following the three stages of the research, including descriptive and regression results and qualitative data from interviews. Finally, we present a discussion about the key findings of the study and the conclusion, including research contributions, limitations of the study, and implications for practitioners.

2. Literature review and theoretical approach

Different theoretical perspectives have studied the adoption and institutionalization of e-government in different contexts and technological waves. Here, we revise theoretical contributions to technological institutionalization from three different research strands. First, Rogers (2003) theory of diffusion of innovations considers social media as an innovation and studies how the adoption process occurs inside and across organizations, but not the institutionalization process itself (Criado et al., 2017). Second, technology enactment frameworks focus on how technologies are shaped and adapted in different institutional contexts (Criado et al., 2017; Fountain, 2001; Gil-García, 2012). In this case, the purpose is highlighting the factors leading to success (or failure) in enactment processes. Finally, from e-government maturity models, another group of authors have studied the adoption and use from the perspective of different “stages” of social media development, being the final stage institutionalization (Mergel & Bretschneider, 2013). Next paragraphs briefly review these contributions by pinpointing the most interesting ideas regarding institutionalization of social media in government.

2.1. Diffusion of innovations and social media

Theories based on the diffusion of innovations have described the process of dissemination of technologies in organizations. Rogers (2003) classified organizations depending on the role they played in this process: a) *innovators*, organizations that develop or contribute to the

development of technology, taking the initial risks (something that in the case of social media seems to occur outside the public sector); b) *early-adopters*, risky administrations that early adopt the product produced by innovators, later disseminating it into other organizations; c) *early-majority* and d) *late majority*, that corresponds to the first and second critical mass in terms of adoption; and finally e) *laggards*, organizations that simply reject the innovation. From this starting point, public organizations could be classified depending on how social media technologies have been adopted (Criado & Villodre, 2018). However, one of the key problems with this approach is explaining how technology evolve inside and outside the organization, and not assessing the motivations of the adoption as it happens (Mergel & Bretschneider, 2013). Linearity of diffusion processes that these theories assume has also criticized (Bannister, 2007), as this is not aligned with diversity of uses and modes of social media management developed by public administrations (Bonsón, Royo, & Ratkai, 2015; Criado & Villodre, 2021; DePaula et al., 2018; Edlins & Brainard, 2016; Meijer & Thaens, 2013; Wukich, 2021). Consequently, this study does not seek through this theoretical perspective the components to measure social media institutionalization.

2.2. Technology enactment and social media

Other group of theories have focused their attention in understanding how technology are enacted in public organizations (“technology enactment”). This group of authors comprise theories that explore factors behind technological institutionalization in the public sector. From new institutional theory and Fountain's (2001) technology enactment framework, these approaches evolved into the construction of the *Enacting Electronic Government Success* (EEGS) framework (Gil-García, 2012), also tested in the study of social media (Criado et al., 2017). In short, EEGS model addresses a set of variables that explain success around three dimensions: a) *organizational structures* denotes certain characteristics of the organization, such as the presence of specific training on social media, or effective leadership; b) *institutional arrangements* refers to regulations, political control or socio-structural behaviors imposed by the organization or its members affecting the implementation, such as policy guides, or a favorable organizational culture; and c) *contextual and environmental factors* comprises a number of external factors that shape the implementation of technologies in organizations (i.e. political, economic, and other socio-demographic conditions). Our study of barriers to social media institutionalization will be inspired by the first two groups of the abovementioned variables.

2.3. Technology maturity and social media

On its side, “maturity model theories” have explained how technological adoption processes occurs and what factors operate during the different stages of development, including different variations, such as TAM, GAM, or Open Government Data maturity (Janssen et al., 2012; Lee et al., 2003; Shareef et al., 2011). Particularly, some authors have developed their approaches from the perspective of social media maturity. Jussila, Kärkkäinen, and Leino (2011) develop their approach looking at benefits from organization-to-organization innovation related to customer interface perspective. From an approach based on grounded theory, Geyer and Krumay (2015) stated that the use of social media influence diverse components of organizations in an incremental process, including some pre-conditions and different variables (i.e., human resource management, social listening and monitoring, social media integration, social media strategy, or guidelines for responsible behavior), and this generic perspective can be assessed as social media maturity (in organizations). In the case of Lee and Kwak (2012), they present a maturity model with social media leading the different stages of open government adoption, supporting government with emergent communicative and interactive capabilities to become more transparent, participatory, and collaborative. This is another perspective that situates

the attention in the different moments and components of each stage, leaving the motivations or factors behind them aside.

2.4. Social media institutionalization

Our theoretical approach to social media institutionalization is based on previous literature and rooted in organizational studies. Traditional perspectives about institutions in organizations suggested that new rationalized and routinized rules and practices appear in organizations as a response to societal pressures to increase their legitimacy and survival prospects, not just their efficacy or efficiency (Meyer & Rowan, 1977). Besides, Powell (1991, 193) stated that ‘*the more a technology is adopted, the more it is improved, and the greater its payoffs. When this occurs and adoption accumulates, the choice of the technology becomes structurally rigid and locked in.*’ This relates to the idea of path dependence and their inflexibility that suggest they cannot change responding to transformations in the environment (Peters, 2005). Therefore, we foresee institutionalization in organizations as a set of practices, rules, routines, and processes, self-reinforcing organizational practices to improve their legitimacy (March & Olsen, 1996). This is also the perspective on social media institutionalization in government.

Regarding social media institutionalization in government, Mergel and Bretschneider (2013), lately reviewed by Bretschneider and Parker (2016), identify the process in three stages as follows: 1) *informal early experimentation* occurs when few entrepreneurs start to use social media within the organization; this early experimentation generates some problems that need solution; this is called by the authors as 2) *order from chaos (coordinated chaos)*, when the dissemination of social media results in different visions on how to use and proceed with social media putting at risk and potentially coming into conflict; finally, the stage of 3) *institutionalization and consolidation of behaviors and norms*, prepares the organization to develop all the necessary actions and protocols transforming chaos into order, and normalize the use of social media throughout the organization. Then, institutionalization goes hand in hand with measures such as the proposal of social media policy guidelines (Chen, Xu, Cao, & Zhang, 2016), or benefits from an effective transformational leadership (Meijer, Kooops, Pieterse, Overman, & ten Tije, 2012), among others. According with the notion presented in the introduction and based on abovementioned theories, social media institutionalization can be understood as an ending moment of the adoption route and the enactment process. Nonetheless, the attention given to this process has been limited in the case of social media technologies in public sector organizations. In this article, we use this perspective to build our approach to measure social media institutionalization and analyze barriers to the process of social media institutionalization in government, as they are presented in the next section.

3. Analytical framework. Measurement and barriers of social media institutionalization in government

Social media data and measurement has been an area of improvement of these studies in governmental settings. Despite the notable conceptual and theoretical developments to analyze social media institutionalization given by previous studies (Mergel, 2016; Mergel & Bretschneider, 2013), these approximations have been less successful to quantitatively gauge this reality. In this section, we describe the variables comprising an ad hoc “Social Media Institutionalization” (SMI) index, and then barriers to this process of institutionalization in government. This section assembles the analytical framework of this research, and it leads to the research question and hypothesis.

3.1. Measuring social media institutionalization

This article encounters the problem of measuring institutionalization of social media in public agencies by proposing a SMI index. For this purpose, we use ideas and concepts addressed by social media literature

regarding their institutionalization in the public sector, as stated in the literature review. We have identified five key variables that are critical to understand this process in governments, based on previous theoretical approaches on social media institutionalization and technology enactment. These variables are inspired on research on organizational features of social media institutionalization comprising a rational organizational logic, a human resources perspective and resource dependency (Villodre & Criado, 2020): (1) social media policy normalization; (2) political leadership; (3) social media training; (4) evaluation mechanisms; and (5) self-perception of social media development.

First, *social media guides* are among the key instruments for social media institutionalization in public administrations. Policy guides are formal documents written and promoted from middle and top management to normalize the use of social media in public organizations (Chen et al., 2016). They contain principles, objectives, procedures, or guidelines to follow in the management and use of social media within public agencies (Criado et al., 2017; Mergel, 2016). During the institutionalization process, social media policy guides convey two fundamental roles. Firstly, they act towards the negative effects of social media affordances (Chen et al., 2016), enabling public employees to better exploit the opportunities social media offer. For example, policy guides provide the necessary instructions so that citizens can interact safely through social media with public administrations, having the latter a communicative framework to decide which messages should (or not) be responded. And secondly, these documents usually enable processes of socialization in the organization using these social technologies, so different units outside the initial “early adoption” actors can be encouraged to use these digital platforms with functional support and appropriate training (Bretschneider & Parker, 2016).

Second, *political leadership* is another component of social media institutionalization. This aspect usually entails several middle-top managers awareness social media use that intrapreneurial public employees have introduced, resulting in different perceptions about how to align them into the mission and vision of the organization. Different areas of public sector research have highlighted that effective and transformational leadership is critical to understand the formalization of technological innovations (Meijer et al., 2012; Nath & Kanjilal, 2018). These leaders, “as craftsman elicits common goals, creates an atmosphere of trust, organizational brokers and individual contributions, and deploys energies in accord with some strategic plan” (Agranoff & McGuire, 2001: 314). An effective leadership and its recognition by early adopters are essential, especially if the organization intends to move towards more sophisticated uses of social media technologies (Criado & Villodre, 2018), including more collaborative strategies of collaboration of the organization with citizens.

Third, *training in social media* is another variable operating in the process of social media institutionalization. Social media institutionalization may imply the existence of public employees that are appropriately trained to fulfil their duties as “community managers” of their organizations' digital profiles. Sometimes, this learning process could be formal, and it is given as part of a specific course or program within the organization (Zheng, 2013; Meijer & Thaens, 2013; Kavanaugh et al., 2012). It can also be part of an informal learning process pursued by the individual or group that coordinates social media activities within the public organization (Galanis, Mayol, Alier, & García-Peñalvo, 2016; Voß, De Fries, Möbs, Pawlowski, & Raffl, 2018). Probably, social media institutionalization encompasses an evolving process, requiring a mix of both formal and informal perspectives to training public employees. Whatever the case, social media training comprises a key aspect of social media institutionalization strategies in the public sector.

Another key aspect in social media institutionalization is the existence of *evaluation mechanisms*. Once social media have been adopted in the organization, evaluation mechanisms provide public agencies with the opportunity to assess whether their objectives and goals have been achieved. The most common social media evaluation mechanism is the so called “performance evaluation”, which is related to the use of

quantitative and qualitative metrics appraising social media effects and usage (Chen et al., 2016). Another form of evaluation mechanism is the so-called “social media monitoring” (Bekkers, Edwards, & de Kool, 2013; Loukis, Charalabidis, & Androutopoulou, 2017). These techniques aim at continuously analyzing the contents and behaviors of the existing community surrounding public agencies. Here, data, information, and knowledge upcoming from citizens and other external actors can be extracted for the improvement of inner processes, policies, and services. These evaluation mechanisms facilitate the compliance with social media rules and protocols, ensure that results are achieved, and even could improve and adapt public agencies to technological and societal changes.

Finally, *self-perception of social media development* is the ending variable that we have identified in the literature as another critical aspect of institutionalization. Public managers committed with social media development operate as “champions”, “brokers” or “carriers” of adoption and use in their organizations. These roles of “community managers” and other organizational leaders are increasingly important in public administrations regarding the institutionalization of social media (Wukich, 2020). Particularly, they envision the needs of their organization, including resources, people, contents, or evaluation. On the other hand, they perceive interests and views of different departments and areas of the organization, opening these social technologies to different purposes and uses. In all cases, public managers involved in social media development, from the operative to the strategy, become key actors to understand the evolution of these technologies in public agencies (Criado & Villodre, 2021). Particularly, self-perception of public managers about social media progress operates as a proxy of institutionalization in their public agencies, as they drive the strategy and goals, integrate data and information of implementation, and manage the process of coordination with different departments of the organization.

3.2. Barriers to social media institutionalization in the public sector

Inhibitors are all those factors that could have a negative impact during the adoption process and the institutionalization of social media in public sector organizations. In scholarly literature is common to coin them under the label of “challenges” (Criado et al., 2017; Poba-Nzaou, Lemieux, Beaupré, & Uwizeyemungu, 2016), or “barriers” (Dekker, van den Brink, & Meijer, 2020; Lovari & Bowen, 2020). A challenge can be defined as a “situation or task that tests the government's abilities (resources, skills and expertise) to do something, namely adopt, use and optimize social media for two-way communication and collaboration strategies with citizen” (Falco & Kleinhans, 2018: 36). Therefore, they differ from other concepts such as “risks” (Khan et al., 2014), in that the latter are usually undesired consequences produced within an organization that has not been able to correctly face a concrete challenge (Falco & Kleinhans, 2018). Most of the barriers that the current literature has studied refer to the initial adoption process, that is, the impact that certain factors have on the fact that a concrete organization adopts (or does not adopt) a technology. Hence, these studies have not been focused on impacts over specific processes of adoption such as institutionalization.

Despite there are many classifications for barriers, challenges, and inhibitors, they all have something in common. Very few of them have been empirically tested regarding social media institutionalization. Many of these barriers refer to privacy and security issues, lack of reliability and factors beyond technology, such as the organizational culture (Bertot, Jaeger, & Hansen, 2012). For example, Picazo-Vela, Gutierrez-Martinez, and Luna-Reyes (2012) classified these barriers into a set of challenges related to: a) general context of the organization, including technological illiteracy, lack of citizen trust in the institutions or fear of establishing contact with the citizenship; b) institutional framework, such as data and identity theft, problems related to the intellectual property or lack of openness in internal structures; c) interorganizational collaborations and networks, comprising problems related to

communication between departments, or lack of control and evaluation over suppliers; d) challenges related to the structure of the organization, as an inflexible organizational culture, a negative balance in the cost-benefit decision for adoption, or lack of training and service maintenance problems; e) challenges associated to information and data, for example, fears about integrity and validity of the information, or loss of control over posted content; and finally, f) problems connected with the capabilities of the technology itself, as the reliability of third-party providers (mostly, private companies).

More recently, some new classifications have emerged to integrate these inhibitors into a common framework. [Falco and Kleinhans \(2018\)](#) have merged social media challenges perceived by public employees according to bi-directional communicative uses. These authors classify the challenges depending on whether they are: a) external to the organization, including Internet access problems, Internet illiteracy, digital divide, security and privacy issues, institutional framework, laws, and regulations; and b) internal challenges, for example, organizational culture, lack of staff with experience and training in social media, lack of internal strategies, or lack of understanding about the benefits of using social media. All these challenges can also be classified according to their direct or indirect effects. Finally, more recent studies published by [Harrison and Johnson \(2019\)](#) or [Lovari and Bowen \(2020\)](#) on challenges to use social media for crisis are also noteworthy. Here, they found that public employees perceived that the presence of digital divide could have a negative effect on collaborative uses. Also, they stated that credibility and reliability of the information transmitted through these social networks, and organizational and legislative constraints, could be relevant inhibitors. Finally, they also identified the role of trained personnel as a key factor of limited approaches to social media management in public agencies.

Therefore, one may think that some factors associated to the organizational culture, security, privacy and reliability of the information, absence of control over these technologies, absence of effective leadership, or an inflexible legal framework, could negatively impact the process of social media institutionalization in the public sector. Consequently, our work will exploratory test the following general hypothesis: *H1. Factors that public employees consider as barriers for social media use will negatively influence the level of social media institutionalization in their organizations.* From here, our analysis follows a mixed-methods research strategy based on the construction of our SMI, then quantitatively testing barriers, and finally qualitatively assessing barriers within a single case study.

4. Research strategy and methods

The general purpose of this article is to study factors perceived by public managers as adoption barriers and how they may inhibit social media institutionalization in local governments. For doing so, this study makes three contributions addressing Spanish largest city councils. First, we have developed an original index on social media institutionalization (coined as Social Media Institutionalization Index or SMI). SMI is founded on the theoretical dimensions of social media adoption explained in previous sections and it is applied to understand social media institutionalization in Spanish city councils. Then, we explore the impacts of factors perceived as adoption barriers by social media managers within the same group of local governments. Besides, the article focuses on a city council case to assess its social media institutionalization process and barriers, particularly governance practices. Therefore, our research strategy follows methodological triangulation based on three stages: (stage 1) measuring social media institutionalization including the analysis of variables from an original questionnaire on social media adoption; (stage 2) quantitative study of barriers perceived by public managers and their impacts on the SMI testing our hypothesis through a linear regression model; and (stage 3) qualitative assessment of social media institutionalization in a city council with semi-structured interviews.

4.1. Operationalization of social media institutionalization

To measure the level of social media institutionalization, this article has developed an original index using primary data (dependent variable). This SMI consists in a numerical score that ranges from a value of “0” (social media has not been institutionalized inside the public administration) to “5” (social media is completely institutionalized inside the public administration). The main goal of this SMI is to become an indicator of social media institutionalization, and to act as a dependent variable in this study. Hence, this synthetic score may help researchers and practitioners to understand, both in micro and macro perspectives, how social media institutionalization operates in public administrations.

For developing this index, we use some variables coming from an original questionnaire on social media adoption. It is a broad survey that focuses on studying the way in which local governments adopt and use social media. It consists of twenty-seven (27) questions related to platforms usage, barriers, and challenges, how the adoption and institutionalization process occurs, and how social media should be used to promote transparency, among many other topics. This questionnaire is based on previous work, mainly inspired by [Bailey and Singleton's \(2010\)](#) “National Survey of Social Media Use”, and [Hrdinová, Helbig, and Peters \(2010\)](#) work. For this study, we have only used survey questions related to social media institutionalization variables, and the barriers and challenges for its use.

This questionnaire was conducted from November 2018 to April 2019, targeting the public manager in charge of social media development within each case. From this questionnaire, we obtained a response rate of 82% (120/145 cases) as we focused on Spanish municipalities with more than 50.000 inhabitants. This selection decision in terms of municipality size comes from the fact that Spain, as other countries in the same south European context, has a high number of municipalities with a very low number of inhabitants. This is a phenomenon known in the local government literature as “infra-municipalism” ([Olmeda, Parado, & Colino, 2017](#)), and it is the key motivation to limit the sample of cases to this group (more than 50.000 inhabitants). Besides, city councils with more resources (i.e. people, budget...) are expected to have institutionalized social media more effectively. Then, we gain in homogeneity in our sample, limiting the potential biases based on organizational size. However, since the article focuses on social media institutionalization, it could be positive to have this sample selection to guarantee the finding of cases that have gone through the entire adoption process (and have a high SMI). [Table 1](#) shows the variables comprising the index and how they are operationalized following our analytical perspective.

The design of the SMI was carried out as follows. All variables presented in [Table 1](#) were integrated into the index by receiving a unified weight, the final sum of which results in the score. This value was assigned depending on the nature of the variable (e.g. being dichotomous or numerical). Here, for *social media policy normalization*, *social media training* and *evaluation mechanisms*, which appear in our database as dichotomous variables, our strategy went as follows: we assigned a full point “1” in the index when the value was “1, Yes”, and no point “0”, when the value was “0, No”. On the other hand, for *political leadership* and *self-perception of social media development*, which were originally based on a Likert scale (ranging from 1 to 5), index weights were assigned in a phased manner, from least to greatest: “1”, corresponded with a value of “0” in the index; “2”, with a value of “0.25”; “3”, with a value of “0.5”; “4”, with a value of “0.75”; and “5” with a full “1” in the index. The resulting variable (a synthetic score for each case in our sample) was treated using the Microsoft Excel and STATA software, and incorporated as a dependent variable of the study for the descriptive and regression analysis.

This elaboration of an index followed a deductive approach. The detection of the different social media institutionalization features served as a theoretical construct to consider the relevant variables that make up the index. It is based on the theoretical foundations of the

Table 1
Variables used to develop the SMI (from survey).

Variable	Question	Operationalization
Social media policy normalization Presence of social media policy guides (Chen et al., 2016; Hrdinová et al., 2010).	Q3. Please, indicate if a policy guide has been developed for the use of social media. Q11. Do you think there is leadership at the head of your institution supporting social media usage?	Part of SMI (0-No; 1-Yes)
Political leadership Perceived leadership from political appointees (Meijer et al., 2012)	Q23. Do you receive training for social media management from your City Council?	Part of SMI (Likert scale: 1-minimum; 5-maximum)
Social media training Existence of specific training in social media (Gil-García, 2012).		Part of SMI (0-No; 1-Yes)
Evaluation mechanisms Presence of instruments for measuring social media (Bekkers et al., 2013; Loukis et al., 2017).	Q4. Do you have a system to evaluate or measure social media results?	Part of SMI (0-No; 1-Yes)
Self-perception of social media development Self-perception of social media development Perceived level of development of social media within the organization (Bailey & Singleton, 2010).	Q15. Despite concerns and risks, how would you characterize the level of development of social media in your City Council?	Part of SMI (Likert scale: 1-minimum; 5-maximum)

Source: own elaboration.

literature that has studied the processes of institutionalization of technology, in general, and of social media. For the consolidation of the index itself, a recoding strategy was followed, trying to avoid the loss of information in the process. However, variables have not been normalized. This should be understood as a limitation of the statistical scope and validity of the SMI.

4.2. Analyzing barriers to social media institutionalization

Our measurement of social media managers perceptions on barriers to social media institutionalization (independent variables) have recourse to previous questionnaire data. Our original survey on social media adoption included a question related to inhibitors for the use of social media in the public sector (Q14. *The following issues have been considered as inhibitors for social media use inside public administrations*). This variable is based on a Likert scale that ranges from 1 to 5 for each inhibitor, with “1” being “less important as an inhibitor” and “5” being “more important as an inhibitor”. The list of possible barriers was extracted from the literature review, and presented in the questionnaire as shown in Table 2:

Each of the abovementioned inhibitors was analyzed to disclose the perceptions of public managers involved in social media development. Once the most perceived barriers were identified by social media managers of our city councils, the group of top five were selected for further investigation. These inhibitors were introduced in a simple linear regression model as independent variables, and their impact was studied in relation to the SMI (dependent variable). The objective of this empirical explanatory analysis was to test our main hypothesis (H1). *Factors that public employees consider as inhibitors for social media use will negatively influence the level of social media institutionalization in their organizations*. The analysis was carried out using the STATA software version 14.1.

Table 2
Barriers for social media institutionalization.

Barrier	Description	References
Organizational culture	Formal and informal rules of the organization that may restrict innovation.	Falco & Kleinhans, 2018; Picazo-Vela et al., 2012; Bertot et al., 2012
Absence of resources for maintenance	Lack of employees, technological equipment, or economic assets, among others, dedicated to improve the management of social media in the organization.	Picazo-Vela et al., 2012
Absence of resources for control and evaluation	Lack of mechanisms oriented to organizational learning and monitorization of social media interactions.	Picazo-Vela et al., 2012
Security	Perception of safety and credibility of interactions between public organizations and the citizenship via social media. This involves risks associated to fake news, data liability, political involvement, or unsecured accounts, etc.	Harrison & Johnson, 2019; Falco & Kleinhans, 2018; Bertot et al., 2012
Absence of a governance framework	Scarcity of organizational and institutional structures applied to coordination and monitoring, as well as to the design of the organization's strategy.	Falco & Kleinhans, 2018; Picazo-Vela et al., 2012
Accessibility	Perception of problems related to social media access, digital divide or users' literacy.	Falco & Kleinhans, 2019; Harrison & Johnson, 2019
Privacy	Perception of the confidentiality of the information and communications, as well as with data hosted on third-party servers and social media platforms.	Falco & Kleinhans, 2018; Bertot et al., 2012
Legal terms	Disagreement between the terms of use in social media platforms and the values that usually represent the public sector.	Harrison & Johnson, 2019; Falco & Kleinhans, 2018
Concerns about public employees use	Potential misuses of public employees in social media platforms.	Falco & Kleinhans, 2018; Picazo-Vela et al., 2012
Absence of control over suppliers	Control extent of public administrations over the design, development, and impact of social media platforms, as they usually are built upon third-party companies.	Picazo-Vela et al., 2012
Absence of political support	Perceiving as problematic the fact that social media usage has not been supported by political appointees inside the organization.	Picazo-Vela et al., 2012
Files conservation	Encompass problems to manage social media data and content.	Harrison & Johnson, 2019; Picazo-Vela et al., 2012
Absence of economic benefit	Investing in social media might not entail direct economic revenue for the organization.	Bretschneider & Parker, 2016

Source: own elaboration.

4.3. Case study and semi-structured personal interviews

Research design triangulation and mixed-data collection techniques have been fulfilled with the utilization of personal semi-structured interviews within a single case study. Alcobendas city council scored 4.5/5 points in our SMI, and this is one of the motivations to use this case to qualitatively validate and expand the results of the study. In particular,

the objective of using this selection criteria (a single case with a high level of social media institutionalization) entailed understanding how inhibitors operate within the real context of a successful local government in terms of institutionalization of social media technologies. We selected semi-structured interviews to collect information about this case study (Eisenhardt, 1989; Yin, 2004). Mostly, personal interviews within an organizational setting are oriented to assess the narrative behind the actors involved in the analyzed process. Hence, this qualitative perspective complements the quantitative approach to build a mixed research strategy regarding social media institutionalization practices.

Our personal interviews were oriented to disclose the opinions of managers and public employees involved in social media practices within the selected city council. Apart from addressing the chain sampling technique (Guest, Bunce, & Johnson, 2006), based on the suggestions of the communications director, the interviews targeted the so-called “the specials team” (*el grupo de los elegidos*), a group of more than 20 individuals involved in the current management of social media, both at the communications department and other areas and units of the city council, including citizens participation, sports, local employment and commerce, public libraries, or local technological development (see Appendix 1 with full names of units). We completed a total of 8 interviews until data saturation and redundancy signals emerged during the process, and we were assured that further data collection would yield similar results (Faulkner & Trotter, 2017). The interviews comprised 15 questions about social media adoption patterns and barriers to institutionalization in the public sector and were carried out throughout November 2017 (see Appendix 2 with the protocol and all questions). The interviews were recorded in Spanish and manually translated into English. No specialized software was needed to conduct the analysis, due to the number of interviews. Analysis was carried out using the text processor “comment” function to highlight and code relevant information regarding social media institutionalization categories previously presented.

5. Results

In this section we develop the main results of our study. We organize these results following the three stages in our research strategy. First, we analyze from a macro perspective the level of social media institutionalization of Spanish city councils through the description of the variables that make up the SMI as well as using the index itself. Second, we describe the inhibitors for the use of social media and how they were perceived by public employees in charge of social media management. We select the five most important inhibitors, and we introduce them into a linear regression model that allows us to validate our main hypothesis. Here, we study the influence on the level of social media institutionalization of factors considered by public employees as “inhibitors”. Third, we approach from a micro approach the case of a city council regarding its institutionalization processes and perceived barriers.

5.1. Social media institutionalization in Spanish local governments

One of the first objectives of our study is exploring the level of social media institutionalization in government using a single index. Here, we present our results in two ways regarding our sample of Spanish city councils with more than 50.000 inhabitants. First, we show disaggregated results for each of the variables that are part of the SMI. Secondly, we take into consideration the SMI overall score. Table 3 shows the level of social media institutionalization for the municipalities that participated in our study:

Several elements reflect that Spanish city councils are halfway through social media institutionalization. First, social media policy guides are still limited. Social media policy guides represent one of the key elements of social media institutionalization (Bretschneider & Parker, 2016; Chen et al., 2016; Mergel & Bretschneider, 2013) since

Table 3

Analysis of social media institutionalization in Spanish municipalities.

Variables	Results
Social media policy normalization	No (63.56%, N = 75) Yes (36.44%, N = 43)
Political leadership	Mean = 3.39 Std. Dev. 1.10 min = 1, max = 5 N = 114
Social media training	No (52.94%, N = 63) Yes (47.06%, N = 56)
Evaluation mechanisms	No (47.01%, N = 55) Yes (52.99%, N = 62)
Self-perception of social media development	Mean = 3.42 Std. Dev. 0.82 min = 1, max = 5 N = 119
Social Media Institutionalization Index (SMI)	Mean score: 2.53/5 Std. Dev. 1.38 min = 0, max = 4.75

* Variations on “N” are due to the presence of missing cases. Survey questions were not of mandatory response. Thus, municipalities were not forced to answer all the questions.

Source: own elaboration.

they normalize protocols and procedures within organizational routines. Thus, reducing the risks of misuse and facilitating adoption. However, only 36.44% of the municipalities that participated in our study have developed these guides. In terms of social media training, despite a relevant number of public employees managing social media declaring to have received training for the use of these platforms (47.06%), another considerable part does not seem to have been trained at all. Similar results were with the evaluation of social media results. An important part of the participating entities reported that they have established some evaluation mechanisms to check how their social media strategy evolves (52.99%). However, still another considerable part of this group of public administrations is not evaluating social media results so far.

Other variables offered mixed results, indicating that there may be a favorable environment to accelerate social media institutionalization. For example, the existence of political leadership is highly perceived in our sample of cases (mean of 3.39 on a Likert scale of 1–5). Broadly, this may suggest that political appointees are supporting social media adoption processes. And, therefore, that there is an interest in institutionalizing social media practices inside this group of public institutions. On the other hand, the self-perception of social media development within the organization is more than moderate (mean of 3.42 on a Likert scale of 1–5). This fact reflects certain optimism of social media managers, probably linked to a general perception of using appropriate coordination mechanisms and social media strategies within their organizations.

Finally, the analysis of the SMI showed that social media institutionalization in Spanish city councils is a process far to be fully accomplished. Our SMI raised a global score of 2.53 out of 5 possible points, indicating that Spanish city councils still have a long way to completely insert and implement social media into organizational routines. At the same time, a short group of city councils have become social media institutionalization champions, reporting scores of 4.5 and 4.75 points (up to 5). However, in other municipalities the institutionalization process has not even started (even scoring 0 points in a few cases). These results are consistent with previous literature, which has highlighted how in some contexts the use and routinization of social media is still in progress (Lovari & Parisi, 2015; Sandoval-Almazan et al., 2018; Sobaci & Karkin, 2013), whereas the process of adoption has been

extensively expanded (for example, opening social media profiles on Twitter or Facebook), as a mere management fad.

5.2. Barriers to social media institutionalization in local governments

Another stage of this article is to study the impact of the factors perceived as “inhibitors” by social media managers on social media institutionalization. In the first place, we descriptively analyze how social media managers are perceiving some of the inhibitors identified by the literature. Fig. 1 shows Likert scales for each possible inhibitor, representing the perception of social media public managers:

As Fig. 1 indicates, some factors are more clearly perceived as inhibitors than others. The factor that is most perceived as an inhibitor is “organizational culture” (mean 3.04 out of 5). This indicates that traditional formal and informal cultural norms in public administrations are not perceived as facilitator factors to the introduction of social media, as they are nor particularly prone to generating spaces for innovation and experimentation. Another factor perceived as an inhibitor by social media managers is the “absence of resources for maintaining” social media profiles (once in operation) (mean 2.9 out of 5), as well as the “absence of resources for control and evaluation” (mean 2.86 out of 5). Although it is often said that social media are free, current management in public organizations may involve significant investments of time and people. “Security” (mean 2.73 out of 5) also appears as an important inhibitor, which could be probably associated with scandals involving user information and data leaks, or business models that clearly confront public sector values (van Dijck, 2013). Finally, another noteworthy inhibitor seems to be the absence of “governance framework” (mean 2.66 points out of 5), which may be associated with a perception of lack of driving, monitoring, and coordinating a clear social media strategy, or embracing an organizational approach far away from harnessing social media full potential.

Conversely, other factors have not been perceived as significant inhibitors. This is the case for the “absence of economic benefit” (mean 1.71 out of 5), problems associated with “file conservation” (mean 2.22 points out of 5), “absence of political support” (mean 2.27 points out of 5), “absence of control over suppliers” (mean 2.29 points out of 5), and “concerns about how public employees use” of social media (mean 2.37 points out of 5). A lack of perception of political support as an inhibitor is consistent with the evaluation that social media managers have offered on political leadership during the previous section. At the same time, it is striking to confirm that public managers do not consider the lack of control over suppliers (third-party companies that develop social

media platforms) as an inhibitor. Here, we may hypothesize the assumption that it is difficult for public agencies to create and manage their own social media platforms. Also, they should be present where most of their citizens are, regardless the company that develops the platform and its rules. Finally, the lack of concern about the use that public employees give to social media may reflect that there is a perception of responsibility, and even positive feelings for online formal/informal internal collaboration (Criado & Villodre, 2018; De Witte & Panagiotopoulos, 2018; Kapucu, Hu, & Khosa, 2017).

From this descriptive approach, we moved forward into our statistical analysis based on the identification of factors addressed as the most important inhibitors by social media managers. This inferential analysis tested our main hypothesis (H1. *Factors that public employees consider as inhibitors for social media use will negatively influence the level of social media institutionalization in their organizations*). On the one hand, Table 3 presents our correlation matrix. On the other hand, Table 4 presents our linear regression model between the SMI index (dependent variable), and the group of factors (5) perceived as main inhibitors by public managers: organizational culture, absence of resources for maintenance, absence of resources for control and evaluation, security, and absence of a governance framework. Our confidence intervals are reported in Fig. 2. (See Table 5.)

As the correlation matrix (Table 4) shows, the inhibitors appear to behave as expected, apart from the “lack of resources for evaluation and control”, and the “security” barriers. The absence of a governance framework shows a negative correlation towards the SMI, with a moderated/low level of significance. Looking at organizational culture and lack of resources for maintenance, the correlation is also negative, whereas it is close to the level of no linear correlation. The case of the “security” barrier deserves attention, as it is near $p = 0$ (no linear correlation). We discuss some of these particularities with more detail regarding our linear regression analysis.

As shown by the regression analysis, the only inhibitor with statistical significance ($p < 0.05$) is the absence of a governance framework. The impact of the absence of a governance framework over the SMI is clearly negative and significant using the standard 95% confidence rate. That is, the more the absence of such a governance framework is perceived, the more likely it is that the social media institutionalization process is not progressing adequately. The fact that there is a lack of guiding principles and norms directing the use of social media, facilitating the processes of innovation, experimentation, and the adoption of common commitments, operates as a key barrier in the institutionalization process of social media in governments. Therefore, this variable is

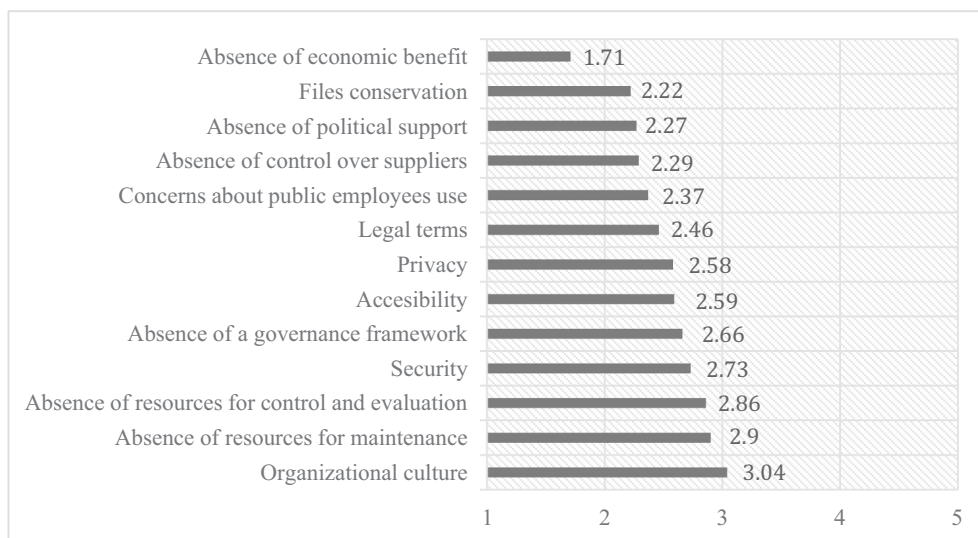


Fig. 1. Descriptive perceptions of social media barriers by public managers. Source: own elaboration.

Table 4
Correlation matrix.

	SMI	Organizational culture	Absence of resources for maintenance	Absence of resources for evaluation and control	Security	Absence of a governance framework
SMI	1.0000					
Organizational culture	-0.1279	1.0000				
Absence of resources for maintenance	-0.1342	0.3561*	1.0000			
Absence of resources for evaluation and control	0.1114	0.2841*	0.7820*	1.0000		
Security	0.0061	0.2915*	0.2270*	0.2338*	1.0000	
Absence of a governance framework	-0.2215*	0.4984*	0.3790*	0.4236*	0.5289*	1.0000

Source: own elaboration.

* $p < 0.05$

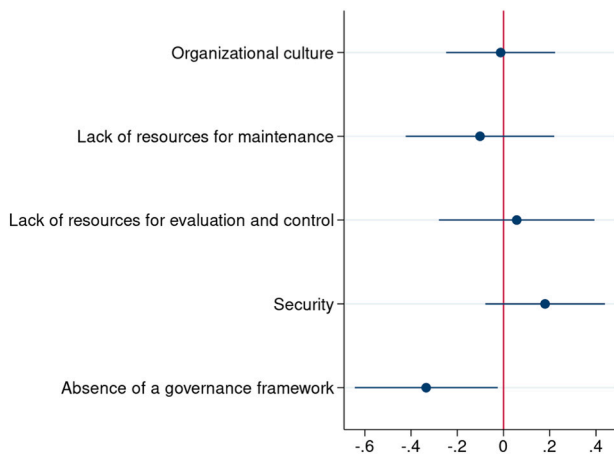


Fig. 2. Confidence intervals (95% CI). (Source: own elaboration.)

Table 5
Linear regression analysis of social media institutionalization barriers.

Inhibitors	Coefficients
Organizational culture	-0.01244809
Absence of resources for maintenance	-0.10166996
Absence of resources for control and evaluation	0.0568685
Security	0.17980131
Absence of a governance framework	-0.33429959*
Adj. R2 = 0.03	
N = 105	

Source: own elaboration.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

confirmed as a key factor to understand why and how social media institutionalization occurs. These effects are consistent with the correlation matrix results, reporting a significant negative effect, although of moderate/low intensity.

Other factors perceived by social media managers as barriers do not have significant statistical impact on our dependent variable (social media institutionalization). Probably, these results may be induced by the small size of the sample affecting some coefficients. However, these factors deserve attention to understand social media institutionalization in government. For instance, the negative perception about organizational culture suggest that social media management does not fit well with inflexible formal/informal rules constraining digital transformation in public organizations. A similar pattern is followed by the absence of resources for maintenance.

At the same time, our regression analysis highlights a positive non-significant relation between the rest of perceived inhibitors and the SMI. Several explanations could exist for these results. For example, one

option is that public managers tend to overvalue the effect of certain external inhibitors. This seems to be clearer for the security factor: regarding that social media platforms cannot be controlled or moderated by public sector organizations can actually act as a positive precondition for social media institutionalization. Hence, a positive effect can be fostered by this security risk perception as this would accelerate the deployment of guidelines and protocols addressing affordances and challenges of social media (Chen et al., 2016). In addition, the idea of public managers overvaluing some external inhibitors can be reinforced by examining the low explanatory capacity of the regression model (adjusted R square around 4%). This could indicate that the variability of the SMI does not seem to be critically affected by the abovementioned internal barriers. Thus, further research will be necessary to explore additional factors determining social media institutionalization (for example, socio-economic, political variables or additional institutional/organizational features).

However, our results suggest that we should be careful with the conclusions derived from this model for several reasons, at the same time some aspects reflect its robustness. In Fig. 2, using a 95% CI, we can assure with certain confidence that a perception of an absence of a governance framework negatively affects the social media institutionalization process. However, this is not the case with other perceived barriers. Due to the low number of observations, it is possible that the use of the 95% CI is excessively restrictive for our data. Also, our results present low explanatory capacity of the regression model (Adj. R2 = 0.03). Here, it is possible that the effect of lost cases is negatively affecting the model (obs: 105), implying noticeable variations in the regression. Finally, in relation to possible collinearity, the VIF (Variance Inflation Factor) test shows VIF values for variables ranging between 2.73 and 1.39. Furthermore, in terms of tolerance (1/VIF), results are higher than 0.1, so no multicollinearity problems are observed with the variables. On the other hand, in terms of the homogeneity of variance for the residuals (homocedasticity), we performed White's test and Breusch-Pagan heteroskedasticity tests, both giving high p -values, and supporting the null hypothesis (variance is homogeneous).

5.3. Social media institutionalization and barriers operating within a City Council

Next paragraphs offer the analysis of semi-structured personal interviews in the city council of Alcobendas, regarding the institutionalization of social media, with special attention to the abovementioned critical barriers in the process. This city council (115,000 inhabitants) is geographically located in the metropolitan north area of Madrid, and it is one of the most recognized Spanish cases concerning innovative practices in public management (including the first award for a European city council granted with the EFQM Excellence in Management). In the field of social media, this case scored 4.5/5 points in our SMI, representing one of the strongest levels of institutionalization of social media. As advanced in the methods section, we conducted eight

personal semi-structured interviews to the communications department director and people of the so-called “the specials” team (*el grupo de los elegidos*), individuals involved in social media management practices across different units and departments of the organization.

In the first place, this city council presents a set of features representative of its high level of institutionalization. First, the *political support and leadership* was high since the first stages of the process and based on great degree of direct control, counterbalancing other distributed coordination mechanisms. At the same time, this encompassed the involvement of political appointees, granting symbolic and material support to social media managers. Particularly, the political support of the city mayor was highlighted in different interviews: “*the city mayor had a direct leadership of the process since its inception*” (Interview 6) or “*the political leadership (of the city mayor) stands out and this is good because it was his political decision fostering social media in the organization*” (Interview 2).

This case exerted noticeable use of *normalization mechanisms*, mostly by using a social media guide and some internal protocols. Nonetheless, this guidance does not detail all aspects of the management process, giving room to the units involved to make their own decisions with great level of autonomy and fostering experimentation in their areas of service (sports, culture, police, emergencies, etc.). At the same time, these different units collaborate to reach common organizational goals and general purposes with social media technologies. This operational dimension represents one of the common conclusions of the analysis, as it existed unanimity regarding the critical role of “the specials” team and the opportunities given from the communications department for testing new routes to engage with the citizens.

Also, *social media training* is another aspect of the social media institutionalization process that was accounted within the city council. Here, social media learning processes were informal and based on a trial-and-error course of action, making these practices more collaborative, spontaneous, and adaptive to the evolution of social media technologies and platforms. On its side, the *evaluation mechanisms* in this case also played a pivotal role in the institutionalization process, including a follow-up perspective based on a case to case and individualized reporting perspective. Despite the use of specific software tools in the organization facilitates the existence of shared metrics and general external listening of people in the city (“smart listening”), the evaluation process is also decentralized in each unit. This approach reinforced self-tailored appraisal procedures and more individualized assessment of social media institutionalization.

Finally, *self-perception of social media institutionalization* in this case was very high among all members of “the specials” teams. This encompasses confidence on common achieved goals and how the organization used social media tools, and some limitations, including different barriers to the institutionalization process. Particularly, this self-perception was generally inferred from different interviewees regarding, among other aspects, the new opportunities to interact with residents, access to different targeted groups, or communicate with the public avoiding the administrative jargon: “*Social media profiles were designed to open up a new space for the debate with our citizens. I talk, you talk, we listen. A direct dialogue with no intermediaries. This is completely different from other communication channels without feedback. The main purpose was setting up a direct line of communication with the city council, 24/7. Dialogue. Talk with them. This is what we wanted and I think this is what we want to foster in the future. We did it, and we will do it*” (Interview 3).

Barriers to social media institutionalization in the city council have been also gauged in our personal interviews. All interviewees identified organizational culture as one of the key barriers for the institutionalization of social media. This concern was expressed in different ways by different actors, including problems of time (“*inflexible schedules of public employees used to work from 9 to 5*”) (Interview 7), internal red tape (“*rigid procedures are incompatible with social media flexibility*”) (Interview 4), or resistance to change (“*social media need specialization and more*

employment profiles”) (Interview 3). Therefore, organizational culture seems to be one critical aspect explaining limitations of social media evolution over the years. As one interviewee stated: “*We have a cultural problem in the city council organization. For example, we have launched an internal group within a social media platform for all employees and it is not very successful. I think it is a cultural problem, not just digital illiteracy*” (Interview 8). Probably, this factor will also play a role in the public sector to foster future developments.

Another key barrier for social media institutionalization tested in our case study was the lack of resources, mostly for maintenance, but also control and evaluation of these technologies. Again, our interviewees identified limitations from different sides, including the lack of “*economic, personnel, and even technological resources, constraining the provision of a timely answer to citizens’ questions*” (Interview 4) or the impediments derived from the “*lack of resources to adequately measure and evaluate the advances of social media profiles of the organization*” (Interview 2). Besides, the lack of resources was expressed highlighting “*the problems to build a sense of community surrounding the city council as we require more personnel*” (Interview 2). At some point, all interviewees expressed that future institutionalization of social media in the city council would imply moving from the actual practices based on personal and group awareness and determination to management based on organizational engagement and resources investment.

Security is the other side of the coin with trust. Not surprisingly the perception of security in the interaction with the city council via social media was mentioned several times in the interviews as a decisive factor in the institutionalization process. This particular matter was expressed pinpointing the “*need of political neutrality and the problems that the city council faces within a context of fake news and political polarization. Citizens tend to be suspicious when they interact with social media profiles of governments in the Internet, and this is a risk of credibility and also of security*” (Interview 1). Hence, institutionalization of social media in governments could be compromised by the citizens perception of security in the interactions with public agents.

Broadly speaking, the city council has established a distributed peer-to-peer governance framework to manage social media, including a system supported by decentralized control mechanisms involving all areas and services of the organizational structure (here, members of “the specials” team played a central role since 2013). This distributed governance model of coordination entails that not a single unit (communications department) directs the strategy and implementation of social media in the organization. Conversely, different actors and units collaborate in the decision-making and management processes. In fact, this aspect is identified as a key facilitator of institutionalization during the evolution of this case after its inception in 2011. This was stated by one of the interviewees: “*Our director of communications named this group ‘the specials’ because they were selected to foster the institutionalization of social media in the city council and it also provided them an internal distinction as members of the core managing team within their own units*” (Interview 2). Therefore, the analysis of this case supports the importance of internal governance mechanisms to foster the institutionalization of social media within the organization.

6. Findings and conclusions

This study has fulfilled our initial objectives and exploratory tested our surmise. First, we have evaluated the level of social media institutionalization in Spanish largest municipalities (with more than 50.000 inhabitants) by using an aggregated indicator that we have labeled as “Social Media Institutionalization Index” (SMI). Our SMI comprises a range of variables, including the use of social media policy guides, or the existence of effective political leadership. Second, using our data from a survey responded by public managers of social media in our sample of local governments, we analyzed what factors are perceived by this group of public managers as inhibitors and if they had any negative impact regarding the process of social media institutionalization in their city

councils. Finally, we have completed our study qualitatively assessing the case of Alcobendas city council, regarding how barriers to social media institutionalization operate within an organization highly successful managing these networks. Now, this section highlights some of the main findings of the article.

6.1. Findings and debate

This study confirms that the process of *social media institutionalization* in the public sector is not fully completed, opening the door to upcoming digital transformations through these technologies. Despite Spanish largest municipalities have intensively adopted social media technologies (our Social Media Institutionalization (SMI) index scored 4.55 out of 7), as it is the case in other levels of government, social media institutionalization is still an ongoing process requiring further development and evaluation. This conclusion supports previous studies suggesting that most processes of adoption and use of social media technologies in public agencies have not met all initial expectations (Sawalha et al., 2019; Sandoval-Almazan et al., 2018; Criado et al., 2017; Wukich, 2021). Just to mention one example of this lack of institutionalization, we highlight the limited existence of policy guidelines for social media use in our sample of studied cases. These official documents are critical mechanisms regarding the normalization processes in public administrations of digital technologies, in general, and social media, in particular (Chen et al., 2016). Therefore, our finding here is that institutionalization of social media in government is a phenomenon highly context dependent that is also taking place in parallel with other areas of digital transformation in the public sector.

The *support for an SMI index in government is another key result of this study*. Although future adjustments and modifications will be required to extend our SMI to different layers of government or administrative contexts, its actual value lies on the existence of a reliable measurement of social media adoption and use processes in the public sector (Villodre, Criado, Meijer, & Liarte, 2021). Following other previous work in digital government and social media literature (Criado et al., 2017; Gil-García, 2012), our investigation expands the understanding of organizational variables behind the implementation of social technologies in the public sector.

Regarding other *social media (and technology) maturity models*, this study enriches previous contributions to the literature in different ways. On the one hand, our analysis has confirmed that it is possible to gauge different stages of social media, using an index and setting the foundations for comparative analysis. Besides, our article has shown the complexity of variables operating in evolutionary processes of technology adoption and use in the public sector, mostly in line with previous studies about social media (Lee & Kwak, 2012; Jussila et al., 2011; Geyer and Krumay (2015)). At the same time, the orchestration of social media in the public sector presents some singularities from other technology adoption processes, including the lack of centrality of IT departments, among other aspects. Also, communication affordances of social media technologies recommend decentralized/distributed governance models to promote institutionalization, whereas this is not the only single output of institutionalization. And finally, barriers of use regarding third party ownership of social media platforms (i.e. security and personal data protection, fake news dissemination, or regulation of interactions with citizens) play an important role that need further investigation in future studies.

Another finding is that *public employees may be overvaluing some barriers of social media institutionalization*. Regression models indicate that the explanatory potential of organizational culture, security, the absence of resources for control and evaluation, and the lack of resources for maintenance, do not seem to have a key impact on the variability of the SMI. One potential explanation for this is the effect of inhibitors that tend to be overvalued by public managers, and that perception seems not fit in the actual organizational landscape in public administrations.

At the same time, *the absence of a governance framework is the key social media institutionalization barrier*. Our study has empirically demonstrated that an adequate governance framework has a direct negative and statistically significant impact on the institutionalization process. This factor is perceived by public managers in the surveyed city councils as one of the most important barriers in terms of social media usage. Also, our case study provided evidence of the importance of a governance system as predictor of social media institutionalization. This is another key finding that provides empirical support for previous research in the same field (Criado et al., 2017; Falco & Kleinhans, 2018; Harrison & Johnson, 2019; Picazo-Vela et al., 2012). Surely, further research will be needed to understand these relationship among institutionalization and barriers, but also governance mechanisms in public sector organizations.

6.2. Contributions, limitations, and implications for practitioners

This article aimed at contributing to the literature on digital government transformation, in general, and social media in government, in particular, by highlighting different aspects. First, the proposal of a social media institutionalization index (SMI) contributes to the process of understanding why and how these technologies are adopted in the public sector and to what extent they have been developed in different organizational contexts. The theoretical section of the article discussed the notion of institutionalization of social technologies in government. Accordingly, our study has contributed to the scholarly debate on this area of research, studying the local level of government in Spain. Particularly, we have shed light on the study of barriers that public agencies are facing when implementing social media technologies with original data and empirical research based on different data sources and mixed methods. At the same time, our results insist in the importance of social media in the process of digital government transformation as they may promote international collaborative practices.

Also, this study presents some limitations. The article focuses on a specific administrative level (local layer of government), among the largest municipalities, in one single country (Spain), and this contains the generalization of our findings to different contexts. Future studies could work with other administrative levels, or with different sizes of city councils, and replicate the SMI, and the study of inhibitors in other countries. Also, future work in the same field may test alternative control variables in the regression model, and more inhibitors to deepen the effects and observe if there are increases in the explanatory capacity of the model that we have implemented in this study. Despite we have triangulated our data with mixed-methods and different sources of data, future qualitative studies of technology barriers should also be expanded to provide more evidence about the role of social media and community managers in the transformation of their organizations. Furthermore, collaborative technologies applied in public administration contexts are a source of increasing change requiring further investigation.

Finally, this article offers direct implications for practitioners. Broadly, the study of inhibitors in digital government (and social media) institutionalization is essential in the public sector, since this knowledge contributes to decide what practices should be replaced and design the strategies to overcome the risks during technology adoption and implementation processes. In addition, public managers are very concerned with emerging trends in social media, including *fake news*, polarization, echo chambers, or filter bubbles. Public sector organizations need to handle these challenges via institutionalization of social media, aligning their organizational culture or the political strategy with this new set of networking tools. Also, investment of resources in key issues (people, training, evaluation, etc.) and governance of internal processes are crucial to leverage social media technologies in the public sector. In fact, the conclusions of this study may help to foresee some of these challenges and to foster the conversation about the future digital transformation of the public sector via social media.

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Appendix 1. Units of interviewees

Interview numbers (presented in the body of the text) and names/gender are not disclosed here to maintain the privacy of our informants. We had fully access to all members of social media management team. We completed interviews until saturation of information was completely guaranteed.

Interview X. Communications department.

Interview X. Citizens participation department.

Interview X. Communications department.

Interview X. Citizens participation department.

Interview X. Sports department.

Interview X. Culture department.

Interview X. Technology development department.

Interview X. Local employment and commerce department.

Appendix 2. Interview protocol and questions

Introduction

My name is X. I am a Professor of X at X. This interview is an important part of a national research project intended to understand how digital social media is being adopted by local governments (more than 50,000 inhabitants).

I would like to thank you again for accepting this interview. This research will greatly benefit from your experiences and opinions about the social media use and institutionalization process that your organization has managed.

You can be sure that I will keep all information confidential and nothing you say will be attributed to you personally without your permission. This research is subject to the ethics protocol followed by my University and the rest of participant universities of this project.

If this is OK for you, I will switch on the tape recorder. Recording the conversation is very important because it gives more accurate notes than I can take by hand. As I anticipated in my e-mail, the interview will last about 45 minutes.

Questions

- Let's take a few minutes to talk about you and your job. Please, can you give me a brief description of your job title and major responsibilities?
 - Name and formal role in your organization.
 - Formal education and professional background.
 - Present role in social media management/use in your organization.
- Now, I would like to turn your attention into city council social media profile.
 - How was it started?
 - How did it evolve?
 - Did you experience logistical problems?
- Please, could you talk to me about the mission and goals that you had with your city council social media profile?
- Please, could you describe the main features of the social media profiles and the main public services you deliver with them?
- Did the adoption process and use of social media foster by the city mayor? If so, how?

- Similarly, how did regulations (local, regional or national) shaped the social media adoption process?
- What are some of the most important policies governing social media profiles in your organization?
- Could you describe how social media profiles of your organization are managed? Who is leading the process, how are decisions taken, how are vendors used, and how do you evaluate and monitor impacts?
- Please, could you describe a normal day in your office in relation to social media management?
- What do you think are the most difficult challenges in managing social media profiles in your organization? Why?
- In your opinion, what are the most important benefits from having social media profiles in your organization? Why?
- Do you have any comments that you would like to add to this interview?
- Are there any reports or evaluations or other documents about social media (e.g. user guides) that you can share with me or that I can look for on the web?
- Is there anyone else you think I should be talking to?
- Should I contact he/she directly and mention that you recommended me do so?

Thank you very much for your valuable time.

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