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Tools of digital innovation in public affairs management: A practice-oriented analysis

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While the literature on digital transformation is growing in several fields, research on the effects of digital innovation in the practice of public affairs is still scattered and unsystematic, mostly focusing on interest groups' social media strategies. However, digital innovation has begun to change the practice of public affairs management in many areas, especially in the form of datafication, AI analytics, and cloud-based knowledge management platforms. Growing possibilities in the use of data science and evidence-informed strategic decision-making have arisen in domains traditionally shaped by intuitions and non-codified professional experience. Based on desk research of case studies and hands-on analyses of three increasingly popular public affairs management software platforms (FiscalNote, Quorum, KMIND), this article develops a practice-oriented analysis of various digital tools and functionalities available to public affairs practitioners today, tackling a gap in the literature on how digital innovation can impact the management of several activities along the different phases of a public affairs campaign (monitoring and analysis, strategy design, action, assessment). The article thus highlights how digital innovation goes way beyond the sheer use of social media in communication activities, impacting the practice of public affairs on a deeper and more strategic level.

KEYWORDS
artificial intelligence, augmented intelligence, data science, digital lobbying, digital public affairs, digital transformation, smart data

1 | INTRODUCTION

In the last couple of decades, digital innovation has changed everything, or almost. With increasing speed in the last few years, major technological changes have affected society, economic systems, political environments, and individual habits (Deseriis, 2021; Van Dijck et al., 2018; Van Dijk & Hacker, 2018; Zuboff, 2019). Whole industries have been or are being disrupted, and a vast process of digital transformation is affecting a high number of organizations and industries (De Paula et al., 2023; Verhoef et al., 2021), with many more changes likely to happen in the future, also by means of generative artificial intelligence (GenAI) applications (Dwivedi et al., 2023; World Economic Forum, 2023).

While the literature on digital transformation is growing in several fields, research on the effects of digital innovation in public affairs management is still scattered and almost exclusively focusing on interest groups' use of social media in their direct and indirect lobbying strategies (Brown, 2016; Chalmers & Shotton, 2016; Johansson & Scaramuzzino, 2019; Lovejoy & Saxton, 2012; Van der Graaf et al., 2016; Vesa et al., 2022), with a more limited number of contributions analyzing how technological developments might change interest groups' legitimization (Fraussen & Halpin, 2018) or

organizational capacities (Bailard, 2017; Halpin, 2014; Meli & Grefe, 2017; Vromen et al., 2022).

Yet, digital innovation is increasingly unfolding its effects on public affairs management in many areas, especially in the form of datafication, artificial intelligence (AI) analytics, and cloud-based knowledge management platforms. Companies such as Uber, Nestlé, 3M, Leonardo, Intesa San Paolo, or Coca-Cola, as well as advocacy organizations such as the Sierra Club, Susan G. Komen or International Justice Mission, have begun to use software platforms such as Fiscal Note, Quorum (both developed by the homonymous US companies based in Washington DC), and KMIND (developed by the Italian lobbying firm ADL Consulting), knowledge management platforms specifically designed to help public affairs managers in their daily activities.

Digital innovation seems thus to increasingly push public affairs managers to use data science and evidence-informed strategic decision-making in domains traditionally shaped by intuitions and non-codified professional experience. In other words, if public affairs can be portrayed as both an art and a science (De Bruycker, 2019), it seems reasonable to argue that an increasing and more sophisticated use of digital tools contributes to somehow moving the balance from the former category towards the latter.

Although the recent Covid pandemic led to increased attention to the issue of the digitalization of the lobbying profession (OECD, 2021), a gap in the literature remains on the overall impact of digital innovation on the daily management of public affairs.

This article aims to tackle this gap, by answering the following research question: How can current digital tools impact the different phases of a public affairs campaign?

The study was carried out based on available literature concerning public affairs management, on hands-on analyses of the three software platforms mentioned above, and on desk research of case studies, identifying potential and actual uses of various digital tools and functionalities available to practitioners in the management of their daily activities. In developing this research, all case studies proposed between January 2020 and April 2023 on the websites of the three platforms under consideration[1] have been reviewed and examined.

In their study on the various components of a public affairs plan, De Bruycker & McLoughlin identify a seven-step process, from situation and context analysis to impact assessment (De Bruycker & McLoughlin, 2021), while in their theorization of digital lobbying campaigns Carro and Di Mario identify six different stages, from monitoring to evaluation (Carro & Di Mario, 2021). For the scope of the present article, four clusters of activities have been identified, grouping some of the steps examined in this literature, as shown in Table 1. Such a choice has been made because the impact of digital tools on public affairs management unfolds quite similarly in some of these phases, so reasoning in terms of clusters of activities makes the analysis simpler and more practice-oriented.

[1]The case studies can be found at the following addresses: https://fiscalnote.com/resources?type=caseStudies&tag; https://www.quorum.us/case-studies/; https://www.adlconsulting.it/it/blog/articoli/.

It is important to immediately advance a fundamental caveat concerning our analysis of digital tools as means of innovation: digital innovation and technological tools in general may more or less facilitate processes of innovation, but the human component is in all cases the most relevant factor, beyond any technological solutionism or technology fallacy (Kane et al., 2022; Morozov, 2013). In discourses on the role of digital tools in public affairs practice (as well as in other fields), the common temptation to assign thaumaturgic capabilities to technology must therefore be resisted. Much more attention should be instead devoted to how technology allows professionals and organizations to augment their intelligence and reorganize processes that remain inherently human (Crawford, 2021; Hurwitz et al., 2020).

Another premise is necessary for the sake of lexical clarity: even if no clear boundaries to the concept can be found in the literature, the concept of digital innovation refers to the progress made in the general field of Information and Communication Technologies (ICTs), and particularly in areas such as big data and AI, data analytics, and cloud computing. On the other hand, public affairs and lobbying are conceptually interpreted in their widest sense, as their actual practice is in most cases substantially intertwined (Binderkrantz, 2005; McGrath et al., 2010).[2]

The article aims to contribute to the literature on public affairs and digital innovation, focusing on the impact of the latter on the former from a management perspective.

It is organized as follows: each of the next four sections focuses on different clusters of activities specifically referred to the phases of a public affairs campaign identified above: monitoring and analysis, strategy design, action, and assessment. In the conclusion, the essential elements of the analysis are summarized, and a research agenda for future studies on this topic is proposed.

2 | MONITORING THE ENVIRONMENT AND ANALYZING DATA

If a strategic function of public affairs is to enable organizations and groups to respond effectively to risks, opportunities or threats arising in the regulatory environment (McGrath et al., 2010), the key role of the monitoring and the analysis of the same environment is easily understandable. In fact, through such activities, threats, risks, and opportunities can be detected (even in their very early developments) or anticipated. After having mapped all the relevant players, their monitoring is crucial to "read" an organization's environment and to detect "early warnings" as they arise (Bradford, 2020), by closely looking at institutions and politicians (formal policymaking processes, parliamentary bills or drafts of government decisions, but also simple political

[2]On a conceptual level, lobbying is usually defined in terms of "activities aimed at influencing the political decisions made by policymakers" (Binderkrantz & Bitonti, 2022: 832), while public affairs would generally refer to "all corporate functions related to the management of an organization's reputation with external audiences—usually including lobbying or government relations, media relations, issues management and community relations" (McGrath et al., 2010: 337). Especially when it comes to indirect lobbying and communication strategies, on a practical plan the two fields look strictly intertwined then, with some even using the two labels interchangeably.

TABLE 1 Clusters of activities in public affairs management, and relationship with previous theorizations.

Seven-step public affairs plan (De Bruycker & McLoughlin, 2021)	Stages of digital lobbying campaigns (Carro & Di Mario, 2021)	Clusters of activities in public affairs management
1. Situation and context analysis	1. Monitoring	1. Monitoring and analysis
	2. Analysis	
2. Define objectives	3. Strategic evaluations	2. Strategy design
3. Build coalitions and alliances	4. Positioning	
4. Define key audiences		
5. Identify key messages		
6. Determine channels of communication	5. Action	3. Action
7. Impact assessment	6. Evaluation of results	4. Assessment

Source: Author's elaboration, based on De Bruycker and McLoughlin (2021) and Carro and Di Mario (2021).

statements), at the media (topics in the public agenda, specific issues or frames emerging, journalists' stances, etc.), at one's stakeholders, at allies and competitors, as well as at the various influencers in the field (experts, celebrities, etc.) (De Bruycker & McLoughlin, 2021).

Digital innovation impacts such activities in two basic regards:

1. Providing massive amounts of data on the environment (and on one's organization), as never before;
2. Providing better and more sophisticated analytical instruments to read and process these huge amounts of data.

The production and availability of massive amounts of data is a direct consequence of the progressive digitalization of the world, a process that is transferring most of our activities into the digital realm (a process that the Covid pandemic has accelerated and made most evident, but that has started long ago), with individual actions, communications and events (both human and non-human) leaving a large digital trace of data and big data (Cukier & Mayer-Schoenberger, 2013; Katsikopoulos & Canellas, 2022). This process of datafication provides the opportunity to achieve a better knowledge of the world, for governments, for researchers, but also for political, economic, and social players (Helles & Ørmen, 2020; Lazer et al., 2020; Leech, 2020; Lnenicka & Komarkova, 2019; Pentland, 2014). Specifically for the latter (organizations and interest groups in general), data such as open government data (textual or audio-visual digital documents, datasets, etc.) or data provided by legacy media (digital press, TV and radio broadcastings, etc.) and social media (posts, tweets, live broadcastings, connections and interactions between various actors evidenced through social network analyses; see Leech, 2020; Varone et al., 2017) represent a precious source of information on their environment (and on themselves), and on dynamics and trends developing around them, sometimes even allowing processes of "nowcasting" (that is, "predicting" the present in real-time; see OECD, 2019).

The second front of opportunity created here by digital innovation derives from various types of AI applications and advanced data analytics tools, which help professionals in three ways:

1. Automatically mining such datasets and sources, for example continuatively scanning institutional websites, press articles or social media accounts of policymakers and other relevant players (Gilardi et al., 2022);
2. Semi-automatically harvesting and highlighting the most relevant pieces of information on the basis of specific keywords and prompts, through algorithms sifting the "noise" and the vast quantity of irrelevant information—semi-automatically because, despite meaningful progress made for instance in the field of generative AI (Dwivedi et al., 2023), machines still need the supervision of a human to properly calibrate this type of operations (Aizenberg & Binderkrantz, 2021; Helles & Ørmen, 2020), for example when it comes to the categorization of specific stakeholders or policymakers, or when the width of domains, issues and relevant tags need to be determined, according to the principles of Formal Concept Analysis (Ganter et al., 2005);
3. Providing computational power to test hypotheses and insights, also identifying latent patterns or schemes that a human eye may very difficultly detect (for example specific relations among variables, such as co-occurrences and correlations) (Cukier & Mayer-Schoenberger, 2013; Domahidi et al., 2019; Helles & Ørmen, 2020).

This is how machines (software, not android robots!) support human professionals, allowing to achieve an augmented intelligence of data (Hurwitz et al., 2020). The huge difference here is represented by such augmented intelligence, not by data per se, as data without intelligence are worthless (Rowley, 2007).

Cloud-based public affairs software platforms provide good examples of how data collection and advanced analytics can be performed and look in practice.

For example, FiscalNote (https://fiscalnote.com) allows its users to search a constantly updated dataset of all the bills and acts of the US Federal Congress as well as of the 50 states legislatures, using keywords, filters, and sub-filters (such as legislative sessions, status of the bill, policy category or congressional sponsor) (Figure 1).

This tool can clearly help organizations to plan lobbying strategies, find related policy issues or bills, time public affairs efforts, focus on the right priorities, jump on bandwagons, and so forth.

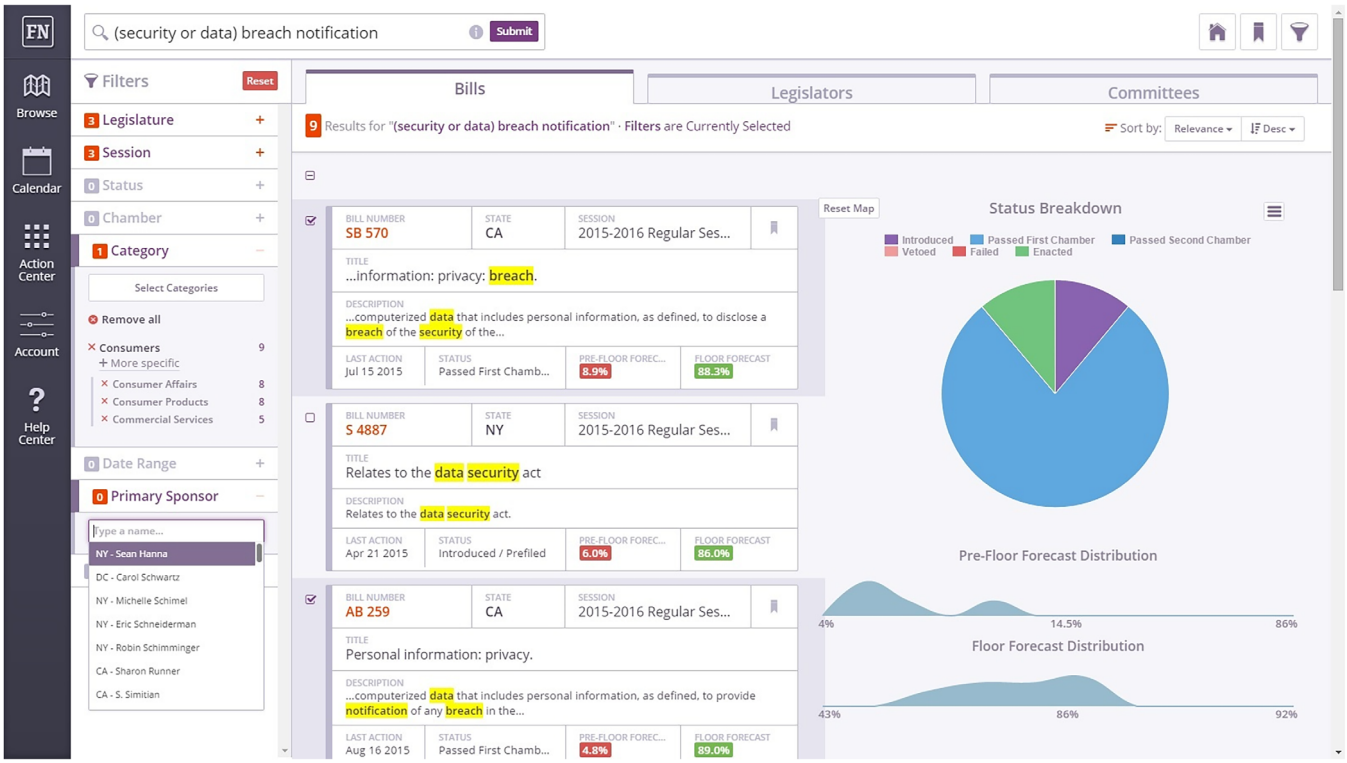

FIGURE 1 Searching the dataset of US bills in FiscalNote (*Source*: FiscalNote).

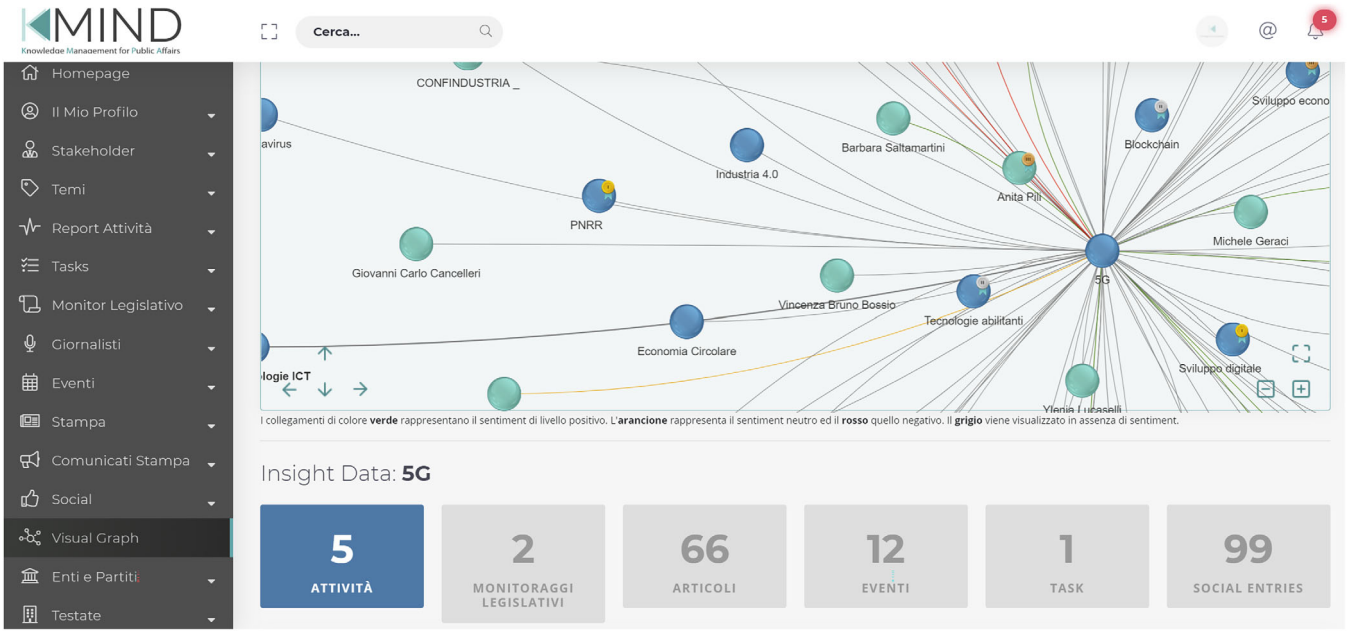

FIGURE 2 An example of a visual graph of social network analysis in KMIND (*Source*: ADL Consulting–KMIND).

Another example is provided by KMIND (www.kmind.it), which allows its users to perform social network analyses of the connections between various policymakers, or between policymakers and journalists, and between these players and specific issues, creating spectacular as well as intuitive visual graphs of these connections (Figure 2). An extremely useful tool when an organization needs to identify policy camps, legislative friends and foes, select its "champions" (policy sponsors) or testimonials, and so forth. (Carro et al., 2017).

AI algorithms can also "play" with these data formulating data-driven expectations (the red and green forecasting in Figure 1), a feature that may be somehow useful (to provide more concrete evidence or technical support for specific strategic decisions), but that is subject to several limitations (Domahidi et al., 2019; Katsikopoulos &

Canellas, 2022), starting with the epistemological problem of the fragility of past-based inductions and of necessarily imperfect or biased algorithms.[3]

Besides the automated or semi-automated functions of data harvesting and interpretation (or predictive reading) of information, public affairs software platforms may present other specific advantages over the means traditionally used by lobbyists in their monitoring and analysis activities. Indeed, a crucial advantage is the ability to organize and store information efficiently, with a flexibility that is incomparably higher than any previous analogic system, and that allows to recall the required information quickly and effectively (Meli & Grefe, 2017). Such a digital memory, aided by cloud computing and AI processes of organization and rationalization of information, is what allows us to conceptually turn big data into *smart data*, that is, *data easy to find and use* to produce valuable insights (George et al., 2014; Lacam & Salvetat, 2021).[4]

Furthermore, it is possible to use digital platforms to enable their users (for instance, the various members of a public affairs team) to share and cross-check specific information (for example concerning a policy process or a political event), integrating the available information coming from official sources (such as institutional websites) with first-hand information obtained by other means (individual networks, informal "live" chats with policymakers or colleagues, specific digital group-chats via instant messaging apps such as WhatsApp or Telegram, etc.), collecting everything in one digital space, typically located in a cloud accessible from any device (Carro & Di Mario, 2021; Meli & Grefe, 2017).

3 | DESIGNING STRATEGIES

The next logical (but not necessarily chronological) steps of a public affairs campaign turn around the design of an organization's strategy, conceived as the stage in which goals are set, coalitions and alliances are built, specific positions, frames and key audiences are defined, and actual campaigning strategies and tactics are planned (Carro & Di Mario, 2021; De Bruycker & McLoughlin, 2021). The same general idea of strategy is centered around the rational and lucid pursuit of a set of goals and objectives (Porter, 1980), that in the case of a public affairs campaign usually take the form of a policy achievement (be that change or status-quo maintenance), or the construction of a favorable environment around an organization (McGrath et al., 2010).

How does digital innovation impact the activities of this stage?

As seen in the previous section, digital innovation allows practitioners to take advantage of a better knowledge of the political environment and of a deeper intelligence of its dynamics (policymakers' orientations, public opinion attitudes, and the vast array of variables that play a role in policymaking). Both these aspects (better knowledge and deeper intelligence) are crucial when setting up goals and objectives, as they allow to better assess how realistic or feasible a particular goal might be in the given conditions (Carro et al., 2017).

It might be useful to recall here the notion of *evidence-informed decision-making*, considered exactly as the application of a scientific mindset to strategic choices (in public affairs as well as in other fields). The presumption is that enhancing the quality of the evidence (as permitted by digital innovation) leads to enhancing the quality of decisions. After all, as successfully put by the famous engineer W. Edwards Deming in an aphorism, "without data, you're just another person with an opinion". While "old-school" lobbyists typically relied on a limited amount of information (policy anticipations or political news coming from connections with policymakers/policy insiders, insights on public opinion orientations and preferences emerging from limited surveys or focus groups) and on subjective judgments (based on one's experience, perceptions or insights) to make their strategic decisions, "new-generation" digital lobbyists can add way larger amounts of information and intelligence to their arsenal, as described in the previous section.

Practitioners may thus use the insights of social network analyses to assemble the best coalition or to point to the right targets in a legislative assembly or the media, take advantage of predictive models of policymaking to assess the priority of specific issues in the public agenda, or simply refine any strategic choice with a more solid background of data and evidence (Carro & Di Mario, 2021; De Bruycker, 2019).

On a narrower level, digital innovation also helps in specific contexts of strategic choices. For instance, it enables better, easier, and cheaper ways to test a particular strategy for a grassroots campaign, when an organization's public affairs team might have to choose a specific frame, slogan, name for the campaign itself, channel of promotion, and so forth: for example, by simply using A/B tests in a newsletter (two slightly dissimilar versions of a message are sent to two segments of one's community, in order to digitally observe the different rates of interactions or responses), or recording the varying engagement of different messages posted on a social network, practitioners can experimentally test the public reaction to different contents on various channels practically in real-time (so that a few of such preliminary tests can help to design a more effective final campaign).

AI algorithms can help to run simulations and compare the outcomes of different strategic scenarios, using real data (for example all the votes recorded by all the members of a legislative assembly on all issues) to try to determine the likelihood of success of a specific policy proposal, formulated in a certain way or involving certain variables (for example specific characteristics of the electoral constituencies of the single members of a legislative assembly, even beyond political parties).

[3]To discuss this point would lead us astray from the aims of this article. Nonetheless, it is important to remark how this argument is crucial to understand the implicit limits of AI and the source of all the "troubles" that derive from trying to predict the future through an algorithm. For an epistemological critique of induction see Popper (1959); for an epistemological critique of algorithmic predictions see for example Helles and Ørmen (2020) or Crawford (2021).

[4]Even if the concept of smart data has been increasingly used in the last decade, a shared and specific definition in the literature is still missing. However, the "costly and complex transformation of data into useful knowledge" (Lacam & Salvetat, 2021: 3) and the "insights that the volume of data can reasonably provide" (George et al., 2014: 321) represent the main tenets of the concept.

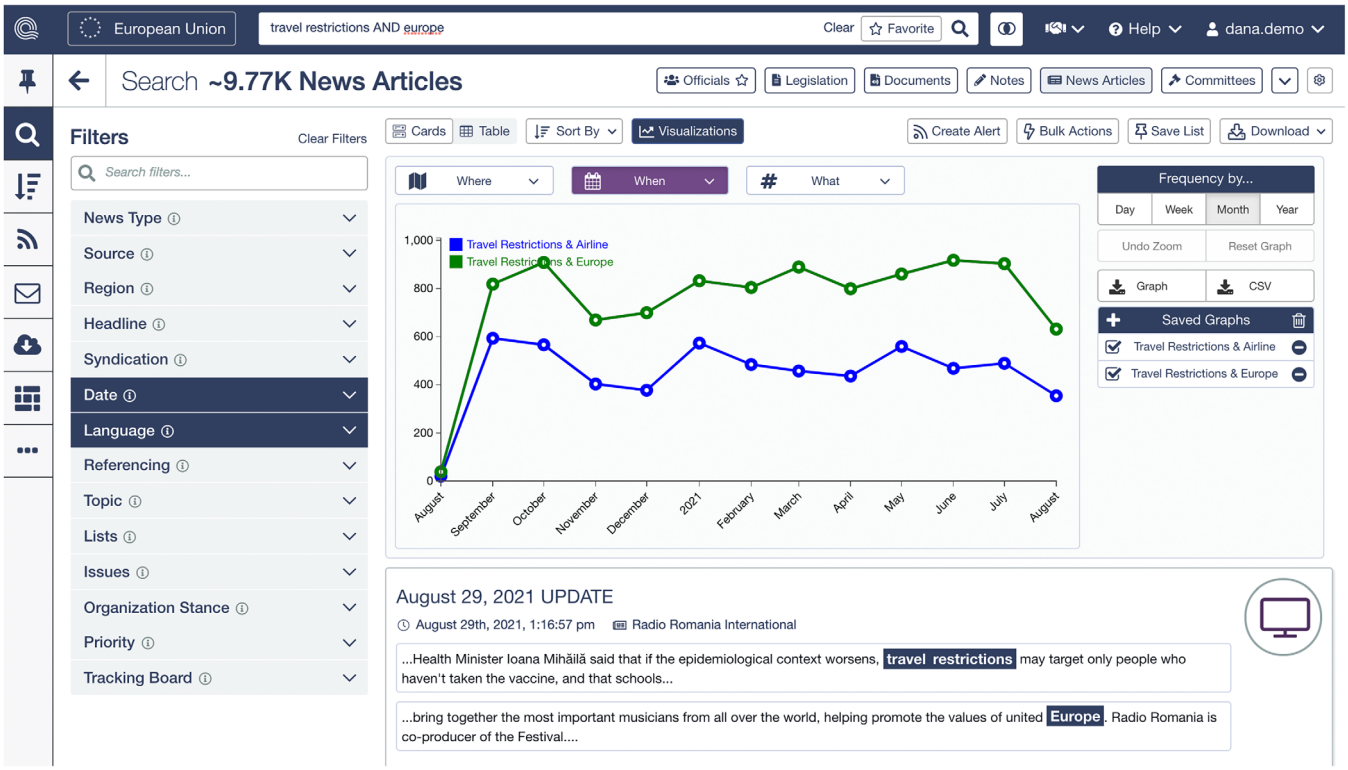

FIGURE 3 News articles trends visualization in Quorum (*Source*: Quorum).

Cloud-based software platforms present an additional advantage in this stage too: they allow to easily share information, scenarios, and strategic evaluations throughout the organization itself, facilitating the involvement of all the relevant players and even different departments (avoiding the "thinking-in-silos" problem that often affects especially very large organizations) or the different players in a coalition, technically enabling real organizational synergy and collaborative governance (Carro & Di Mario, 2021; Koebele, 2019; Masuda & Viswanathan, 2019; Shanks et al., 2018).

On another more practical front, GenAI applications such as OpenAI Chat-GPT, Google Bard, Dall-E, or Midjourney can help practitioners in the generation of specific campaign content, including texts, images, and videos, at least as drafts on which human professionals can work. Indeed, once again, strong structural limitations of these tools (even beyond any ethical concern) would push towards a cautious approach in their concrete use in an actual campaign (Crawford, 2021; Dwivedi et al., 2023).

Examples of some of the above-mentioned practices come again from the public affairs software platforms analyzed. For instance, Quorum (www.quorum.us) includes dashboards and visual graphs to monitor how often a certain issue appears in the media and thus how the public agenda changes in time (Figure 3), similarly to what Google Trends does when it comes to Google searches in specific countries and timeframes.

On the other hand, FiscalNote allows to easily visualize what type of position different sets of stakeholders express on a specific issue (Figure 4).

4 | PUBLIC AFFAIRS IN ACTION: THE ACTUAL CAMPAIGN

Once a strategy is designed, a campaign can enter the actual implementation stage. This is where, through direct and indirect lobbying, an organization targets policymakers or/and the larger public or other actors in order to reach a certain strategic goal (persuading institutional policymakers to adopt—or not to adopt—a specific decision, defending or establishing an organization's reputation, promoting a particular frame in the political discussion of a specific issue, etc.) (Binderkrantz & Bitonti, 2022; McGrath et al., 2010).

On the most obvious level, digital innovation affects the activities in this stage as it affects the general context in which these activities take place, with many events or interactions previously happening only in the "physical" world now very often taking place digitally and mostly online (sometimes in hybrid forms, for instance as physical events streaming online or recorded digitally), with a varying balance between the offline and online world also depending on external circumstances, for instance in times of pandemic (Deseriis, 2021; OECD, 2021; Van Dijk & Hacker, 2018).

While a typical direct interaction with a policymaker can continue to take place through private meetings, phone calls, or in the context of public hearings, conferences, on-site visits, and other formal and informal occasions, it can (and increasingly does) happen in many other digital forms, such as through instant messaging applications (privately) and social media (publicly) (Bailard, 2017; Johansson & Scaramuzzino, 2019; Van der Graaf et al., 2016).

FIGURE 4 Visual representation of policy positions in FiscalNote (*Source*: FiscalNote).

On a second less obvious level, there are multiple "new" opportunities that digital innovation and especially social media provide public affairs practitioners in their action, such as the possibility to:

- Micro-target particular messages or campaigns to specific groups or segments of the public, with a level of granularity that can be extremely higher in comparison to legacy media (Lavigne, 2021; Pentland, 2014);
- Track the "success" rate of a single message or a campaign in real-time, by observing whether a message has been received or "seen" (think of the ticks on WhatsApp), whether a mail or a newsletter has been read (at what time, from where, through what device, and whether some specific links have been clicked for example), or in what measure and by whom a post has been liked, retweeted or shared, and what type of engagement it has generated.

On a third more general level, digital innovation affects the practice of public affairs as it greatly lowers the cost—both in economic and organizational terms—of a range of lobbying tactics also used in the past, but that now are cheaper and comparatively easier to set up, such as for instance:

- The launch of a petition (facilitated by digital e-petitioning platforms or by the institutional possibility to use digital signatures to support public initiatives) (Vromen et al., 2022);
- The organization of grassroots (e)mail campaigns, which can easily take the form of "mail-bombing" or astroturfing (using pre-compiled email forms that allow to semi-automatically contact specific policymakers with pre-determined or adaptable contents) (Carro & Di Mario, 2021; Meli & Grefe, 2017).

Lower costs are also a meaningful variable when it comes to attending a particular event or organizing a meeting (easier through remote video-conferencing than in presence), so that larger audiences can be involved in an online streaming event, or that the importance of local offices of representation might somehow decrease (an assumption that makes sense, but that would need empirical research to be properly tested).

Finally, by means of public affairs digital platforms, working through cloud computing and with real-time updates, digital innovation provides practitioners with three quite useful possibilities in this stage:

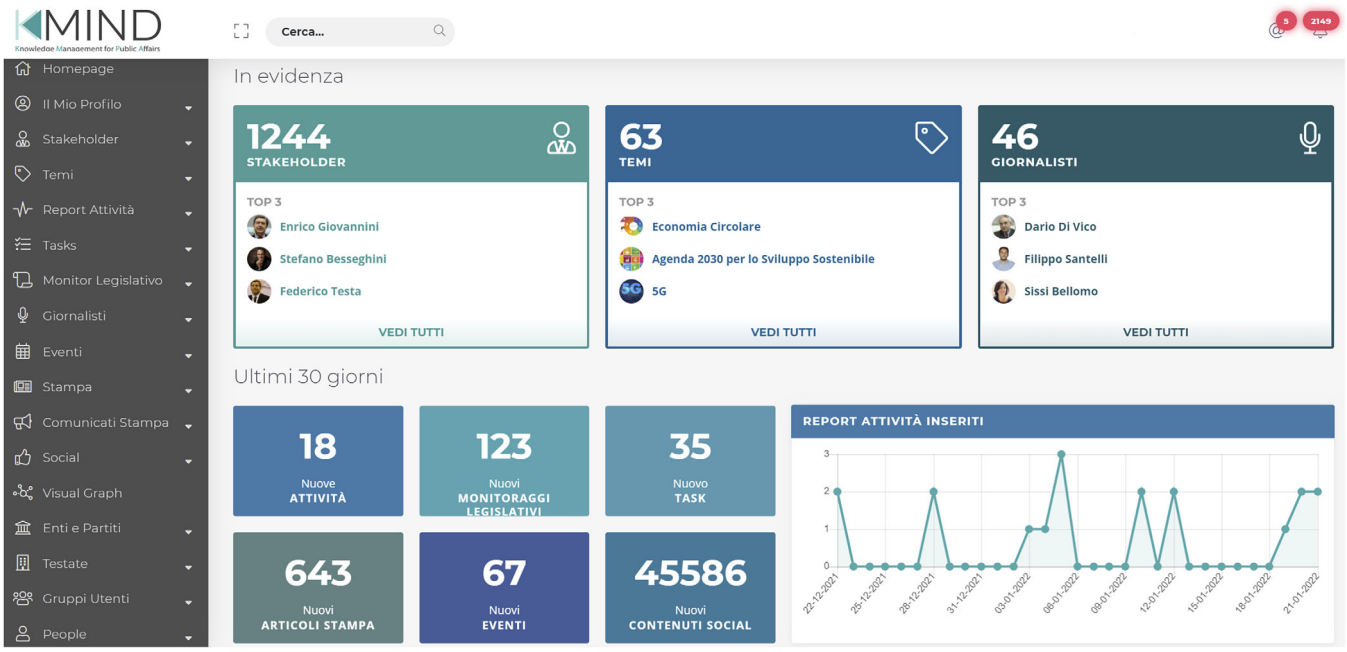

FIGURE 5 Dashboard of activities in KMIND, with most engaged stakeholders, most relevant issues, most influent journalists (*Source*: ADL Consulting–KMIND).

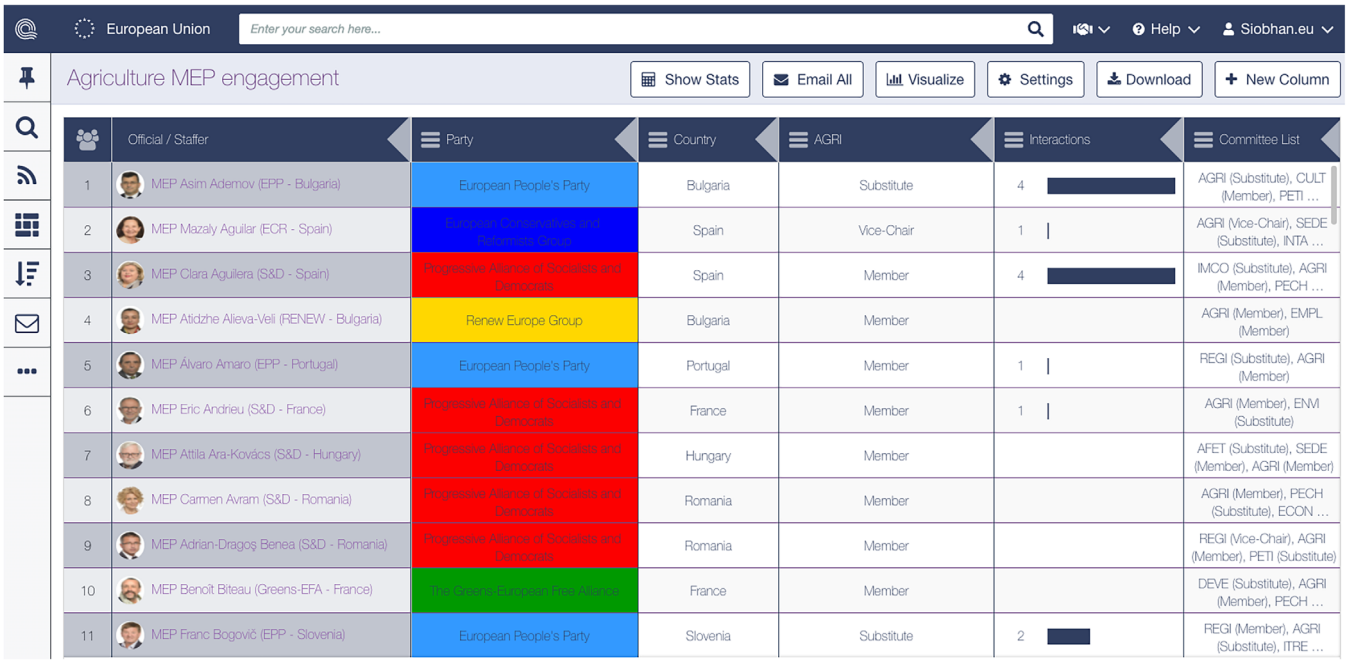

FIGURE 6 An overview of a group of policymakers with the relative interactions in Quorum (*Source*: Quorum).

1. Record and conveniently store information on meetings, topics tackled, reactions from interlocutors, impressions of emotional intelligence (Goleman, 1995; Salovey & Mayer, 1990) on the attitude of participants (with the single professional enabled to note down such information during or after a single meeting or interaction with a policymaker or some other actor) (see Figures 5 and 6 below).
2. Retrieve such specific data or information when they are required or convenient (for example recalling previous interactions or insights when meeting a policymaker, easily reconstructing the history of interactions between one's organization and that policymaker). Such a possibility can be further facilitated using mobile versions of the mentioned platforms, once again taking advantage of the smart data available therein (Lacam & Salvetat, 2021).

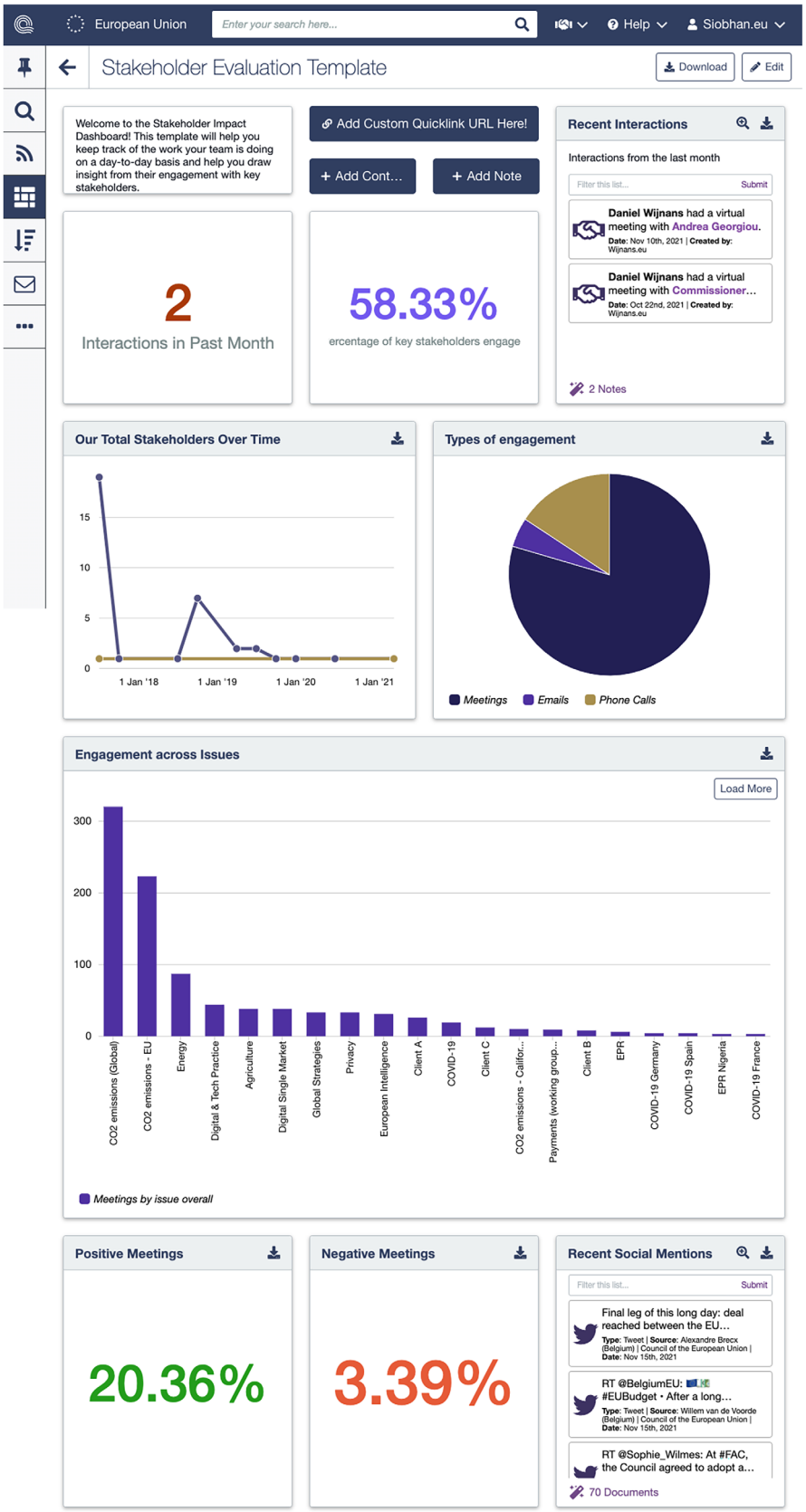

FIGURE 7 Dashboard of evaluation of the interactions with a stakeholder in Quorum (*Source*: Quorum).

3. Coordinate the activities of different players all belonging to the same organization in their interaction with policymakers. In fact, during this phase, coordination problems often arise in large organizations or large teams, with people from different departments ending up pursuing incoherent actions or even not able to know what others are doing, for example in

hectic situations with strict time limits (Carro & Di Mario, 2021).

Thus, digital innovation and public affairs digital platforms allow to preserve an organization's intangible relational capital (Russ, 2014), permitting not to disperse it even in the not infrequent case of a single member of the team leaving an organization, or being momentarily unavailable.

Figures 5 and 6 provide good examples of some of such functionalities.

5 | ASSESSING THE CAMPAIGN

To be able to track one's activities and the success rate of each action enables an organization to measure the effectiveness of such efforts, and consequently assess the overall performance of a team or organization in a single public affairs campaign or in general, even determining a precise return on investment (ROI) (Carro & Di Mario, 2021). In fact, as seen, digital innovation makes it possible to monitor, collect, store, and analyze a huge amount of data and information, concerning the environment, but also one's organization itself. Such data and information—for example the number and the quality of one's activities, the engagement produced, the positive or negative interactions with policymakers (see Figure 7 below), the degree of attainment of one's policy preferences or objectives, the status of an organization's reputation—are what makes the assessment of a public affairs campaign or an organization's performance possible and easier (De Bruycker & McLoughlin, 2021).

While for a long time a common argument in this field has concerned the intangible and unmeasurable character of the practice of public affairs (De Bruycker, 2019), digital innovation provides a framework (and secondarily the tools) to make this domain concretely measurable, even in intangible aspects such as someone's relational capital or the emotional intelligence of a meeting (how many meetings or interactions have been held, how many of them were positive or negative, how many players have been "turned" from negative to positive positions, etc.). In this fashion, within the general methods of process tracing, preference attainment, or perceived influence (De Bruycker & McLoughlin, 2021; Lowery, 2013), organizations have many more indicators to concretely assess their public affairs performances.

From a strategic point of view, being able to assess the results of one's strategy leads to the possibility to even re-orient such strategy and finetune it if necessary, not anymore on the basis of intuitions or impressions, but according to an evidence-based and data-oriented scientific mindset.

Finally, digital innovation contributes to facilitating accountability. In fact, both internal (within an organization) and external (for instance at the public level) accountability is enormously facilitated by the availability and structured management of information on meetings, interactions, topics discussed, documents produced, and so forth (Carro & Di Mario, 2021).

6 | CONCLUSION

The analysis developed in this article highlights how digital innovation can heavily impact public affairs management, in different ways.

Along the various phases of a public affairs campaign, digital innovation determines manifold changes in both the context and the technological repertoire available to practitioners, providing multiple opportunities to facilitate and assist public affairs managers, making their work more data-oriented, evidence-based, scientific (Carro & Di Mario, 2021; De Bruycker, 2019; De Bruycker & McLoughlin, 2021).

A wide array of digital tools allows to exploit the potential of datafication, AI, advanced analytics, cloud computing, and knowledge management, to help human professionals in the comprehension of their environment (providing an augmented intelligence in the monitoring and analysis phases), in the design of their strategies (making them more evidence-based and solid), in their concrete public affairs actions (supported by the affordances of cloud-based knowledge management platforms, allowing real-time coordinated action and organizational memory, among other advantages), and in the assessment of their performances (making them more measurable and accountable). That is why, beyond the popular hype on AI and the latest developments in GenAI applications, the idea of "augmented intelligence" may be more properly used in this field (Hurwitz et al., 2020), also to debunk the popular image of machines increasingly able to completely replace human professionals in their job (Dwivedi et al., 2023; World Economic Forum, 2023). While such replacement might partially concern mechanical activities such as parliamentary monitoring or press reviews, all the strategic aspects of analysis and decision-making are necessarily destined to steadily remain in the hands of humans.

A major contribution of digital innovation to public affairs management lies instead in its potential to systematically collect, organize, process, and store data and information, transforming single pieces of information and big data into smart data, easily retrievable and usable by teams and organizations to produce valuable insights for decision-making (George et al., 2014; Lacam & Salvetat, 2021). This allows public affairs managers to increasingly use data science and evidence-based strategic decision-making in domains traditionally shaped by intuitions and non-codified professional experience, moving the balance between the art and science of public affairs towards the latter.

Overall, as seen in all the previous sections, the disruptive character of digital innovation (and thus its potential for digital transformation) in the practice of public affairs can be partially reconsidered, as most of the activities analyzed here appear more in line with the categories of simpler digitization and digitalization of traditional elements of lobbying and public affairs, and less commonly associated with real digital transformations (Verhoef et al., 2021). Conversely, as highlighted by various studies, digital innovation can also result in the emergence of new groups (different from the previously existing ones), often mobilized only through and because of digital media (Deseriis, 2021; Fraussen & Halpin, 2018; Halpin, 2014; Vromen et al., 2022). While this study

has not taken this aspect into consideration, it has focused on analyzing how current digital tools (and most eminently software platforms such as FiscalNote, Quorum, or KMIND) practically impact the different phases of a public affairs campaign, illustrated along four clusters of activities in public affairs management: monitoring and analysis, strategy design, action, and assessment.

Further empirical research in this direction is certainly needed, and might concern the use of knowledge management platforms and digital tools by specific interest groups; the role of digital technologies in determining the success (or failure) of actual public affairs campaigns in single cases or comparative studies; the possible growth in interest representation biases considering that in most cases only the most resourceful groups can afford some of these tools; the methodological assessment of specific technological tools (such as machine learning algorithms performing sentiment analyses and predictive legislative analyses, or more ambitiously generating content or even providing advice in strategic decision-making) in actual policy cases, also compared with other more traditional tools (as it is done for instance by Aizenberg & Binderkrantz, 2021); the increasing role of data science and data scientists in the public affairs practice more in general.

Practitioners could invest in this direction as well, developing training and educational programs aimed at fostering the employment of digital tools and the innovation of public affairs management.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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REFERENCES

Aizenberg, E., & Binderkrantz, A. S. (2021). Computational approaches to mapping interest group representation: A test and discussion of different methods. *Interest Groups & Advocacy*, *10*(2), 181–192. https://doi.org/10.1057/s41309-021-00121-4

Bailard, C. S. (2017). Public affairs, digital media, and tech trends. In P. Harris & C. S. Fleisher (Eds.), *The SAGE handbook of international corporate and public affairs* (pp. 239–258). Sage.

Binderkrantz, A. S. (2005). Interest group strategies: Navigating between privileged access and strategies of pressure. *Political Studies*, *53*(4), 694–715. https://doi.org/10.1111/j.1467-9248.2005.00552.x

Binderkrantz, A. S., & Bitonti, A. (2022). Lobbying. In P. Harris, A. Bitonti, C. S. Fleisher, & A. S. Binderkrantz (Eds.), *The Palgrave encyclopedia of interest groups, lobbying and public affairs* (pp. 832–837). Springer.

Bradford, A. (2020). Intelligent technology scanning: Aims, content, and practice. *Foresight and STI Governance*, *14*(3), 15–29.

Brown, H. (2016). Does globalization drive interest group strategy? A cross-national study of outside lobbying and social media. *Journal of Public Affairs*, *16*(3), 294–302. https://doi.org/10.1002/pa.1590

Carro, M., & Di Mario, C. (2021). *Digital lobbying. Gestire strategicamente le relazioni istituzionali attraverso smart data e strumenti digitali*. Carocci.

Carro, M., Di Mario, C., Grimaldi, M., & Murgia, G. (2017). A public affairs platform for the analysis of the liberalization process in the Italian electricity market. *International Journal of Energy Economics and Policy*, *7*(5), 123–136.

Chalmers, A. W., & Shotton, P. A. (2016). Changing the face of advocacy? Explaining interest Organizations' use of social media strategies. *Political Communication*, *33*(3), 374–391. https://doi.org/10.1080/10584609.2015.1043477

Crawford, K. (2021). *Atlas of AI. Power, politics, and the planetary costs of artificial intelligence*. Yale University Press.

Cukier, K., & Mayer-Schoenberger, V. (2013). The rise of big data: How It's changing the way we think about the world. *Foreign Affairs*, *92*(3), 28–40.

De Bruycker, I. (2019). Lobbying: An art and a science—Five golden rules for an evidence-based lobbying strategy. *Journal of Public Affairs*, *19*(4), e1949. https://doi.org/10.1002/pa.1949

De Bruycker, I., & McLoughlin, A. (2021). The public affairs plan: Seven steps to success rooted in science and practice. *Journal of Public Affairs*, *21*(3), e2567. https://doi.org/10.1002/pa.2567

De Paula, D., Marx, C., Wolf, E., Dremel, C., Cormican, K., & Uebernickel, F. (2023). A managerial mental model to drive innovation in the context of digital transformation. *Industry and Innovation*, *30*(1), 42–66. https://doi.org/10.1080/13662716.2022.2072711

Deseriis, M. (2021). Rethinking the digital democratic affordance and its impact on political representation: Toward a new framework. *New Media & Society*, *23*(8), 2452–2473. https://doi.org/10.1177/1461444820929678

Domahidi, E., Yang, J., Niemann-Lenz, J., & Reinecke, L. (2019). Computational communication science | outlining the way ahead in computational communication science: An introduction to the IJoC special section on "computational methods for communication science: Toward a strategic roadmap". *International Journal of Communication*, *13*, 3876–3884.

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., & Wright, R. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, *71*, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Fraussen, B., & Halpin, D. (2018). How do interest groups legitimate their policy advocacy? Reconsidering linkage and internal democracy in times of digital disruption. *Public Administration*, *96*(1), 23–35. https://doi.org/10.1111/padm.12364

Ganter, B., Stumme, G., & Wille, R. (Eds.). (2005). *Formal concept analysis: Foundations and applications*. Springer.

George, G., Haas, M. R., & Pentland, A. (2014). Big Data and Management. *Academy of Management Journal*, *57*(2), 321–326. https://doi.org/10.5465/amj.2014.4002

Gilardi, F., Baumgartner, L., Dermont, C., Donnay, K., Gessler, T., Kubli, M., & Müller, S. (2022). Building research infrastructures to study digital technology and politics: Lessons from Switzerland. *Political Science & Politics*, *55*(2), 354–359. https://doi.org/10.1017/S1049096521000895

Goleman, D. (1995). *Emotional intelligence. Why it can matter more than IQ*. Bantam Books.

Halpin, D. (2014). *The Organization of Political Interest Groups: Designing advocacy*. Routledge.

Helles, R., & Ørmen, J. (2020). Big data and explanation: Reflections on the uses of big data in media and communication research. *European*

Journal of Communication, *35*(3), 290–300. https://doi.org/10.1177/0267323120922088

Hurwitz, J., Morris, H., Sidner, C., & Kirsch, D. (2020). *Augmented intelligence: The business power of human-machine collaboration*. CRC Press.

Johansson, H., & Scaramuzzino, G. (2019). The logics of digital advocacy: Between acts of political influence and presence. *New Media & Society*, *21*(7), 1528–1545. https://doi.org/10.1177/1461444818822488

Kane, G. C., Phillips, A. N., Copulsky, J. R., & Andrus, G. R. (2022). *The technology fallacy. How people are the real key to digital transformation*. The MIT Press.

Katsikopoulos, K. V., & Canellas, M. C. (2022). Decoding human behavior with big data? Critical, constructive input from the decision sciences. *AI Magazine*, *43*(1), 126–138. https://doi.org/10.1002/aaai.12034

Koebele, E. A. (2019). Integrating collaborative governance theory with the advocacy coalition framework. *Journal of Public Policy*, *39*(1), 35–64. https://doi.org/10.1017/S0143814X18000041

Lacam, J.-S., & Salvetat, D. (2021). Big data and smart data: Two interdependent and synergistic digital policies within a virtuous data exploitation loop. *The Journal of High Technology Management Research*, *32*(1), 100406. https://doi.org/10.1016/j.hitech.2021.100406

Lavigne, M. (2021). Strengthening ties: The influence of microtargeting on partisan attitudes and the vote. *Party Politics*, *27*(5), 965–976. https://doi.org/10.1177/1354068820918387

Lazer, D. M. J., Pentland, A., Watts, D. J., Aral, S., Athey, S., Contractor, N., & Wagner, C. (2020). Computational social science: Obstacles and opportunities. *Science*, *369*(6507), 1060–1062. https://doi.org/10.1126/science.aaz8170

Leech, B. L. (2020). Introduction to the special issue on data sources for interest group research. *Interest Groups & Advocacy*, *9*(3), 249–256. https://doi.org/10.1057/s41309-020-00103-y

Lnenicka, M., & Komarkova, J. (2019). Big and open linked data analytics ecosystem: Theoretical background and essential elements. *Government Information Quarterly*, *36*(1), 129–144. https://doi.org/10.1016/j.giq.2018.11.004

Lovejoy, K., & Saxton, G. D. (2012). Information, community, and action: How nonprofit organizations use social media. *Journal of Computer-Mediated Communication*, *17*(3), 337–353. https://doi.org/10.1111/j.1083-6101.2012.01576.x

Lowery, D. (2013). Lobbying influence: Meaning, measurement and missing. *Interest Groups & Advocacy*, *2*(1), 1–26. https://doi.org/10.1057/iga.2012.20

Masuda, Y., & Viswanathan, M. (2019). Enterprise architecture for global companies in a digital IT era. In *Adaptive integrated digital architecture framework (AIDAF)*. Springer.

McGrath, C., Moss, D., & Harris, P. (2010). The evolving discipline of public affairs. *Journal of Public Affairs*, *10*(4), 335–352. https://doi.org/10.1002/pa.369

Meli, A. D., & Grefe, E. A. (2017). Expanding the boundaries: Public affairs and its relationship with other key disciplines: Public affairs and information science/systems. In P. Harris & C. S. Fleisher (Eds.), *The SAGE handbook of international corporate and public affairs* (pp. 165–183). Sage.

Morozov, E. (2013). *To save everything, click here: The folly of technological solutionism*. PublicAffairs.

OECD. (2019). Using digital technologies to improve the design and enforcement of public policies.https://www.oecd-ilibrary.org/science-and-technology/using-digital-technologies-to-improve-the-design-and-enforcement-of-public-policies_99b9ba70-en.

OECD. (2021). Lobbying in the 21st century. Transparency, integrity and access. https://www.oecd-ilibrary.org/content/publication/c6d8eff8-en.

Pentland, A. (2014). *Social physics: How good ideas spread the lessons from a new science*. The Penguin Press.

Popper, K. R. (1959). *The logic of scientific discovery*. Hutchinson & Co.

Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. Free Press.

Rowley, J. (2007). The wisdom hierarchy: Representations of the DIKW hierarchy. *Journal of Information Science*, *33*(2), 163–180. https://doi.org/10.1177/0165551506070706

Russ, M. (Ed.). (2014). *Management, valuation, and risk for human capital and human assets: Building the foundation for a multi-disciplinary, multi-level theory*. Palgrave Macmillan.

Salovey, P., & Mayer, J. D. (1990). Emotional Intelligence. *Imagination, Cognition and Personality*, *9*(3), 185–211. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG

Shanks, G., Gloet, M., Asadi Someh, I., Frampton, K., & Tamm, T. (2018). Achieving benefits with enterprise architecture. *The Journal of Strategic Information Systems*, *27*(2), 139–156. https://doi.org/10.1016/j.jsis.2018.03.001

van der Graaf, A., Otjes, S., & Rasmussen, A. (2016). Weapon of the weak? The social media landscape of interest groups. *European Journal of Communication*, *31*(2), 120–135. https://doi.org/10.1177/0267323115612210

Van Dijck, J., Poell, T., & De Waal, M. (2018). *The platform society. Public values in a connective world*. Oxford University Press.

Van Dijk, J. A. G. M., & Hacker, K. L. (2018). *Internet and democracy in the network society*. Routledge.

Varone, F., Ingold, K., Jourdain, C., & Schneider, V. (2017). Studying policy advocacy through social network analysis. *European Political Science*, *16*(3), 322–336. https://doi.org/10.1057/eps.2016.16

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, *122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Vesa, J., Poutanen, P., Sund, R., & Vehka, M. (2022). An effective 'weapon' for the weak? Digital media and interest groups' media success. *Information, Communication & Society*, *25*(2), 258–277. https://doi.org/10.1080/1369118X.2020.1776369

Vromen, A., Halpin, D., & Vaughan, M. (2022). *Crowdsourced politics. The rise of Online Petitions & Micro-Donations*. Palgrave Macmillan.

World Economic Forum. (2023). The future of jobs report 2023. https://www.weforum.org/reports/the-future-of-jobs-report-2023/.

Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. Public Affairs.

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