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Combining social media affordances for organising collective action

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Abstract

Social media provide new opportunities for supporting the dynamics of collective action (CA), allowing for the mobilisation of people into debates and involving them in new forms of collective decision making. Although current studies focus on opportunities offered by social media for collective action, there is still a need to deepen the understanding of how social media support the organisation of CA and to study the effects of individual actions performed on social media in complex organisational settings. We here explore how social media are used to manage CA by the Italian political movement Movimento Cinque Stelle, using the concept of affordances as the conceptual framing. Based on the qualitative case analyses, our study contributes to the knowledge base by identifying a typology of nine affordances supporting CA and exploring how the combined actualisations of some affordances of the typology create antecedents of the fundamental processes of CA. On the basis of the study analysis, we suggest a model to describe how social media support CA through affordances, their combinations, and the creation of antecedents and then formulate implications for research and practice.

KEYWORDS

collective action, Movimento Cinque Stelle (the five star movement), organisational affordances, social media

1 | INTRODUCTION

Social media represent a heterogeneous group of digital technologies that allow members to create and edit content and link to content created by others (Kane, Johnson, & Majchrzak, 2014; Kaplan & Haenlein, 2010). These technologies offer several possibilities for mobilising people and sharing information (Bennett & Segerberg, 2012; Majchrzak, Faraj, Kane, & Azad, 2013; Zheng & Yu, 2016), which has been a topic of debate within recent research (Bennett & Segerberg, 2012; McLure Wasko, Faraj, & Teigland, 2004; Tim, Pan, Bahri, & Fauzi, 2017). Social media support collective action (CA), aggregating people in persistent communities that use digital platforms to communicate and coordinate actions to achieve a common objective (Shirky, 2008), bypassing geographical and temporal constraints (Fulk & DeSanctis, 1995; Preece, 2000; Treem & Leonardi, 2013). As a result, social media are utilised in various fields for various purposes, such as participation in political processes, management of common goals, and philanthropy or social transformation (Zheng & Yu, 2016).

Existing research has advanced our understanding of how social media facilitate mobilisation for CA (McAdam & Scott, 2005; Vaast & Levina, 2015; Vaast, Safadi, Lapointe, & Negoita, 2017) and how social media platforms influence the work of collectives (Majchrzak et al., 2013). Several studies identified affordances of social media that support information circulation, organisation, and decision making in CA settings, either within a formal organisation or self-organised by peers (Deng & Joshi, 2016; Karahanna, Xu, Xu, & Zhang, 2018; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011; Majchrzak et al., 2013; Seidel, Recker, & Vom Brocke, 2013; Stamati, Papadopoulos, & Anagnostopoulos, 2015). However, it is still not clear how social media support CA and how they work in combination to achieve CA outcomes. We address here the calls for more in-depth research on how social media inform collective engagement in several forms (Faraj, Jarvenpaa, & Majchrzak, 2011; Tim, Pan, Bahri, & Fauzi, 2018; Vaast et al., 2017), how social media influence the structuring of CA (Faraj et al., 2011; Winter, Berente, Howison, & Butler, 2014), and how individual actions performed through social media relate among them, influencing CA (Tim et al., 2018). Furthermore, our study responds to the call for the analysis of cases from various domains (Vaast & Levina, 2015) to include broader perspectives than only the knowledge-sharing process (Leonardi & Vaast, 2017) and to study more complex settings in which social media platforms are used (Vaast et al., 2017). Focusing on the research question: *How do social media support the organisation of CA*?, we examine possibilities for action through social media in relation to fundamental processes for organising CA and investigate the contributions made by different affordances of social media to CA processes. Because people participating in CA need to organise to pursue a communal goal through actions broader than their individual capabilities allow, we introduce the perspective of organisational affordances (Strong et al., 2014) to frame our analysis, exploring possibilities for action of digital platforms that support both individual and organisational outcomes.

These arguments are discussed based on our findings from the 5-year interpretive case study of the Italian Five Star Movement (Movimento Cinque Stelle, M5S). The M5S is an influential political movement with members elected as representatives in the Italian and European parliaments and with (almost) all decisions made online through social media. The M5S was created by groups of citizens who voluntarily formed collectives using social media to coordinate their actions. The M5S quickly turned from an unintentional and decentralised CA movement (Nan & Lu, 2014) into an influential political force that leverages endured CA (Braccini, Sæbø, & Federici, 2019; Federici, Braccini, & Sæbø, 2015).

Our work contributes in two main ways to the discussion on the role of social media for CA. First, we identify nine affordances of social media, contextualised within existing affordances in the literature. This deepens the understanding of potential for actions of social media by theorising two new affordances and providing a typology of social media affordances for CA. Second, we examine how organisational affordances work together, to define the concept of combined affordances and to identify four combinations that create "antecedents" of CA processes.

The next section includes a brief review of relevant literature before introducing the research design and empirical findings. In subsequent sections, we describe the case, present analyses of findings, and discuss contribution from our work and conclude with presenting implications for research and practice.

2 | RELATED LITERATURE

Our work is framed within literature that reports on studies of affordances of social media for CA. We applied organisational affordances as our conceptual framing to investigate how social media are used to support CA in real-life settings. Hence, the subsequent subsections introduce the concept of organisational affordances, present a review of existing literature in which affordances of social media for CA are examined, and finally, highlight current gaps in the literature on the study of how social media affordances support the processes of CA.

2.1 | Organisational affordances

The concept of *affordance* captures how objects, including digital technologies, provide possibilities for action to goal-oriented actors (Bernhard, Recker, & Burton-Jones, 2013; Majchrzak & Markus, 2012; Zheng & Yu, 2016). Affordances emerge from interactions between goal-oriented actors and the environment and are influenced by the properties of the actors and environment (Gibson, 1979; Markus & Silver, 2008; Thapa & Sein, 2018). Affordances acknowledge the materiality of the technology (Leonardi & Barley, 2010; Robey, Anderson, & Raymond, 2013) and consider the social and technical aspects intertwined (Volkoff & Strong, 2017).

Originating from the work of Gibson (1977, 1979), affordances were introduced into the field of science and technology to recognise how interaction between the materiality of objects and human action favours, shapes, enables, and constrains the use of digital artefacts (Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007). Affordances describe the interplay between humans and social or technical items and how this facilitates or constrains actions performed to achieve specific goals (Bygstad, Munkvold, & Volkoff, 2015). These possibilities for (or constraints to) action turn into actual actions when affordances are actualised by actors. The actualisation of affordances is influenced by social practices in relation to the experience, skills, and cultural understanding of the user (Zheng & Yu, 2016) and relate to the dynamic interaction between the actor and the artefact (Chemero, 2003).

The affordance perspective allows the investigation of how technologies are used by individuals and organisations to explore changes related to organisational processes and structures (Volkoff & Strong, 2017). Hence, affordances enable exploration not only of the actualisation of action possibilities by individuals to pursue individual goals but also of the coordinated actions of groups of individuals to pursue organisational goals (Strong et al., 2014). Organisational affordances allow possibilities of (or constraints to) actions that "are associated with achieving organizational-level immediate concrete outcomes in support of organizational level goals" (Strong et al., 2014, p. 74) and are shaped by the social, institutional, and historical environment in which they are positioned (van Dijk, Berends, Jelinek, Romme, & Weggeman, 2011). Adopting the organisational affordance perspective permits us to investigate how actors originate, perceive, and actualise affordances with the intention to support a superordinate organisational goal (Pozzi, Pigni, & Vitari, 2014).

The literature suggests that, in organisational settings, affordances work as systems (Deng & Joshi, 2016). Multiple actors actualise different affordances together to reach organisational goals (Strong et al., 2014). Gibson (1977) considers the action possibilities of objects as formed by one or more nested action possibilities. These action possibilities are perceived by the user as affordances in a sequential way due to either the structure of the object (Pentland, Recker, & Wyner, 2015; Strong et al., 2014) or the actual capability of the actor to perceive the second affordance only after having actualised the first one (Bernhard et al., 2013; Leidner, Gonzalez, & Koch, 2018; Pozzi et al., 2014). The nested nature of action possibilities gives rise to a web of affordances (Volkoff & Strong, 2013) and implies that, in complex organisational settings, researchers investigate how the individual actualisations of affordances relate to each other (Strong et al., 2014). The identification of the affordances to be actualised in some kind of relationship is often based on the observation of a sequence of actualisations of different affordances that unfold on a temporal perspective (Bernhard et al., 2013; Pozzi et al., 2014; Strong et al., 2014). Current research argues that the actualisation of organisational affordances involves a set of individual journeys within an organisational context (Strong et al., 2014), where contextual factors facilitate the perception of affordances by the user (Thapa & Sein, 2018).

2.2 | Affordances of social media

The concept of affordances is used to study social media, for instance to investigate the possibilities that such digital platforms offer to democratic and self-organised movements (Federici et al., 2015) or to study possibilities for action in collective movements aimed to achieve organisational goals (Zheng & Yu, 2016). Social media affordances are studied in relation to organisational phenomena, such as socialisation, knowledge sharing, power exercises, and change (Treem & Leonardi, 2013), and produce contradictory results, leading to both positive and negative consequences that organisations may not have intended (Majchrzak, Wagner, & Yates, 2013).

During our literature review, we revealed some social media affordances already conceptualised (see Table 4). Several of these focus on communication possibilities afforded by social media. Moreover, social media afford users the opportunities to *share content* targeted to other social media users (Karahanna et al., 2018) and to expand the dissemination of content produced by other users (while adding their own contribution) through the possibility of *meta-voicing* (Majchrzak et al., 2013). The content is shared directly, not through intermediaries, enabling users to *democratise information* (Tim et al., 2018), as the information shared by social media users are available to other users. Social media offer users the option of giving their content *visibility* (Treem & Leonardi, 2013), allowing other users to reach information through the *networks* among the contents or users (Majchrzak et al., 2013; Tim et al., 2018).

Social media platforms put people in contact with one another, offering the opportunity to build *relationships* between (Kietzmann et al., 2011), or form *associations* among, two or more users (Mettler & Winter, 2016; Treem & Leonardi, 2013; Vaast & Kaganer, 2013; Van Osch & Steinfield, 2016), including those established with *peers* or with *superiors* in an organisational hierarchy (Leidner et al., 2018). Such possibilities are also described as possibilities for *mass collaboration* (Zammuto et al., 2007), *collaborative ability* (Stamati et al., 2015), or *interactions* among different subjects that join together to cooperate (Chen, Xu, Cao, & Zhang, 2016; Stamati et al., 2015). The association possibilities offered by social media are among individuals, among individuals and content, and among individuals through content, thanks to the possibility of meta-voicing (Karahanna et al., 2018; Majchrzak et al., 2013; Van Osch & Streinfield, 2016).

Social media offer the possibility to individuals to be informed about topics of interest. On the one hand, users may profit from the possibility of *triggered attendance* in discussions online, remaining silent as long as the content shared is not of interest and becoming active when an alert is received from the platform when content of interest is shared (Majchrzak, Faraj, et al., 2013; Van Osch et al., 2016). On the other hand, social media also offer the possibility to stimulate participation of other users, by facilitating simple and effective processes for *enrolling participants* in online discussions (Zheng & Yu, 2016).

Social media allow users to bypass geographical boundaries, decoupling the actions of individuals from their geographical location. Such possibilities of action are described as *mobility* (Chatterjee, Sarker, & Siponen, 2017), *internet ubiquity* (Deng & Joshi, 2016), and *delocalisation* of work (Seidel et al., 2013). Finally, social media offer possibilities for coordinating the actions of individuals and transferring actions to specific individuals. Social media enable the *grouping* of individuals and *managing groups* of individuals (Baccarella, Wagner, Kietzmann, & McCarthy, 2018; Karahanna et al., 2018). Such action possibilities also afford forms of *emergent organising* (Tim et al., 2018), with social media users voluntarily taking and leaving roles to facilitate online discussions (Majchrzak et al., 2013) or *shifting work across roles* when they recognise that the actions to be performed need to be taken by someone in a role different than their own (Strong et al., 2014).

2.3 | Research gaps, implications, and theoretical justification for our study

Although several attempts have been made to explore how social media are used as digital platforms supporting CA (Leonardi & Vaast, 2017; Majchrzak et al., 2013; Vaast et al., 2017; Zheng & Yu, 2016), knowledge gaps still remain. CA engages people in an effort to pursue a collective good (Marwell & Oliver, 1993) that is out of reach for individual members alone (Flanagin, Stohl, & Bimber, 2016). Theoretically, people will cooperate if they find the common

objectives beneficial (Shirky, 2008). In practice, CA needs to be managed to achieve such aims and to avoid free riding (Olson, 2002). Notable knowledge gaps include the need to explore the role of social media in enabling CA (Thapa & Sein, 2018), to understand how technology assists groups in cultivating collective commitment and engagement (Tim et al., 2018), and on exploring the role of affordances for organisational knowledge processes within various contexts (Leonardi & Vaast, 2017). Furthermore, in their study on how affordances are clustered, Thapa and Sein (2018) argue that their findings hint about a dependency and hierarchy among affordances, providing another area of interest for further investigation.

Current research argues that a collective effort is necessary when affordances are actualised by several individuals to reach an overarching organisational goal (Strong et al., 2014; Tim et al., 2018) and when the collective effort will contribute to identifying a socialisation mechanism through which functional affordances of social media are actualised in CA processes (Zheng & Yu, 2016). However, there is need for more research to provide insights on which affordances are needed and how they should be combined to mobilise a CA towards a specific goal. Table 1 summarises these arguments, providing an overview of the reasons for introducing affordances in our study and the main research that needs to be addressed.

In our study, focusing on how social media support the organisation of CA, we target these gaps by exploring how social media affordances are actualised to support the three fundamental organisational CA processes identified in the literature (McAdam, McCarthy, & Zald, 1996):

TABLE 1 Key properties of organisational affordances and implications for our study

| Properties	Sources	Implications for our study
Reasons for introducing affordances		
Affordances represent the possibilities for actions associated with achieving an outcome, arising from the relationship between objects and goal-oriented actors	Gibson, 1977; Karahanna et al., 2018; Leonardi & Vaast, 2017; Markus & Silver, 2008; Strong et al., 2014; Thapa & Sein, 2018; Tim et al., 2018	The concept of affordances provides the opportunity to investigate technological objects and goals, and the relationships between them, to explore the role of social media in supporting CA
Organisational affordances focus on how individuals interpret affordances to achieve organisational goals and the coordinated actions to support them	Leonardi, 2013; Robey et al., 2013; Strong et al., 2014; Volkoff & Strong, 2013; Zammuto et al., 2007	Organisational affordances are introduced to identify organisational goals and structures, including key characteristics, such as organisational roles and rules, to address CA at the organisational level
Research that needs to be addressed		
Affordances should be investigated in a holistic manner, aiming to identify a consistent and comprehensive collection of affordances and their actualisations within a specific organisational context	Burton-Jones & Volkoff, 2017; Faraj et al., 2011; Karahanna et al., 2018; Strong et al., 2014; Volkoff & Strong, 2013; Winter et al., 2014	By identifying a typology of affordances within the research domain, our study will provide insights on which affordances are needed and how they should be combined to mobilise a CA towards a specific goal
The reach of an organisational goal often depends on how different affordances are actualised together	Burton-Jones & Volkoff, 2017; Leidner et al., 2018; Leonardi, 2013; Pentland et al., 2015; Robey et al., 2013; Strong et al., 2014; Thapa & Sein, 2018	Investigating the relationships among affordances allows the examination of how affordances interact and the exploration of the concept of combining organisational affordances

Abbreviation: CA, collective action.
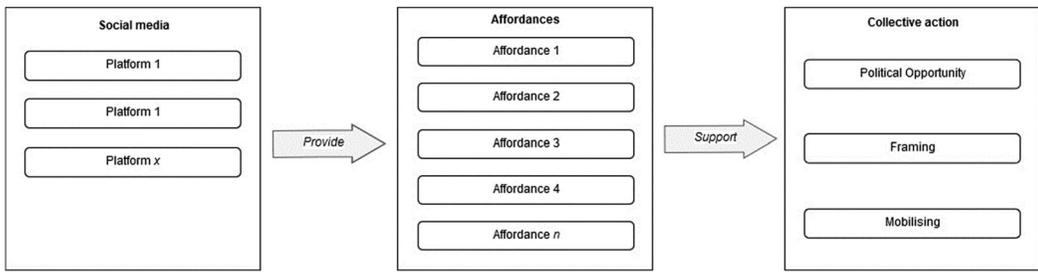
FIGURE 1 Theoretical framework justifying our study

- Mobilising: construction of resources that are critical for mobilising people for CA and the enrolment of other actors in CA to increase the capability of mobilising resources (Hargrave & Van de Ven, 2006; McAdam et al., 1996; McAdam & Scott, 2005);
- Framing: construction of shared meanings and building of a collective understanding of the purposes, phenomena, context, goals, and significance of the CA (Benford & Snow, 2000; Zheng & Yu, 2016);
- Political opportunity: challenging the contextual opportunities and constraints that the CA engages with to create new, or exploit already existing, opportunities (Hargrave & Van de Ven, 2006; McAdam et al., 1996; McAdam, Tarrow, & Tilly, 2001).

We encompass both single affordances offering possibilities for actions and the related organisational goals and the combination of affordances supporting specific CA processes (Leidner et al., 2018; Strong et al., 2014; Tim et al., 2018; Volkoff & Strong, 2013).

Figure 1 outlines our initial understanding of the relationship between social media and CA. The links between the social media platforms and the affordances emerge from the reasoning introduced previously, based on the argument that social media provide possibilities for action to goal-oriented actors. The second connection, supported by the position that affordances support CA, is based on the theoretical discourse on how affordances influence CA. The key concepts introduced in Figure 1 form the basis for our empirical analyses presented below.

3 | RESEARCH DESIGN

To explore how social media affordances support CA, we conducted a qualitative study on the M5S. M5S is an established political movement active in Italy for which followers, subscribers, and representatives perform most of their activities online through social media platforms.

3.1 | Data collection

In this study, we adopted a qualitative research strategy. Our analyses are based on the following data sources: interviews with M5S members, our field notes on the observations of social media platforms custom-designed by the M5S (the M5S Operating System and Parelon), data from different social media platforms (the official movement's website, Meetup pages, Facebook pages, and Twitter feeds, as well as the local groups' websites), and data from internal documents of the M5S (statutory, technical, and regulatory). The data were organised in a single research database for qualitative analysis using CAQDAS software. The data sources were triangulated to ensure validity, to

deepen the understanding of the research subject (Denzin, 2006; Walsham, 2006), and to reduce the risk of subjectivity in the empirical evidence (McKenna, Myers, & Newman, 2017).

The primary empirical data source is a set of 19 interviews with 18 key actors (see Table 2), conducted in two rounds. The individuals interviewed have different roles in the M5S, are active in different local groups, and include representatives elected in different institutions, at both the local and national level. Out of the 19 interviews, two were performed and transcribed in English, two were performed in Italian with a simultaneous transcription and translation in English, and the rest were performed in Italian and eventually translated into English. Two of the authors reviewed the interview transcriptions and translations, performing continuous comparison between the audio and the transcribed material. We collected approximately 13 hr of recorded material that, once transcribed, amounted to approximately 80,000 words.

We iteratively added new interviewees, provided they added new elements on the use of social media that had not been reported previously, and adjusted the semistructured interview track accordingly. Furthermore, we sought data validity by discussing the results of the analysis with M5S representatives and subscribers.

Two of the interviewed representatives guided us through the observation of the social media platforms customdesigned by the movement and accessible only to registered subscribers. Both during and after the observations, we compiled field notes describing technical features, possibilities for action, and actual use of these social media. For such platforms, the field notes were the only material analysed. In addition, we observed actions performed by several interviewees on personal social media profiles (Facebook and Twitter). Given the large size of data provided by the M5S members on social media channels, data were extracted using search features and the application programming interfaces API of Facebook and Twitter; moreover, our data emanated from a specific time period during which contents were sampled from each profile, specifically, a 1-month period comprising threads started between 2 weeks prior to and 2 weeks after the dates of the interviews. In total, the posts analysed amounted to approximately 35,000 words. Data were collected only from the profiles of those interviewees who agreed to having their profile contents analysed and only from profiles that were accessible to the public, which amounted to seven Facebook profiles and two Twitter accounts. Table 3 provides details on the social media profiles included in the analysis.

3.2 | Data analysis

The data were analysed following an interpretive approach, using the concept of affordance as a theoretical sensitising device, and following guidelines for qualitative validity and reliability (Corbin & Strauss, 2015; Klein & Myers, 1999; Locke, 2001). Through an iterative analytical approach, we identified emerging concepts and summarised the narratives with memos, descriptions, and tabular data, frequently going back and forth between the

TABLE 2 Distribution of interviews by role and group

Role	Group 1	Group 2	Municipal council	Regional council	National parliament	Total
Certified subscriber	1	3				4
National representatives					3	3
Regional representatives				5		5
Local representatives			1			1
Local group Twitter manager	1	1				2
Local group communication coordinator	1					1
Follower, non-member	2	1				3
Total	5	5	1	5	3	19

TABLE 3 Data from social media profiles (Rep = Representative)

Facebook										Twitter
Role	Entries	Comments	Events	Links	Notes	Photos	Replies	Status	Videos	Tweets
Rep 1	105	40	1	15		22		20	7	
Rep 2	51	20		5		7	2	12	5	
Rep 3	915	738	2	13		29	116		17	36
Rep 4	192	137	1	7		35		7	5	26
Rep 5	91	60		8		6	12		5	
Rep 6	67	17		27	2	8	2	3	8	
Total	1,421	1,012	4	75	2	107	132	42	47	62

analysis and the data. Our understanding of the phenomena gradually increased as the analysis progressed, allowing us to identify possibilities and constraints afforded by social media for CA. We compare the emerging conceptualisations of affordances with existing concepts from the literature to identify relational linkages between the emerging concepts and the literature. By the end of the activity, we had identified nine affordances.

With the nine identified affordances at hand, the corpus of the data was reanalysed to develop a deeper understanding of the outcomes of the actualisation process, guided by questioning what the social media enabled community members to do, what happened when members used a specific social media platform, and what limits were imposed by social media, as well as by seeking relational patterns among affordances and for groups of affordances actualised in a consistent way to achieve the same objective.

The combined actualisation of affordances emerged as a result of analysing the data with an eye towards determining what the users were aiming at when actualising affordances, combined with was happening in the M5S when the affordances were actualised. The identification of the combinations of affordances was made with reference to the conceptualisation of the fundamental processes of CA: framing, mobilising, and political opportunity (McAdam et al., 1996; McAdam & Scott, 2005). Combinations of affordances were retained only when the outcome produced contributed to CA
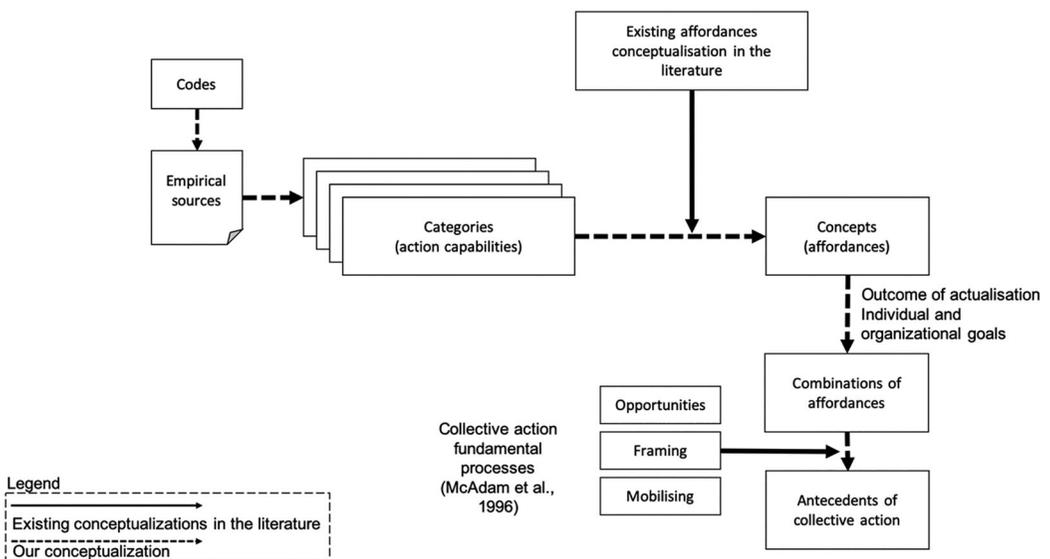

FIGURE 2 Process of analysis

processes. In the analysis, combinations of affordances that did not produce any outcome, or consistent outcomes across the different data sources and platforms, or even outcomes pertinent to CA processes, were discarded.

After having identified a set of combinations of affordances actualised together, we systematically reanalysed the data to identify the intended individual and organisational outcomes of the affordances being actualised in combination in reference to the conceptualisations of the fundamental CA processes. This step of the analysis was guided by questioning issues such as what the movement aimed to achieve with the combinations of affordances, why the specific affordances actualised together, what outcomes the combined affordances aimed to produce in the M5S, how those outcomes related to CA processes, and the objective of performing the actions on the different social media platforms. From this step in the analysis, four specific outcomes emerged, which were named "antecedents" of CA, because they created conditions for CA processes. Finally, the results of the analyses were integrated into a theoretical framework to explain how social media support the organisation of CA.

Our analysis process is visually summarised in Figure 2 and further described in the Appendix.

4 | CASE DESCRIPTION: INTRODUCING THE FIVE STAR MOVEMENT

The M5S is a political organisation founded in 2009 by the former comedian Beppe Grillo and the entrepreneur Gianroberto Casaleggio. Grillo, who was already well known in Italy for being critical of the political and financial establishments, initiated his personal blog in 2005 on which he discussed topics related to environmental issues and the Italian political agenda. His popularity and reputation grew rapidly, resulting in him being named the seventh most influential web personality in 2009 by *Forbes Magazine* (Ewalt, 2009). Grillo's followers began to organise and coordinate their activities in groups that subsequently became active at the political level in cities across Italy. Such activities were coordinated by a national association called "Friends of Beppe Grillo" and through the Meetup commercial social networking platform.[1]

Due to the rapid growth of interest, the M5S was officially launched as an online platform for engagement and consultation about politics, providing both a national hub for local groups of followers and online arenas for discussions, decision making, and organisation of face-to-face events. In their first run for election in 2013, the M5S was voted as the Italian Parliament's second largest party, gaining around 8,700,000 votes (corresponding to 25.56%).

The CA of the M5S is promoted by people who share the goal of directly appropriating political decision-making processes and wresting power from the hands of traditional political parties that they argue have become too distant from the citizens' true needs and not transparent in their actions. M5S members recognise themselves as part of a communal effort in which no member is more important than another (with the motto "one is worth one") and as different from the followers of other political parties in their greater commitment to engage in collective efforts (Ray, Kim, & Morris, 2014). All members of the M5S are eligible to apply their candidature to become representatives in Parliament or local councils. If chosen by other members through an online voting, they are expected to act as spokespersons, reporting into the institution the decisions made by the M5S subscribers.

To participate in the political processes and to access restricted areas, members must subscribe through a voluntary and cost-free online procedure (Federici et al., 2015). Staff members approve the subscriptions to grant access to applicants who satisfy the criteria of being an Italian citizen older than age 18, not presently subscribing to any other party, and have provided a personal photo and a scanned valid ID document. At the time data collection for this study had stopped, the M5S had about 100,000 certified subscribers and 700,000 potential subscribers awaiting approval of their subscription requests. The M5S organisation operates at the national level and at different local levels. Members subscribe directly to the national movement, but they are organised into local groups across Italy and abroad.

Within the M5S, both the way of operating and the social media used are differentiated between the national and the local levels. The national level provides a single contact platform: the M5S website that is closely related to the M5S blog and gives access to the national forum and the specific social media platform developed by the M5S. At the local level, several general-purpose social media are used, and each group is free to choose what to use

according to members' habits and competences: In some cases, these social media are hosted within a central level tool (like for the official blog); more frequently, they are autonomously managed by some member of the local group.

The M5S uses a mixture of general-purpose social media (e.g., Facebook, Twitter, blogs, and forums) and social media developed by the movement for specific purposes, such as candidate selection, deliberations, law proposals, and interactions.[2] Access is regulated by rules specifying roles, such as representatives, certified subscribers, and other participants (members not yet certified or followers). General-purpose social media are open to subscribers, nonsubscribers (followers), and applicants with a pending status. Access to self-developed social media is reserved for approved subscribers only.

At the central level, the use of social media focuses mainly on processes related to the national parliament and the whole movement. At the local level, social media focus on activities in municipalities and regional councils. Through such technologies and face-to-face meetings, the local groups promote various kinds of actions in their territories, such as choosing candidates for the elections or supporting elected M5S representatives in the local institutions. Each group may also decide to organise into separate subgroups to address specific tasks or themes.

Subscribers use social media for a variety of purposes: to inform and be informed, to bring attention to problems of interest to the movement, to cooperate, and to make decisions. Concerning the management of the movement, specific choices can make the information circulation and decision-making processes more fluid or structured. Information flows in an unpredictable way. The M5S fosters connections and links among individuals: People communicate to get information, to act and cooperate from distant positions with people they may not know personally, and to make decisions of political interest. Everybody interested, including subscribers and followers, may receive information and post comments on open channels, but only certified subscribers can participate in decision-making activities. Decision making takes place at national and local levels using different social media and following different rules, resulting in planned or unplanned activities.

The continued rapid growth of the movement requires adaptation of the organisation to support various activities. The M5S continuously changes and adapts to the needs of participants and the pressures of the external environment and is structured to allow citizens to become involved at the central and local government levels. The workflow is divided into different social media, while rules and technologies enable the profiling of members, thus qualifying them for specific roles. The processes that support collective decisions are designed to facilitate convergence, while maintaining a certain degree of fluidity: Members are encouraged to contribute to the building of law proposals by freely commenting on a forum-like feature, while polling and voting operate in systems that follow a rigid and structured process-like approach.

Actions within the M5S may be directly initiated by a member or by stimuli received from individuals or institutions outside the movement. Moreover, when needed, the M5S calls members to action through digital channels. The CA in the M5S may cross community boundaries in either direction, like when posts issued on open channels cause reactions by other forces' followers or when an M5S member comments on some other party's channel.

5 | ANALYSIS OF FINDINGS

The following two subsections present our analysis of the research findings. First, a description of the typology of the nine affordances identified (introduced in Table 4 and further detailed in Table 5) sheds light on the practices that sustain the actions, the emergence of collective outcomes generated through social media, and the influence of social media on structuring CA. Second, the antecedents of CA are described to inform an understanding of the connection of practices performed through social media and how this process influences CA (see Table 6).

5.1 | A typology of social media affordances for CA

Through our analyses, we identified nine affordances, representing a typology explaining how social media influence the practices and structuring of CA (see Table 4). These affordances are the result of a multistep coding

TABLE 4 Conceptualising affordances of social media for CA

Affordance		
Description	**Categories "Quotations"**	**Existing affordances of social media**
Adapting rules and processes		
Communities for CA dynamically adapt to their internal management and face both unplanned actions and planned processes. Strict rules for addressing critical activities (e.g., online voting) coexist with more flexible (or non-existent) rules for less critical activities, often at the local level.	Resilient organising to manage change: "We have two different ways of communicating: The intranet to get a lot of ideas from internal communication and the social networks for external communication, because this technology is really cheap." Evolving organisational structures: "We are using many tools just to create a direct democracy, a real direct democracy [...] we are testing many other tools."	
Making decisions collectively		
Voting and decision making are important and regular events afforded through forums or specific software. This allows members to contribute with comments and proposals throughout the decision-making process and influence the final decision through voting.	Simple decision making: "When a topic is going to be discussed, if it has not been already dealt with in the programme of the movement, a poll is made to decide what to do."	Collaborative ability (Stamati et al., 2015)
Circulating information		
Information is delivered via different platforms to members and non-members, who are encouraged to disseminate it. Actors may also provide and share new information.	Using different channels for informing: "If I prepare a proposal or a resolution, I always post it on Facebook and ask for contributions. If I receive a notice via email, I immediately post the message for the group to be informed of everything that is happening."	Network-informed associating (Majchrzak et al., 2013), Content sharing (Karahanna et al., 2018)
Crossing boundaries		
To strengthen the CA, communication and discussion cross the community's borders through various externally accessible social media or through the action of spokespersons in charge of communicating to the wider public.	Entering another community: "I posted a picture of a very crowded Grillo show, using their same hashtag [that of a rival party], and if you had searched through search engines for their hashtag, you would have found my post. So, I could interfere in their strategy."	
(De)structuring the community		
To improve effectiveness, CA communities can be divided into different groups and subgroups, usually	Fractioning the community:	Groups (Kietzmann et al., 2011), Group

TABLE 4 (Continued)

Affordance		
Description	**Categories "Quotations"**	**Existing affordances of social media**
addressing specific interests. Groups and subgroups may differ in terms of the tools and rules they adopt and have the autonomy to decide on such issues, whereas the whole community shares tools and rules for critical processes.	"Every municipality has its own sections, and every section has people talking and administrators managing posts [...] Each district has its own group on Facebook. Each group works in committees, so we have subgroups on specific topics."	management (Karahanna et al., 2018)
Ubiquitous acting		
The plurality of devices, services, and channels in use gives participants the opportunity to be part of the online activity without being constrained by time and space, regardless of the device used for connecting.	Managing ubiquity: "We work simultaneously on Meetup and Google drive; we have documents in both places." Acting from different places: "If I am at home, at the hills, in France, or in Japan, I do it [vote]: only a click and it is finished. It is stunning."	Delocalisation (Seidel et al., 2013), Internet ubiquity (Deng & Joshi, 2016), Mobility (Chatterjee et al., 2017)
Delimiting actions		
Members of the community are profiled to distribute tasks and vary roles and levels. Through a mix of rules and specific configuration tools (enforced by platforms in use), roles and tasks are assigned, influencing access to different tools within the community.	Authorisation for specific actions: "Non-certified users participate in meetings, cooperate, and access all the information, but when it is time to vote for a poll or a legal proposal, you must be a certified subscriber, and [to be such] you must show your ID."	Shifting work across roles (Strong et al., 2014), Generative role-taking (Majchrzak et al., 2013)
Connecting members		
Members and non-members can easily connect to each other, independently of their role and group, through tools that facilitate connection, thereby strengthening ties among participants.	Entering into contact: "When you see an M5S parliamentarian, you see a person with whom you can easily interact [...] and you have the technological instruments to do it." Reaching a person: "I contacted [parliamentarian 1] and [parliamentarian 2], and they let me have the internal report they wrote for the Senate in a confidential [personal and informal] way [...] and they have never met me in person."	Meta-voicing (Karahanna et al., 2018; Majchrzak et al., 2013; Van Osch et al., 2016), Mass collaboration (Zammuto et al., 2007), Associating/ Association (Mettler & Winter, 2016; Treem & Leonardi, 2013; Vaast & Kaganer, 2013; Van Osch et al., 2016), Interactivity (Chen et al., 2016; Stamati et al., 2015), Relationships (Kietzmann et al., 2011), Building relationships with peers (Leidner et al., 2018), Building

(Continues)

TABLE 4 (Continued)

Affordance		
Description	**Categories "Quotations"**	**Existing affordances of social media**
		relationships with superiors (Leidner et al., 2018)
Triggering actions		
Members can participate in activities to achieve an objective of common interest. Nevertheless, contributing is usually voluntary, and sometimes, members must be stimulated through calls to duty, which are activated with triggers.	Stimulating actions: "We distribute newsletters discussing the activities to conduct. And, we launch calls-to-action, we send requests to subscribers and citizens, to everybody who has left her address." Triggering: "The instant messaging tool helps a great deal [...] If there is an emergency, we can easily call everybody to action quickly."	Triggered attending (Majchrzak et al., 2013; Van Osch et al., 2016), Participant enrolling (Zheng & Yu, 2016)

Abbreviation: CA, collective action.

process fully documented in Appendix. We used classificatory codes (such as platforms, outcomes, rules, and roles) to analyse data incidents tracking the actions of individuals, groups, and movement across different platforms and to identify different individual and organisational goals. We then coded the data incidents with first-level codes (data codes categories) to identify actions and second-level codes (concepts) to group categories of actions that showed consistent patterns of possibilities for action, objectives, and outcomes. We eventually related our conceptualisations to similar conceptualisations available in the literature and samples of supporting coded empirical materials.

Whereas most of the nine affordances we identified have similarities to affordances reported in existing literature, two of them are novel to the best of our knowledge: *Adapting rules and processes* and *crossing boundaries*. Both are explained in the following paragraphs.

First, the flexibility in adapting rules and processes makes possible the CA of the movement's members and effectively responds to the need for establishing a governance framework for organising the CA (Hargrave & Van De Ven, 2006; O'Mahony & Ferraro, 2007; Olson, 2009; Ostrom, 2000; Shirky, 2008). That flexibility stems from the possibility of allowing the movement's members to work on more open and flexible social media platforms, where people may behave more freely, or to work on less open channels, where members are more constrained by rules and roles enforced and defined through the platform.

Second, social media enables participants to reach people outside the CA community through the affordance of crossing boundaries. Discussions around the concept of boundaries, in relation to social media (Leonardi, Huysman, & Steinfield, 2013; Leonardi & Vaast, 2017; Majchrzak et al., 2013; Nan & Lu, 2014; Zammuto et al., 2007), emphasise how communicating through social media allows participants to cross formal organisational boundaries (Leonardi et al., 2013; Leonardi & Vaast, 2017) and permits interactions with people outside the scope of the formal organisational hierarchy (Majchrzak et al., 2013; Zammuto et al., 2007). The social media do so, either through the possibility of circulating information through the ties of members who are connected to a group or through hashtags or direct messages that allow a group member to interject in a discussion of a different external group.

TABLE 5 Context and goals of affordances for CA

Affordance			
Technological objects	**Organisational structures**	**Individual goals**	**Organisational goals**
Adapting rules and processes			
Structured and unstructured technologies are adopted, including structured tools for complex decision making and social networking services or forums for simpler ones.	Roles: Members and non-members participating in the community's activities; members in charge of specific duties Rules: Specific rules for critical activities; flexible and weak rules for daily activities	• Facilitating daily action • Participating in the CA	• Managing emergent needs by dynamically adapting the way of acting • Focusing and making CA converge
Making decisions collectively			
Process-based decision-making tools with guided paths, tutorials, voting, and polling features; process-based decision-making tools with features to allow members to express their choices on specific problems; social networking tools and emails for simpler decisions.	Roles: Members in charge of starting the decision-making process; members allowed to participate in the decision-making process Rules: Standardisation; mutual adaptation; specific actions in the decision-making process assigned to specific roles	• Contributing to the CA • Being directly involved in decisions to be made	• Leveraging collective intelligence • Increasing the quality of decisions • Empowering community members
Circulating information			
Technologies for conveying information and for hosting, including blogs, social networking platforms, and microblogging platforms.	Roles: Members and non-members; members in charge of communication Rules: Netiquette; limiting information circulation capabilities to specific roles	• Being continuously informed of ongoing activities • Contributing to information sharing	• Allowing members to obtain and disseminate information • Informing the community about activities • Promoting information circulation and creation by members
Crossing boundaries			
Technologies for communication, including blogs, social networking platforms, microblogging platforms, mailing lists, and websites.	Roles: Any member; members in charge of communication Rules: None	• Reaching out to others • Entering other communities whenever needed • Disseminating individual and CA to a wider audience	• Reaching the wider public to promote interest in the CA • Diffusing information and nurturing the community's existence through potential attraction of new resources • Counterattacking other communities whenever needed

(Continues)

TABLE 5 (Continued)

Affordance			
Technological objects	**Organisational structures**	**Individual goals**	**Organisational goals**
(De)structuring the community			
Several different tools are used for the same purpose by different groups or subgroups.	Roles: Members as individuals or as part of community groups and subgroups Rules: Rules to regulate the adhesion to individual groups and their internal actions	• Choosing the preferred tool among the many available tools • Choosing the most appropriate level and the subgroup everyone is most interested in	• Coordinating the many groups while upholding their independence • Reducing internal community tensions • Managing common resources and values to collate the different components of the community
Ubiquitous acting			
Internet-based technologies.	Roles: Members Rules: None	• Participating in the community's activities, regardless of separation in time and space • Saving time and avoiding displacement	• Simplifying members' access • Simplifying extension to the community • Increasing the number of active members
Delimiting actions			
Technologies for communication, such as social networking platforms, microblogging platforms, and mailing lists.	Roles: Members and non-members; members in charge of specific duties Rules: Restricted action to specific roles; profiles embedded in some tools	• Achieving a recognised status within the community to be granted full access • Contributing to CA when in charge	• Varying the level of access based on membership levels • Distributing tasks and responsibilities based on willingness and competence
Connecting members			
Technologies for cross-individual communication, including social networking platforms, microblogging platforms, instant messaging tools, and email.	Roles: Members and non-members; members in charge of specific duties Rules: Netiquette	• Building a network of contacts • Accessing information directly through the network of contacts	• Facilitating the establishment of direct relationships for circulating information • Providing continuous feedback • Reinforcing internal ties
Triggering actions			
Technologies for communication, such as social networking platforms, microblogging platforms, and instant messaging tools.	Roles: Members who are entitled to participate in specific actions; members in charge of pulling the trigger and initiating calls to action; members in charge of communicating necessary actions Rules: Potential temporal limits for performing	• Being continuously in touch with current processes, without the need to access several tools to check what is going on • Being informed of what is going on and on actions to be taken in a timely manner	• Making CA easier for members • Keeping members continuously in touch with ongoing processes • Possibly increasing the number of members taking part in each process

(Continues)

TABLE 5 (Continued)

Affordance			
Technological objects	**Organisational structures**	**Individual goals**	**Organisational goals**
	actions; freedom of members to ignore the call to action		

Abbreviation: CA, collective action.

TABLE 6 Antecedents of CA

Antecedents	Descriptions	Combined affordances	Supporting CA factors
(Re)creating frames	The continuous creation and recreation of shared frames to orient members' actions and to address changes taking place in the community and its surrounding environment	• Adapting rules and processes • Making decisions collectively • Circulating information	• Political opportunities process • Framing process
Communicational ambidexterity	Circulation of information both internally and outside of the community to inform members of the activities of the community, to promote the community outside its boundaries, and to stimulate new memberships	• Circulating information • Crossing boundaries • (De)structuring the community	• Framing process • Mobilising structure process
Managing resilience	Sustaining endured CA, regardless of sporadic changes in members, roles, resources, rules, and the boundaries of the community	• (De)structuring the community • Ubiquitous acting • Delimiting actions	• Mobilising structure process
Championing participation	Facilitating CA by guiding and supporting the actions of individual members, showing them how, what, and when to contribute	• Circulating information • Delimiting actions • Connecting members • Triggering actions	• Mobilising structure process

Abbreviation: CA, collective action.

Inspired by Strong et al. (2014), we further detail (Table 5) the context of each affordance with regard to the technological objects involved, organisational structures (in terms of who can actualise the affordance and rules governing its actualisation), and the related potential individual and organisational goals.

5.2 | Antecedents of CA

The typology of affordances presented in Table 5 describes the possibilities for action offered by social media platforms that are necessary to support CA processes. However, these affordances are, by themselves, not enough to explain how social media support the specific CA processes. In our analysis, some groups of affordances were found to be actualised in combination. The coexisting working of the affordances was revealed through the identification of the process by which a combination of affordances emerged as a systemic habit of the community members.

Four such combined actualisations, creating preconditions for CA processes, were identified and termed antecedents because they favour the achievement of the three main processes for CA introduced previously (mobilising,

TABLE 7 Samples from data incidents on combinations of affordances

Affordances	Summary of data incident	Outcome	Antecedent ↓ process
Adapting rules and processes; making decisions collectively; circulating information	M5S reps announce people will choose the candidate for the presidential elections The platform for voting is configured to accept votes only within a specific timeslot and from members whose subscription dates back to at least a certain date Registered subscribers vote	The M5S supports the most voted for name in the parliament The M5S reps challenge the other parties on the claim that M5S is more democratic than them	(Re)creating frames ↓ Political opportunities process
	Grillo announces a vote for the new M5S political leader Rules for online voting and putting the candidacy are set up on the platform Information is circulated for how to put the candidacy and how to vote Registered subscribers vote	The M5S has a political leader when it had none before The new political leader is recognised as such by reps and subscribers in social media channels and outside	(Re)creating frames ↓ Framing process
Circulating information; crossing boundaries; (de)structuring the community	A local representative informs that an M5S promoted bill to reduce the wage to (all) regional councillors was rejected by other parties The discussion is moved outside the local group by cross-posting over a different platform, making it a national matter of discussion The M5S circulates information on the lack of focus on the reduction of expenditures of politics	In a country with a large public debt, the M5S is the only party that cares about reducing costs for politics Politicians from all other parties are told to be there just to get taxpayers' money	Communicational ambidexterity ↓ Framing process
	In a large city, M5S certified subscribers and followers are divided into different local groups One group communicates to the others the need to appoint people for a specific role for an upcoming live event Information is disseminated across the groups to find such a person	A suitable candidate is found and appointed to the duty for the live event	Communicational ambidexterity ↓ Mobilising structure process
(De)structuring the community; Ubiquitous acting; Delimiting actions	A local group would like to discuss law proposals but has no support from M5S staff A representative identifies a wiki area for the purpose Access to the area is restricted only to subscribers of the local group Subscribers can work in the area through the Internet	The local group is resilient to the lack of resources provided by the M5S The M5S is resilient to potential failures happening within this local area	Managing resilience ↓ Mobilising structure process

(Continues)

TABLE 7 (Continued)

Affordances	Summary of data incident	Outcome	Antecedent ↓ process
Circulating information; delimiting actions; connecting members; triggering actions	A representative welcomes new people by informing them on what to do to contribute to CA activities The representative is entitled to perform the action on the profile through users' right management feature of the platform The representative asks the users to perform specific actions on the representative's social media profile to contribute to information dissemination of the M5S	The new followers are now new information dissemination agents who will circulate contents from the social media channels of the M5S on their private network of contacts	Championing participation ↓ Mobilising structure process

framing, and political opportunity). These antecedents and the related affordances actualised in combination are summarised in Table 6.

Table 7 reports sample data incidents of the identified combinations of affordances actualised in combination to show how these combinations happen and how they relate to an antecedent to CA processes (further methodological considerations are in the Appendix).

5.2.1 | (Re)creating frames

Framing is the development of common meanings for the phenomena faced by people engaged in CA. The creation of these common meanings involves the interaction of the community's members; hence, frames are socialised (Benford & Snow, 2000; McAdam et al., 2001; Zheng & Yu, 2016). Frames are continuously negotiated among community members and emerge as syntheses of the different views that form the baseline for further discussion, which continuously challenge existing frames (Hargrave & Van de Ven, 2006). The circulation of information is central to this framing process.

In our analysis, we found that the affordances of adapting rules, making decisions collectively, and circulating information are actualised to support the process of creation, communication, and negotiation of frames. The (re)creation of frames needs both stability and dynamicity as well as methods for synthesising the different stances to reach agreement. The capability of social media to adapt flexibly supports the creation and recreation of frames by enforcing rules on community members and assigning them to specific profiles, with specific sets of action possibilities (e.g., communication managers, administrators, and members) and, at the same time, by dynamically adapting and changing those rules and roles when necessary. Social media platforms enforce rules and allow them to be set and communicated through the same platform, and people will respect them and behave accordingly (Majchrzak et al., 2013). This is useful for targeting the framing creation process only to people who are really interested, such as a subgroup of people in a town discussing a local issue not relevant for the larger territory, and for restricting access by opponents who might infiltrate the CA process of frames creation on public social and open media platforms.

At the same time, social media offer collective decision-making possibilities that allow each individual to contribute to the emerging frame following the agreed-upon rules, supporting the process of continuous creation of frames. (Re)creating frames is an antecedent of the framing process and facilitates political opportunity processes. The same action possibilities that support the recreation of frames also support the creation of new political opportunities, when new frames challenge existing ones in the political debate, creating opportunities for challenging other political subjects (Benford & Snow, 2000; Zheng & Yu, 2016).

5.2.2 | Communicational ambidexterity

Communicational ambidexterity is the capability of circulating information both within and outside the boundaries of a group of people. In our empirical setting, we frequently found communication flows that spanned across different subgroups within the social media or which targeted social media channels external to the M5S. The ambidexterity of social media has been explored in formal organisational settings (Huang, Baptista, & Newell, 2015). When social media are introduced in formal organisations, individuals participate both as members of the organisation and as members of their own private network of contacts. Hence, two dimensions, an organisational network and a personal one, coexist (Leonardi et al., 2013; Zammuto et al., 2007). Our findings suggest that such communicational ambidexterity is purposefully used to go beyond internal boundaries (if the social media channels are organised into subcommunities) and external boundaries, to support both the framing and the mobilising processes of CA.

Communicational ambidexterity is an antecedent of the framing process, as it supports the sense-making processes through which community members create shared meanings of the events they face, by offering the possibility of spreading the frames across internal subcommunity boundaries or external boundaries. Communicational ambidexterity is also an antecedent of the mobilisation process, as it supports the pooling of resources needed for specific goals, by targeting communication flows to people in subgroups of a community or even external to it, which is instrumental in engaging people in CA.

5.2.3 | Managing resilience

Our findings resonate with current findings on how social media increase the dynamicity within a community engaged in CA, allowing resources, boundaries, norms, participants, and artefacts to come and go (Faraj et al., 2011; Law & Singleton, 2005). However, our analyses further suggest that social media offer possibilities for action specifically supporting resilience in such dynamicity.

The managing resilience antecedent is the result of (de)structuring, ubiquitous acting, and delimiting actions combined. These possibilities for action allow resilient management of the community, because they untie the physical presence in specific locations from the possibility of people contributing to the CA. They also permit different subgroups, with profoundly different resources and norms, to coexist within the same community (Federici et al., 2015) and provide some limitations on the freedom of the members to retain some form of control over potentially disruptive behaviours. Our empirical setting shows examples of local experimentation, such as a local wiki, a voting system, or a local law proposal platform, which can succeed or fail without impacting the overarching CA community, making it resilient to local changes and modifications.

The resilience allowed by the combination of the (de)structuring, ubiquitous acting, and delimiting actions affordances actualisation supports the mobilisation of resources within a community for CA. Whenever new members would like to contribute to the CA, they are welcome to form subgroups and to act, enforced by social media and restricted by the limits imposed over them, without conflicting with the activities of other groups. This increases the relevance of the CA and enriches the amount of resources available for the community.

5.2.4 | Championing participation

The success of CA strongly depends on participants' contributions and their individual motivation levels (Faraj et al., 2011; Hemetsberger & Reinhardt, 2009; Majchrzak et al., 2013; Schroer & Hertel, 2009) and on a set of emergent actions by different actors (Crowston & Scozzi, 2002). However, the literature also suggests that motivation alone cannot fully explain why actions take place in a climate of voluntary participation and self-organisation (Nan & Lu, 2014). Our findings suggest that the participation of individuals is championed through the possibilities for action

through social media capabilities for information circulation, delimiting actions, connecting members, and triggering actions. New, or even existing, subscribers joining the community are instructed on how to perform actions to contribute to the CA. Subscribers are also instructed on what to do when there are specific actions to be taken or goals to be achieved.

Such championing capability leverages the information circulation possibility of social media and the active possibility of triggering stimuli for members to participate. Stimuli are sent only by those who are entitled to do so, and they flow with information dissemination and travel through the connections among individuals and are disseminated by the social media platform.

The championing capability implies that CA is proactively stimulated by the community. The championing of participation is an antecedent of the mobilising structure because it stimulates organised action that supports the mobilisation of resources in CA communities.

6 | DISCUSSION

In this study, we explored the research question "How do social media support the organisation of CA?" A summary of our main research contributions is introduced in Table 8.

6.1 | The role of social media in organising for CA

One contribution of our work is the identification of the typology of organisational affordances for CA, including two new affordances not previously identified in the literature—adapting rules and processes and crossing boundaries—addressing the need to explore the role of CA (Thapa & Sein, 2018) in cultivating collective commitment and engagement (Tim et al., 2018) and the role of affordances for organisational knowledge processes within various contexts (Leonardi & Vaast, 2017). Hence, we address the need for a more holistic understanding of the role of social media in sustaining the actions of and achieving CA (Tim et al., 2018) and of how social media support the organisation of CA (Faraj et al., 2011; Winter et al., 2014). The identification of the typology contributes to the need for uncovering consistent overviews of affordances (Treem & Leonardi, 2013) and to map them according to the goals they satisfy (Karahanna et al., 2018), providing further insights on connection between individual affordances (Thapa & Sein, 2018).

Reflecting on our understanding of the affordances in light of our theoretical background (see Figure 1), we explain, as a second contribution, how the actualisation of social media affordances supports organisation of CA (see Figure 3). The proposed theoretical framework contributes to a better explanation of how social media affordances

TABLE 8 Main research contributions

Research question	Level of contribution	Research need addressed	Research contributions
How do social media support the organisation of CA?	Social media affordances for CA	Understanding the affordances that sustain the actions generated through social media and how that influences the organisation for CA	A typology of affordances for CA A theoretical framework to explain the role of social media for CA
	Organisational affordances	Examining how affordances interact in combination and the consequences of combined organisational affordances	The combinations of organisational affordances for creating antecedents of organisational goals and the related implications for research

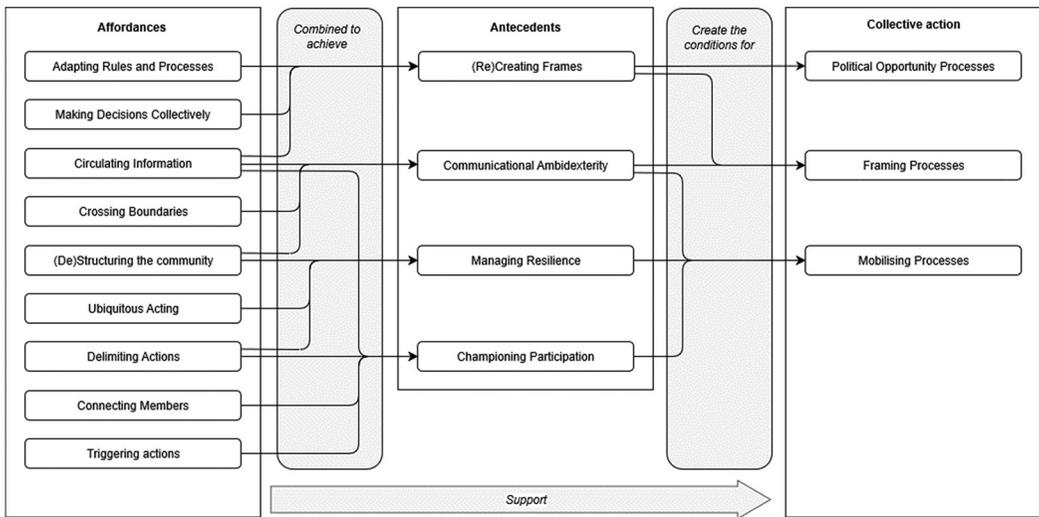Abbreviation: CA, collective action.

FIGURE 3 How social media enable collective action

cooperate to achieve such an aim (Strong et al., 2014; Tim et al., 2018). The framework shows which affordances need to be actualised in combination to support a specific process of CA, by way of the antecedent produced by such combinations. The antecedents facilitate conditions for the CA to occur. The antecedents are realised by the interaction of the outcomes of the individual affordances being actualised in combination, as discussed next.

6.2 | Combining affordances for antecedents of organisational goals

We here observed how affordances may be actualised in combination, contributing to the discourse on organisational affordances. By mean of a combination of affordances, it is possible to achieve goals not achievable through the independent actualisation of the involved affordances. This is in line with the idea that the actualisation of individual affordances produces a second-order effect that is different from the outcomes of the affordances being actualised (Leidner et al., 2018).

The literature suggests that the characteristics of the artefact guide the goal-oriented actor on actualising a sequence of affordances (Strong et al., 2014). This sequence of actualisations takes place under contextual facilitating factors that help the user recognise the action potential (Strong et al., 2014; Thapa & Sein, 2018). The set of affordances actualised together are recognisable, considering the temporal point of view in the analysis of data, looking for consistent trajectories of affordance actualisation over time, observable as a sequence of actualisations (Bernhard et al., 2013; Pozzi et al., 2014; Strong et al., 2014; Thapa & Sein, 2018).

Through our analysis, we found that affordances of social media are not actualised by the actors in a strict sequence. On the basis of our findings, we posit that when affordances of social media are actualised by individuals to reach organisational goals of CA, they do not follow a binding sequence, and the temporal observation of a sequence of actualisation is not sufficient to identify the antecedent of organisational goals. Here, we introduce the concept of combined affordances, meaning that, whatever the sequence, the actualisation of all affordances of a combination produces a specific antecedent of an organisational goal.

The antecedent named championing participation provides an illustrative example. This antecedent was realised by combining the affordances of circulating information, delimiting actions, connecting members, and triggering actions. These affordances were not actualised in a fixed sequence: Different sequences of actualisation of the same four affordances led to the same outcome (see the Appendix for further explanation and examples about this). The
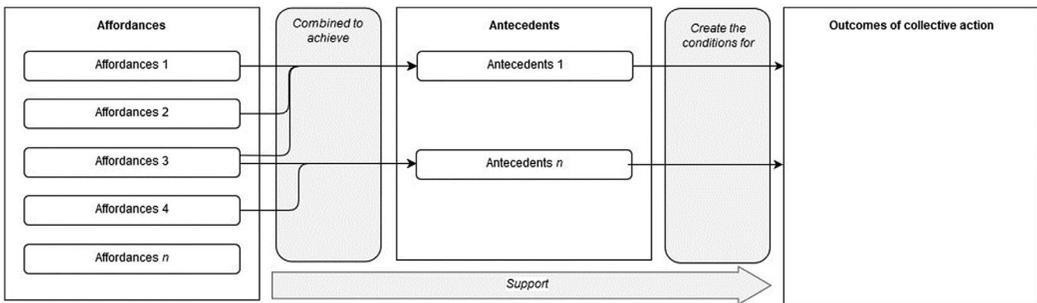
FIGURE 4 Model on how affordances support collective action

social media platforms did not present the affordances in a sequence but allowed users to perform the actions independent from one another.

Different combinations of affordances may also occur across different social media platforms (see the Appendix, for an example), where the diffusion of the combinations among the members of the community is the result of the socialisation process and the sociomaterial interaction of the individuals with the platform and is eased by organisational facilitating factors (Thapa & Sein, 2018; Zheng & Yu, 2016). The example of championing participation may illustrate this concept as well. Here, the results of the actualisation of the four affordances are that someone is entitled to perform an action, a new member is connected, information is circulated, and an action is triggered. However, the result from the combination of affordances is at the more abstract level of championing participation, that is, showing people how they should contribute to the CA effort.

In summary, we argue that the identification of individual affordances should be followed by the investigation of combinations of affordances and their effects as antecedents of the outcomes of CA, as illustrated in Figure 4.

7 | CONCLUSIONS AND IMPLICATIONS

Our study addresses the need for understanding the practices sustaining the actions and the emergence of outcomes of CA generated through social media (Strong et al., 2014; Tim et al., 2018) and the influence of social media on the structuring of CA (Faraj et al., 2011; Winter et al., 2014). We contribute to a better understanding of how social media influence the organisation of CA and how social media affordances are actualised in combination to favour CA. Responding to the call in the literature to investigate CA in different settings (Vaast et al., 2017; Vaast & Levina, 2015), our study represents a novel example of a social media study in a complex community for CA.

Before presenting implications for research and practice, we acknowledge that our findings have some limitations. The study is based on an in-depth investigation of one single case, following the principles of qualitative enquiry for theorising the results of our analysis. Although the M5S is a relevant unit of analysis to study how social media support CA, we acknowledge the need for further research to explore CA taking place in different contexts. At the same time, we argue that the M5S is a unique and highly relevant example of CA due to its extent and significance, and findings from this context might help other researchers advance the study of CA.

The main implications of our work are summarised in Table 9 and discussed below.

7.1 | Implications for practice

A key implication for practice relates to the fact that practitioners should not overestimate the role of social media for the organisation of CA. Our work suggests that social media affordances can be actualised for reaching both

TABLE 9 Implications for research and practice

	Implications
For practice	• The role of social media for CA could easily be overestimated and possible drawbacks overlooked. Other resources and efforts are needed to fully succeed with supporting CA. • Social media, through their affordances, can support some processes for CA more than others. • To achieve some forms of support for CA that social media may provide, there is the need to actualise some affordances in combination. • A single social media platform is not sufficient to completely support CA. • There is a need to design and manage a variety of social media platforms, to let users choose their preferred social media and to obtain outcomes needing a combination of affordances provided by different social media outlets. • The value for CA originates from the unplanned process of utilising social media, not from predefined management and design.
For future research	• Explore the relationship between a community for CA and the external environment. • Explore interdependencies between different user groups and how they may be supported by social media affordances. • Study how different social media possibilities for action give rise to potential tensions and how to control them. • Explore the interplay between the activities performed on social media and those performed offline and their role for CA. • Further elaborate on our suggested concept of the combination of affordances, investigating the nontemporality of the actualisations of a combination and the conditions that lead to an outcome when affordances are actualised by different actors over different platforms.

Abbreviation: CA, collective action.

individual and organisational goals related to CA. However, the promise of having a large bank of users at hand on social media to involve in a CA initiative (i.e., the millions of Facebook users) comes at the expense of managing complexity. On one hand, social media reduce the difficulty of connecting people for CA; on the other hand, they may potentially make the coordination of people more difficult, when the intended actions aim at stimulating multidirectional exchanges among community members.

Our work explores what social media can and cannot be used for in CA. Our analyses indicate that social media affordances contribute in different ways to the fundamental processes of CA. The mobilisation of resources is supported by social media through several affordances and antecedents, and the framing process relies heavily on social media. The political opportunity process is less supported, possibly because the elements of the external environment may play a more important role in this case. Furthermore, our work demonstrates the action possibilities of social media being used for the purpose of CA. People engaged in managing CA settings need to be aware that to contribute to the fundamental processes of CA, people using social media should consistently use the combinations of affordances identified to achieve the common goal of supporting the organisation of CA.

Our findings suggest that for mass-size CA movements, such as the M5S, a single social media platform is not sufficient to organise the CA. To achieve common goals, there is a need to rely on the affordances offered by many social media platforms, with attention paid to actualising the combinations across them. We demonstrate the need for balancing between the flexibility and programmability of social media to attract and retain members in CA, and we argue that the organisation, the rules, and the design of social media influence the motivation to participate. This view implies a more complicated design, involving the need for orchestrating information exchanges among various social media. We suggest that practitioners should keep the use of social media unstructured and flexible to leverage the possibilities for action of different social media platforms to attract new people. At the same time, they should organise core processes of CA in a more rigid way, thanks to the possibility of social media to enforce rules and to make the management of CA more controllable and less reliant on mutual adjustment.

Our work illustrates the process by which the action capabilities provided by social media (affordances) first must be explored and acknowledged by potential users. Next, some of these affordances work in combinations (antecedents) to eventually influence CA. The complexity and dependency on users' needs and behaviour for "translating" social media into activities of any value for CA demonstrate the importance of managing and designing social media, whereby users are encouraged to continuously take advantage of social media following their exigencies and habits. We argue that predefined ideas on how to manage and design CA are neither fully doable nor desirable in complex communities for CA to happen, as within the M5S.

7.2 | Implications for research

Regarding future research, our findings suggest a need to focus more on the external environment to explore how social media enforce the community of people involved in CA to interact with external entities. For example, one of the antecedents of CA considers ambidextrous capabilities to communicate both internally and externally to be a precondition for the mobilisation of resources. The external environment includes other social media users who are not formally connected to the community. We found that this relationship is still neglected by the literature. Additionally, we found that the political opportunity process is less supported by the combination of affordances, possibly because other factors play important roles. Hence, we argue that the relationships between the community and the external environment deserve more attention.

Our work relates to the study by Vaast et al. (2017), which is focused on social media and new ways of organising and contains a call for more research in less formal organisational structures, to better understand the dependency among users' groups and roles. We address this call by exploring how a loosely organised community with no organisational structure and with few roles later developed into a more formally structured organisation to address the increased need for coordination (Federici et al., 2015). Avenues for future research include studies to explore how the relationships between groups of users change from an informal to a more formal way of organising CA.

Another area for future investigation relates to understanding the tensions and contradictory influences social media create (Majchrzak et al., 2013). In our findings, we identified that a single affordance can be part of more than one combination, with each combination leading to different antecedents of organisational goals. Our model shows that some affordances of social media contribute to different antecedents and support different processes of CA. Therefore, the actualisation of this affordance potentially creates a tension between two different antecedents. Further research is needed to better understand how the different possibilities for action of social media, activated to pursue different goals, give rise to potential tensions and possibly how to control them.

In our work, we observed people performing actions online through social media. However, during the analysis of the M5S, we encountered data incidents suggesting that CA activities also take place through direct contact among community members (offline) and through the interaction between the online activities within social media and the related physical actions. This suggests that looking at what happens on social media is not enough to explain CA. For instance, in our case, subscribers of local groups in small towns started discussions on a social media platform, only to make final decisions on the proposals later through face-to-face meetings. In line with the idea that social media are just one of the organisational resources needed for CA, we call for more research to explore how the dynamics happening outside social media relate to those happening on social media and how they inform and influence CA. Further investigation is needed on the role of face-to-face activities to gain a more complete understanding on how CA actually takes place.

Concerning organisational affordances in general, our concept of combining affordances raises implications for future research on the use of the affordance as a conceptual lens for analysing organisation-related phenomena. A methodological implication relates to the opportunity for adopting a nontemporal perspective to identify the actualisation of combined affordances. Because, as also pointed out in the Appendix, the actualisation of different

temporal sequences of the affordances belonging to the same combination lead to the same organisational outcomes, a research implication would be to search for groups of affordances actualised in different temporal sequences in relation to a specific antecedent to be investigated. Moreover, by investigating different social media platforms, we found that the combinations of affordances are actualised on different social media platforms at the same time to achieve the same antecedent. Future research should investigate the conditions under which the antecedent of a combination realised by joining together different affordances leads to the outcome if the actualisation is performed by different actors over different social media channels in a consistent way.

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ENDNOTES

[1] Meetup.com is a commercial online social networking platform (http://www.meetup.com) owned by Meetup, Inc. It facilitates offline group meetings and helps individuals find, form, and join groups of people with similar interests.

[2] A detailed list of the most commonly used social media within the M5S OC is presented in Appendix .

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APPENDIX

The appendix contains detailed descriptions of the methodological procedures and our data analysis process. We describe the approach we followed to identify the affordances and the antecedents, present the process of analysis, and provide details of the codes, categories, and concepts used to analyse the data. Furthermore, we provide samples of excerpts of empirical data coded to illustrate the coding structure and exhibits that demonstrate how we identified the antecedents.

Data collection and analysis

We followed an interpretative qualitative analysis of a corpus of textual data composed of interview transcriptions, textual data extracted from social media, notes with observations of social media and technical and regulatory documents of the M5S. The combination of different data sources allowed us to triangulate pieces of evidence on possibilities for action, as follows:

- Interviews allowed us to identify action possibilities and constraints, along with objectives of community members, both at the individual and organisational level. The interview tracks we used to collect data, slightly adapted for each different interviewee's role, covered the areas listed in Table A1;
- Technical documents allowed us to identify software features that enabled or constrained specific action capabilities;
- Regulatory documents allowed us to identify formal or informal rules set by people or enforced through social media platforms that shaped the action and the action capabilities of individuals;
- Observations from social media complemented the understanding of the action capabilities of individuals and of the organisation and allowed us to get an understanding of the actual use of social media in relation to the activities and the objectives of the movement.

A CAQDAS software was used to support the process of reading, coding, conceptualising, and summarising the data.

Since the origin of the movement in 2009, the M5S introduces various types of services from different social media, including blogs and commercial platforms (Facebook, Twitter, and Meetup.com), and self-developed platforms for addressing very specific purposes (e.g., the M5S Operating System and Parelon). Table A2 lists the most important platforms we observed and collected data from.

Analysing data for conceptualising affordances

The analysis of our data sources was informed by the concept of affordance, as introduced in the related literature section. During the analysis, we looked for possibilities for action and constraints, individual and organisational objectives, and roles and rules shaping the action. We adopted a coding structure composed of two sets of codes:

- Classificatory codes: to organise data incidents across the different types of actor, social media platform, group, and affordance component (goal, motivation, outcome, roles, and rules; see Table A3);
- Concept codes: to organise data incidents in concepts used in the data sources (first-level codes) and concepts introduced by our analysis (second- and third- level codes; see Table A4).

TABLE A1 Areas of enquiry covered by the interview track

Areas of enquiry
Role of digital technologies in the movement
Use of digital technologies for communicating in the movement and about the movement
Use of digital technologies in the communication and coordination of members
Different kinds of activities performed online
Actions for coordinating activities online and offline
Number of people participating online
Level of involvement of people participating online
Roles of people during online discussions
Processes through which members discuss topics of interest for the movement
Processes through which the movement makes collective decisions
Rules and roles active in the online and physical channels
Rules and processes to enter and leave the community
Processes to attain different roles in the community
Action possibilities and hindrances of the digital platforms
Motivations for joining or following the M5S
Level of individual commitment (of the interviewee)
Role played by the interviewee in the movement

Using the features of the CAQDAS, we used these classificatory codes to group first-level concept codes. By coding data in this way, we were eventually able to analyse data incidents tracking the actions of individuals, groups, and movement across different platforms and to identify different individual and organisational goals.

First, we coded the empirical material with the classificatory codes. These codes worked as placeholders to facilitate reading and browsing of the large corpus of textual data and to make the identification of possibilities for action easier.

Second, we added data categories to code data incidents representing actions being performed by individuals and groups using their concepts. By using the querying and searching features of the CAQDAS software, we initiated our understanding of existing possibilities for action and constraints of social media.

Third, we developed concepts eventually leading us to the affordances' conceptualisation. Concepts were developed interpreting data codes categories, and grouping them, always in relation to the classificatory codes. We defined a concept only when this analysis showed consistent patterns of possibilities for action, objectives, and outcomes on which all the three researchers agreed.

Finally, we compared the affordances emerging from our process of analysis with existing affordances reported in the literature and annotated those with content similar to ours.

Analysing data for identifying antecedents

While analysing the data for the affordances, we noticed that some affordances were actualised by different users in relation to a common objective (identified by the classificatory codes) relevant for the CA. We then reanalysed the data with specific focus to the coactualisations of affordances. This step of the analysis was still informed by the sensitising device of affordance but with specific focus on the outcome of the affordances identified, bearing in mind that the actualisation process of affordances may show combinations or consistent patterns of actualisation of affordances by different members in a community (Strong et al., 2014; Zheng & Yu, 2016). We used the three

TABLE A2 List of social media used by the M5S to support/manage the CA (2009–2015)

Social media		Description	Use
www.beppegrillo.it		• Official website of Beppe Grillo	• Dissemination of the official line of the movement founder • Comments on blog posts and forward of posts on social networking platforms • Online polls
www.movimento5stelle.it www.movimento5stelle.it/listeciviche/liste/xxx		• Official website and forum of the M5S • Official websites and forums of the M5S local groups	• Headquarters of the movement and main entrance for authorised users to the M5S community (or local group)
Facebook		• Official page of the M5S • Official pages of the M5S local groups • Individual pages of reps and candidates	• Dissemination of posts from Grillo's blog • Dissemination of posts from the M5S local groups, reps, and candidates • Interactions among people (members and non-members)
Twitter		• Official account of the M5S • Official accounts of the M5S local groups • Individual accounts of the M5S reps	• Dissemination of news from Grillo's blog • Dissemination of news from the M5S groups, reps • Interactions among people (members and non-members)
Meetup		• Official platform for coordinating the M5S local groups	• Organising interactions and activities among local followers
Parelon		• Platform for cooperation on every decision-making process	• Debating and voting proposals on laws and other initiatives to be presented by the M5S reps in the regional council
The M5S operating system	Lex	• Official platform for cooperation on law proposals	• Building law proposals to be presented by the M5S reps in the parliament
	Elections	• Official platform for selecting candidates	• Selection of candidates to run for political elections
	Decisions	• Official platform for decision making	• To be developed—not in use
	Funds	• Official platform for fundraising	• To be developed—not in use
	Interactions	• Official platform for interactions and discussions among participants	• To be developed—not in use

fundamental processes of CA described in the literature (McAdam et al., 1996) to identify a coactualisation of affordances that were meaningful for CA. Figure 5 shows a sample of the path, starting from fragments of empirical data sources to codes, affordances, and antecedents.

Empirical incidents related to the combination of affordances

The empirical incidents introduced in Tables A5 and A6 relate to the combination of affordances that led to the antecedent of championing participation. The data incidents are shown in a temporal sequence from top (actions taking

TABLE A3 List of classificatory codes

Area	Code
Level of involvement	Supporter
	Subscriber
	Registered subscriber
	Rep: municipal level
	Rep: regional level
	Rep: national parliament
Social media platform	Facebook
	Twitter
	Grillo's blog
	Local forum
	Operating system
	Operating system: Lex
Internal group	Group 1
	Group 2
Goals	Individual goals
	Organisational goals
Individual commitment	Motivation for engagement
	Personal objective
	Level of experience
	Motivation for leaving
	Level of contribution
Outcome	Individual objective
	Results of individual actions
	Outcomes of individual actions
	Movement objective
	Results of movement actions
	Outcomes of movement actions
Roles	Technical roles on the social media platform
	Role played within the community
	Membership level
Rules	Community rules
	Local groups' rules
	Netiquette
	Platform's inherent rules
	Standard rules
	Redefining rules

place early) to bottom (actions taking place later). The antecedent is about facilitating the CA to guide and support the actions of individual members, showing them how, what, and when to contribute.

The first exhibit (Table A5) illustrates social media activities performed by a representative of the M5S, resulting in the championing of participation, and how the representative connects a new user to the network. The representative requests an action (triggering action) and informs (circulating information) after having established the connection with the new member (connecting member) and after having been allowed to perform the action (delimiting actions). In so doing, the representative is guiding the new member on how to contribute to the CA mobilisation (championing participation).

The second exhibit (Table A6) shows how the same antecedent is achieved by a different combination of the actualisation of the same organisational affordances. Consequently, we argue that a temporal explanation would not allow us to detect these combinations of affordance actualisations, because the social media platforms do not

TABLE A4 Data categories and concept categories

Data codes categories (first-level)	Concepts (second-level)
Keeping organisation light Liquidity of actions Evolving organisational structures Resilient organising to manage change	Adapting rules and processes
Complex decision making Simple decision making Enacting collective intelligence Collective actions	Making decisions collectively
Information dissemination Information creation and dissemination Circulating information Discussion among members Using different channels for informing	Circulating information
Communicating outside Cross-ability of boundaries Entering another community Reaching communities outside	Crossing boundaries
Keeping free choice of technologies Fractioning the community Subgrouping Setting topics locally	(De)structuring the community
Acting from different places Managing ubiquity	Ubiquitous acting
Controlling actions Profiling members Profiling resources Authorisation for specific actions	Delimiting actions
Reaching a person Entering into contact Establishing membership	Connecting members
Triggering Stimulating participation Stimulating actions	Triggering actions

present to the users the action possibilities in a fixed sequence. The platforms offer action possibilities, and goal-oriented individuals combine them—under the influence of a socialisation process and facilitating factors—to achieve organisational outcomes.
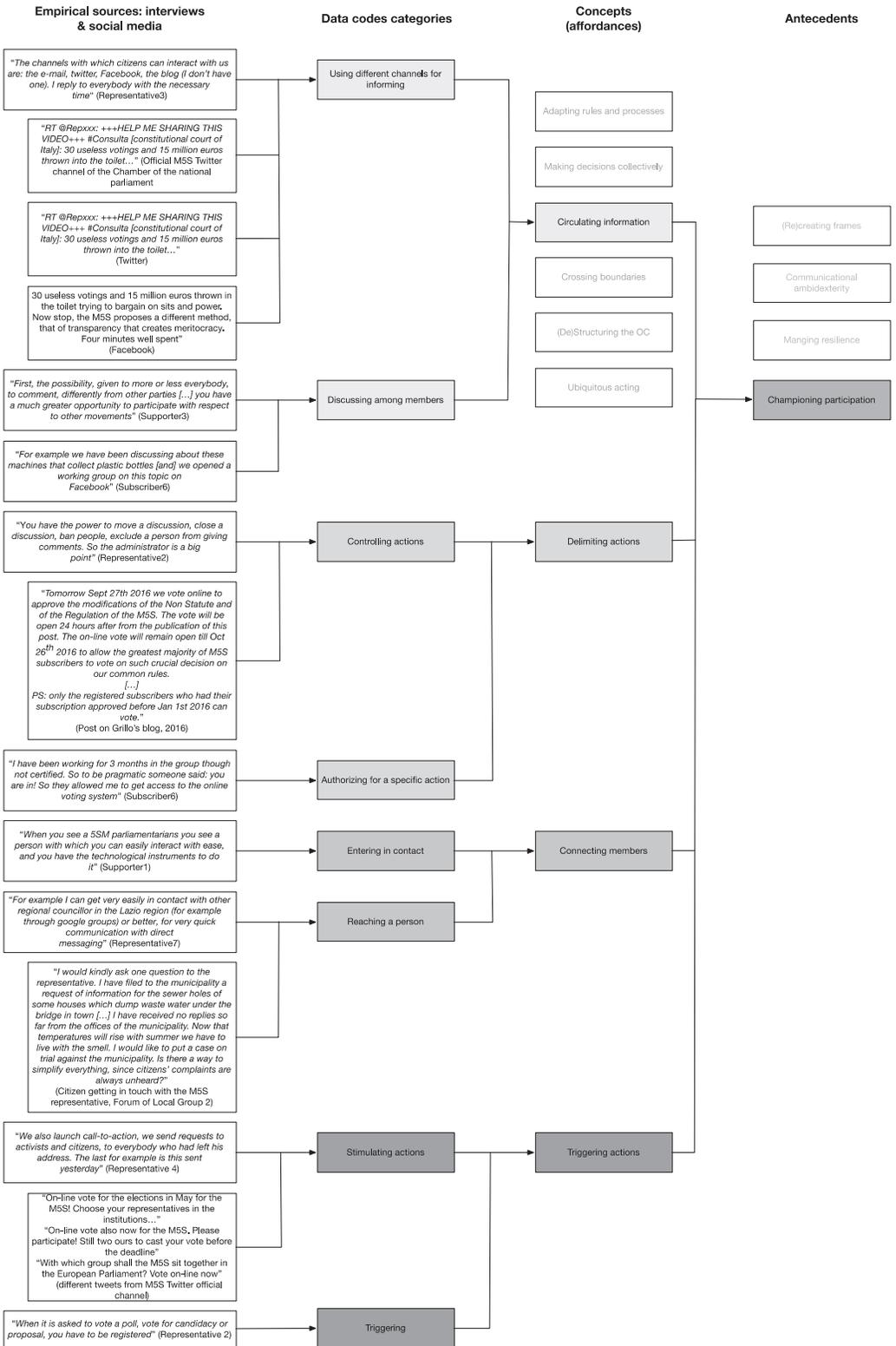
FIGURE 5 Exemplar data sources coded

TABLE A5 Championing participation: one combination

Events	Affordance actualised
REPxxx is enabled to perform actions online	Delimiting actions
UserX and REPxxx get connected on Twitter	Connecting member
REPxxx writes a direct tweet message to UserX informing and asking for an action "Thanks for the follow! Please, may you help us with these steps: please add a like to my Facebook profile and to that of my colleague x"	Circulating information Triggering action

TABLE A6 Championing participation: another combination

Events	Affordance actualised
REPxxx is enabled to perform actions online	Delimiting actions
REPxxx posts on personal Facebook profile a post composed of an image and text. The image informs on the three steps required to receive the post and to connect further people and invites people to perform these actions. The text describes the same actions with texts and links for the actions to be performed but also invites people to invite their contacts to REPxxx.	Triggering action
REPxxx tags UserY on the post addressing the communication to someone currently not following REPxxx	Circulating information
UserY and REPxxx get connected on Facebook	Connecting member