From the Village to the Global Village:
An Alternative Model of Collective Action in Digital Media Networks

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Abstract

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This dissertation tests whether the difference in numbers of civic digital campaigns across countries, normalized by population and number of internet users, is explained by a multi-theoretical perspective that integrates the structural, cultural and sociopsychological contextual conditions that surround individuals. The research is based on regression and fuzzy set analyses of 10 variables from secondary data applied to a sample of 243 civic digital campaigns from 2010 to 2012 in 42 countries. The two methods used in this dissertation allowed me to find synergies that help us better understand collective action dynamics in digital media networks. It was found that differences in numbers of campaigns are actually bounded by countries' specific cultural and sociopsychological contexts. In particular, it was found that more conservative countries have more civic digital campaigns, and that, in general, countries with less satisfied populations have more campaigns. Countries whose population has a higher average level of education have more campaigns as well. The fuzzy-set analysis also revealed two causal configurations that explain several countries with high numbers of campaigns: 1) The Arab Spring Recipe, explained by conservative values orientation and a less democratic political

environment; and 2) the Aspirational Recipe, which occurs in countries with more conservative values that are oriented toward postmaterialism and self-expression.

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"(Education) … the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world."
Paulo Freire

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Chapter I: Collective Action in the New Media Environment

I. Introduction

The Arab Spring, the Occupy movement, and three years of Chilean student protests, among many other massive and quickly-organized recent events, have surprised scholars worldwide. Traditionally, the concentration of property and wealth in liberal democracies and the concentration of power in less democratic (more authoritarian) nations have increased the costs required for citizens to organize themselves and make their voices heard (Scott, 2012). Although some individuals manage to get together in order to make their claims, theory still states that the costs of organizing discourage participation and motivate individuals to free ride on others' effort (Olson, 1965) unless formal organizations or structures assume the costs and motivate single individuals to join collective actions (McAdam, Tarrow, & Tilly, 2001).

Influential literature from the communication discipline explains current mobilization as a consequence of the digital environment (Bennett & Segerberg, 2012; Bimber, Flanagin, & Stohl, 2012; Chadwick, 2013; Howard, 2011). It emphasizes that new media (which is digital) offers individuals to enhance their capabilities to achieve their personal goals through collective activity (Consalvo & Ess, 2011; Kendal, 2011). This sort of fragmented individualism, or networked individualistic approach, claims that now is "a time for individuals and their networks, and not for groups" (Wellman, 2001, p. 2). From the basis of neoclassical economics literature, a group of communication scholars explain that new media (also referred to as "digital media networks" and "digital networks" in this dissertation) have decreased the cost of contributing to the production of collective goods (Bennett & Segerberg, 2012; Bimber et al., 2012; Chadwick, 2013; Howard, 2011). They argue new media have caused this decrease by

controlling the problem of free-riding, by reducing the cost of organizing, and by solving the principal-agent problem because individuals define their own involvement in collective enterprises. They contend this decrease in cost is what explains this new type of collective action.

Another explanation for these new forms of organization suggests that rather than enhancing individualism, new media connect "human sociability" on a large horizontal scale (Benkler, 2006, 2011). Then, what we see in many locations is a more intensive sociability among individuals—one that is not bounded by geographical boundaries but by cultures (Madianou & Miller, 2013). This second idea, in addition to explaining the decreasing cost of contribution, could explain the current collective activity as well.

These two ideas are contained in different analytical frames that still leave gaps in their explanation of the whole collective experience on digital media networks. For instance, the instrumental approach does not explain some of the current nontransactional and nonmarket interactions, and the social approach does a poor job of explaining spontaneous and ephemeral forms of mobilization. This dissertation suggests that other social science approaches that look at cultural and psychological factors to study collective action can contribute to filling in the gaps in research and theorization about collective action online. The following sections of this introductory chapter problematize the topic of collective action in order to present theoretical arguments that sustain this dissertation. It includes relevant works about collective activity online and identifies the main gaps that this dissertation expects to fill. Specifically, it focuses on the cultural and socio-psychological factors that underlie digital activism.

II. Literature review

A plausible explanation for current trends in civic and political global mobilization is the influence of new media.[1] New media affordances have allowed individuals to collectively organize faster, more cheaply, and on a larger scale than social movement theorists and collective action literature have predicted. (Bennett & Segerberg, 2013; Bimber et al., 2012; Castells, 2008; Earl & Kimport, 2011; Howard, 2011; Lievrouw, 2011; Tarrow, 1996). Clearly, new media are potentially of great importance. I will describe some of their basic aspects in the next section. Then I can dive into explaining new media's relationship to collective action.

1. Digital media networks

While old technology is analog, new media is digital (Gane & Beer, 2008). Digital format means a numerical representation of material things and not the material thing itself (Galloway, 2004). This is why "chunks" of the digital content or of technology "can be reproduced, manipulated and transmitted with unprecedented ease" (Gane & Beer, 2008, p. 6) in a continuous process that seems never finished (Neff & Stark, 2004). Because of this continuous process, digital media are still considered "new media." Digital media can be "creatively assembled into larger, meaningful cultural products" (Howard, 2011, p. 8), which makes it difficult or almost impossible to identify the borders between the media artifacts (Lievrouw, 2011) or actors (Latour, 2007).

Another important topic regarding current media is what constitutes the media. Traditional communication scholars defined communication processes as a combination of two distinct things: (1) the devices and methods that people use to communicate, and (2) the content

[1] In this dissertation, the terms "new media," "digital media networks," and "digital networks" are interchangeable.

of the communication (Lievrouw, 2011). Current understanding identifies three aspects of the new media, which are fluid and complementary: (1) the information infrastructure and tools used to produce and distribute content, which include the material artifacts and devices that extend people's abilities to communicate and share meaning; (2) the content and practices used in the process of using devices, personal messages, news, ideas, and cultural products; and (3) the people and their larger social arrangements and organizations that produce and consume content (Howard, 2011; Lievrouw, 2011). Hence, new media is "the combination of material artifacts, people's practices, and the social and organizational arrangements involved in the process of human communication" (Lievrouw, 2011, p. 7).

Research about the new media involves inquiring about "the linkages and relationships between tools, content, producers, and consumers" (Howard, 2011, p. 8). This is the reason why the concept of networks has become so prevalent in the study of current social processes. Any point of the network can connect with any other point, making new media a "network of networks" which connects technology artifacts and humans (Bimber et al., 2012; Latour, 2007; Lievrouw, 2011).

A digital network is "an infrastructure that connects computers to each other and to a range of external devices, and thereby enables users to communicate and exchange information" (Gane & Beer, 2008, p. 16). In order for any digital network to operate, it requires standards or protocols that enable the nodes in the network to communicate (Castells, 2009; Galloway, 2004; Gane & Beer, 2008). While more techno-centric approaches to research about new media focus on the connections between hardware and informational flows, research about social networks in new media focuses on the human connections made through digital media (Monge & Contractor, 2003). To the social sciences, new media is interesting because it opens up the possibility of new

connectivity between people as "open structures, able to expand without limits, integrating new nodes as long as they are able to communicate within the network, namely as long as they share the communication codes" (Castells, 1996, p. 501). New media increases individuals' capacity for association by enabling "an unprecedented combination of flexibility and task implementation, of co-ordinated decision making, and de-centralized execution . . ." (Castells 2000b, p.15 in Gane & Beer, 2008, p. 20). It is on this relationship that this dissertation builds the arguments for studying collective action from a communication perspective.

A final feature of new media is the impact of this networked infrastructure over society and culture. The ubiquity characteristic is "the seeming presence of new media everywhere, all the time, which affects everyone in societies where they are used, whether or not every individual uses them directly" (Lievrouw, 2011, p. 12). It influences people's psychological orientations and their social practices, and it influences the way organizations perceive their environments (Bimber et al., 2012). The materiality of the technology becomes ingrained with the practices of the people, so it is difficult to differentiate between technology and practices something that affects all aspects of social life (Consalvo & Ess, 2011). As a summary of the previous paragraphs it can be said that what defines new media is its modularity and ensemble capacity to link individuals to the technical digital infrastructure, thus enhancing people's capacity for communication and coordination. The next section explains current analytical frameworks used to link the new media and collective action.

2. Collective action and new media

It is mainly through some kind of collective activity that people can produce and receive the benefits of social life (Bimber et al., 2012). For this reason, it is important to know the conditions under which individuals might cooperate to pursue common goals. It is especially interesting to

know the conditions when the coordination is not enforced, but when, as in most of the cases, the collective experience involves voluntary associations made with others who share interest or identities in order to solve different kinds of problems (Bimber et al., 2012).

The study of collective experience mediated by or happening in the new media environment has been guided by traditional theories that explained collective action and motivation in the "offline world". Social movement theory scholars have explained collective action in the past from a resource mobilization approach (McAdam et al., 2001; Meyer, 2004; Tarrow, 1996) which rests on neoclassical economic assumptions about motivation (Olson, 1965; Ostrom, 1990; Williamson, 1981). While many of the authors writing about digitally mediated collective action still follow this route (Bennett & Segerberg, 2013; Bimber et al., 2012; Chadwick, 2013; Earl & Kimport, 2011), others have started to develop theories that emphasize the noninstrumental factors as drivers of collective action (Benkler, 2006; Horst, 2012; Madianou & Miller , 2013).

In the last section of this chapter, I suggest exploring an alternative route to study the collective action in relation to digital media. This new route involves utilizing complementary concepts from different social sciences that examined collective action in the pre-Internet era, such as the study of collective action and organizations from an economics perspective, the cultural and sociopsychological approaches focusing on social movements, motivation and dynamic of protesting, and political communication and political science studies of civic and political engagement. This approach is based on the premise that the diverse forms collective action takes online could be explained by theoretical perspectives focusing on one of these types of phenomena. To begin, in the following paragraphs I detail the rational choice approach and its

implications for social movement theories, and I end the section by detailing some of the most relevant current analytical frames about collective action and new media.

Traditional collective action theories.

The rational choice approach to organizations, based in the neoclassical economics literature, has explained that individuals pursue collective action because they rationally conclude that pooling resources and coordinating strategies with others can achieve certain goals more efficiently than doing it in isolation by transactions in the market (Olson, 1965; Prakash & Gugerty, 2010; Williamson, 1981). This idea rests on the assumption that individuals' choices are made in relation to a sort of cost-benefit analysis when they engage in a collective activity (or when they choose not to and free-ride instead). This is "a very common informal heuristic in a wide range of conceptions of human behavior. The underlying frame to this core issue is a vision of the individual as respondent and decision maker" (Bimber et al., 2012, p. 77).

Following this line, the rational explanation states that collective action is negatively correlated to group size and that it is affected by free-riding problems, principal-agent problems, public goods, and externalities, among others (Alchian & Demsetz, 1972; Coase, 1937; Olson, 1965; Ostrom, 1990). The group size is negatively correlated to the likelihood of collective action, because the diffusion of responsibility within larger groups motivates the rational individual to free ride on others' efforts (Olson, 1965). Vertical integration, organized by the owner of the means of production under a hierarchical supervision called a "firm", has been presented as the most common alternative to control these problems (Coase, 1937; Olson, 1965; Williamson, 1981). Vertical integration has some drawbacks: it increases managerial costs, and it presents problems of organizational communication when it addresses the principal-agent problem (Bimber et al., 2012). Yet it is still the most efficient way to organize; the reason is that

the structure of an organization can control transaction costs, which would otherwise arise under conditions of complexity and uncertainty that require multiple market contracts among singular individuals (Coase, 1937).

Social movement theorists have followed these ideas about collective action and have studied how the free-riding problem can be solved by a central organization, which plans and coordinates the collective action, offering selective incentives to participants and mobilizing the resources to facilitate the mobilization (Lichbach, 1995; McAdam et al., 2001; Tarrow, 1996). Another solution to problems of organizing collective action—and one of the first bottom-up perspectives (especially for managing common pool resources, also called "public goods") is to establish institutional arrangements agreed upon by individuals that serve to sustain common pool resources in the long run (Ostrom, 1990). This is a more horizontal way of organization that could also contribute to understanding organization through digital media networks.

Other authors instead focus on the individual characteristics influenced by society, such as altruism or the enjoyment of social incentives, to explain collective action. These other authors also point to some psychological processes, both cognitive and emotional, that supposedly make the individual perceive deprivation and injustices that motivate him or her to initiate the action or to join the action out of sympathy for similarly deprived actors (Gurr et al., 1970; Leonard, Moons, Mackie, & Smith, 2011; Lichbach, 1995; Van Zomeren, Postmes, & Spears, 2008). The next section (2.2 Collective action in the digital environment) explains current works that focus mostly on instrumental ideas to explain online collective action. The last part of this section (2.3 Theoretical gaps) identifies the gaps that those models left.

Collective action in the digital environment.

The main point emphasized by several authors writing about collective action through digital networks is that organization of effective collective action does not require vertical structures— or at least does not require them to the same extent that it did in the past (Bennett & Segerberg, 2012; Bimber et al., 2012; Earl & Kimport, 2011; Lievrouw, 2011). It seems that there are three characteristics that make new media lend itself to collective action: (1) its networked infrastructure—or digital network, (2) the abundant and accessible information content in the networks, and (3) the ubiquity of new media.

First of all, new media is digital, as explained in the first part of this chapter. Digital technologies can be assembled in a networked structure (Galloway, 2004) that allows people to be involved with one another socially, politically, and intellectually by sharing information, experiences, desires and knowledge (Bimber et al., 2012) without the limitations of the physical world, in an abstraction from time and space—as Castells explained, in a "space of flows" in timeless time which produces a culture of "real virtuality" (Castells, 2002). The infrastructure of digital networks is 'distributed' networks (Monge & Contractor, 2003), implying that "individuals at the periphery of a large network are able to share ideas, coordinate, and communicate with one another" (Bimber et al., 2012, p. 60) in a way that overcomes both the traditional challenges of organizational communication and other institutional constrains.

It is not only the infrastructure that explains changes in collective action. At this very moment, the amount of information that is stored in those networks and that flows through them is greater than the amount of any physical content that could be contained in the world's biggest library. Even more important than the storage of content, is that individuals are now provided

"with indispensable search-engine and social recommender technologies [that] have expanded information-sharing capabilities by enhancing the ability to navigate information online" (Bimber et al., 2012, pp. 58–59). Then, there is more information but also new media offers possibilities to obtain and make use of that information as was never possible before.

The third characteristic of new media that makes that matters for collective action is "ubiquity." Because ubiquity influences people's psychological orientations and social practices, it has transformed the way in which individuals perceive their environment (Bimber et al., 2012). Even in places where new media is almost absent, such as the developing world or rural areas, the lack of the new technologies impacts those communities.

Considering the characteristics mentioned above (improved communication infrastructure, abundant information content, and enhanced individual capabilities), many authors have built arguments on neoclassical economics literature to explain how these three characteristics have changed the environment in which collective action happens and the traditional structures of organizations in consequence of these changes in the environment. In traditional collective action theories individuals free-ride on others' effort and they experience problems when trying to organize supervision. Almost exclusively, a hierarchical organization and its resources are required to address these problems. However, new media decreases the costs of contributing to the creation of collective goods in two ways: by eliminating the free-rider problem and by decreasing the costs of organizing, because the principal-agent problem is almost inexistent.

Digital networks decrease the costs of contributing to the common goods because the coordination has never been almost costless, trivial, or unobservable (Bimber et al., 2012; Earl &

Kimport, 2011). Additionally, the weakening of borders of between public and private, and between collective and individual, has made room for entrepreneurialism no longer characterized by "discrete free-riding calculations in the context of high personal costs. . . . [The] choice to participate in collective efforts is no longer the sole useful rubric to understand collective action" (Bimber et al., 2012, p. 62). Rather, the individual motivations to engage in collective action are diverse and not totally understood.

In classic social movements literature, organizational structure and resources were key elements for collective action. The members of organizations were in many ways reduced to simply fulfilling roles created by the organizational elites who designed the organizational structure (Williamson, 1981). The problem of collective action was not the cost of establishing an organization; rather, it was the cost of organizing individuals to perform as expected in order to produce the common good (Bimber et al., 2012; Olson, 1965; Williamson, 1981). Today, on the contrary, there is a greater appreciation for individuals and their different contributions to collective action, whether or not the actions are sponsored or facilitated by organizations (Bennett & Segerberg, 2012; Bimber et al., 2012). Because the digital networks decreased the necessity of being physically together in order to act together, individuals can bypass organizational infrastructures by using powerful networks of informal or semi-informal connections. Therefore, collective action arises from people with shared interests and goals rather than from incentives provided by an organization (Earl & Kimport, 2011).

Examples of this new type of collective action are impossible to count. They vary in level of coordination and stability from simple one-click activism for supporting a cause or protests such as the North African revolution to other, more permanent flat structures like the Tea Party, WikiLeaks, or the open-source software movement (Benkler, 2006; Bimber et al.,

2012; Earl & Kimport, 2011). Because of this structural diversity, this dissertation considers appropriate a perspective encompassing multiple theoretical viewpoints in order to better understand collective action in the digital media environment.

In the past, social sciences have examined, from several perspectives, individual involvement with social or political life. At the most basic level, political communication and political science scholars have been concerned with civic or public engagement, political participation, democratic engagement, and public voice, among other topics. While participating in elections seems the most visible way of participation, other actions, such as giving an opinion or advocating for certain issues, being involved in political campaigns, making political contributions, working informally in community or voluntary groups, and contacting government officials are also important (Bennett, 1998; Delli Carpini, 2004; Verba, Schlozman, Brady, & Shapiro, 1996; Zukin, 2006). Some of these forms of participation seem to be replicated in the digital environment; consequently, some of this literature contributes to a better understanding of this phenomenon. I will use the term "civic engagement" to reference this body of literature in this dissertation.

Another important body of literature that could contribute to an explanation of digital collective action is concerned with social movements. Although the social movement is a way of being politically or civically engaged, the literature regarding this type of collective activity distinguishes some specific features, such as the fact that it is intended to challenge elites, authorities or cultural norms (McAdam, Tarrow, & Tilly, 2001; Tarrow, 1996). The social movement is collective action in opposition of these established powers. Chapter II explains how deprivation theory and resource mobilization theory could inform claims regarding digital collective action. It is appropriate to note here a conceptual distinction between social

movements and protests. A social movement is collective action that can extend through time, even for decades; a protest, by contrast, is a more sporadic type of collective action that may or may not fall under the umbrella of a larger social movement.

Among the multiple forms of collective action that can be found in the digital environment, some of them are similar to types of civic or political engagement mentioned above. This dissertation focuses on understanding variation in only one type, "the digital activism campaign," which is understood as "an organized public effort making collective claim(s) of target authority(s) in which civic initiators or supports use digital media" (Edwards, Howard, & Joyce, 2013, p. 4). In order to differentiate these activities from political campaigns with electoral purposes, this dissertation uses the term "civic digital campaign" to refer to initiatives organized by citizen or citizen organizations (i.e. the initiator is not a government or private enterprise), with specific claims targeted to those who could implement the solutions, and in which campaigners use at least one digital media tactic (Edwards et al., 2013).

The following paragraphs summarize four different analytical frames that are currently being used to study digital collective action. Along with other scholars, Bruce Bimber's collective action space, Andrew Chadwick's hybrid media system and Lance Bennett and Alexandra Segerberg's logic of connective action are all theoretical approaches to studying digital collective action that begin with instrumental-rational assumptions as initial motivation. Yochai Benkler uses the concept of "peer-to-peer production" to add a social motivation point of view to explanations of digital collective action.

The Collective Action Space. Bruce Bimber states that rather than thinking about collective action as being impacted by digital media, it would be more accurate to speak about a

digital media environment in which collective action takes place (Bimber et al., 2012). This environment is different from the environment traditionally discussed in collective action literature. In that traditional environment, the organization was the unit of analysis, the members' experiences were homogenous, and the individuals acted almost exclusively within roles defined by those at higher levels in the organizations (Bimber et al., 2012). Digital media networks blur the organizational structural borders, allowing individuals to negotiate their involvement in their own terms, and thus increasing individuals' agency. In this way, organizational structures look more loosely tied together, or more accurately, they "take on more complex and heterogeneous shapes" (Bimber et al., 2012, p. 85). Consequently, rather than focusing on the new objective organizational structures, Bimber introduces his model of "collective action space," which explains that the digital media context enables people to decide their own membership and personal preferences about their collective experience in the organization (Bimber et al., 2012). In Bimber's collective action space, individuals can have four types of collective experiences, and the four types can be found in all organizations.

The enthusiasts are individuals who are engaged in an entrepreneurial way and invest the most. They are the members who report the most alignment with the organization's goals. Their reasons for belonging are highly civic and social. The minimalists are the second type of actor involved in collective experience. Their engagement is institutional rather than personal. "They contribute the least, identify the least, and trust their organizations the least" (Bimber et al., 2012, p. 150). The minimalist type of involvement can be understood as the traditional interest group. Minimalists, like enthusiasts, identify with the organization to attain the organization's goals. The third type of actor in collective experience is the individualist, they are individualistic, idiosyncratic, and difficult to predict. But, they are high in social trust and

younger than the others. Digital media use is a positive indicator that a person is in the "individualist" group. The last type of actor in collective experience is the traditionalist; they are civic followers rather than civil activists. Their sense of participation is not particularly instrumental or strategic. Social motivation is very important for this group (Bimber et al., 2012).

***Hybrid organization*.** While collective action space focuses on the individual style of collective experience, Andrew Chadwick focuses on how the organizations have been affected by new media. In his approach Chadwick states that although the new type of organizing looks surprising, it is not totally horizontal and decentralized as believed. He says that organizing still needs the older type of organizations—such as WikiLeaks with an editor-in-chief and a core team of editors—in order to play a significant role in the media system. Characteristics of this interaction between old arrangements and new forms of interaction—this hybridity—is what he calls the hybrid media system (Chadwick, 2013).

The idea of the hybrid media system emphasizes that new technologies partially reconfigure social, economic, political, spatial, and temporal relationships, making powerful relationships evolve among the old existing media elites, political elites, and publics (Chadwick, 2013). New arrangements are hybrid because they are "partly amalgamated combinations of groups, organizations, and social norms and practices that were previously associated with older media" (Chadwick, 2013, p. 24). In his words, the most important change seen in the current media system is the "mass participation in the creation of online content" and in "the global wave of web 2.0 and social media" (Chadwick, 2013, p. 42).

In the hybrid media system, similar to Castells's ideas, the power is related to who is able "to create, tap, or steer information flows" (Chadwick, 2013, p. 207) to serve their own

goals. What best represents the hybridity of the system is his description about what WikiLeaks is: "part news producer, part social movement, part public information provider, part broadcaster, and part direct action network, WikiLeaks has had an undeniable impact on public affairs. It leaks, it publishes, it produces, it mobilizes" (Chadwick, 2013, p. 108). According to Chadwick (2013), individuals as political actors use the new opportunities to influence politics, and thus their motivation is instrumental. "The hybrid media system exhibits chaos, nonlinearity, and disintegration but also surprising new patterns of integration" (Chadwick, 2013, p. 210). This dissertation focuses on the inquiry into these new patterns of interaction.

Connective action. While Bimber focuses on individuals, and Chadwick on organizations, Bennett and Segerberg (2013) place emphasis on large-scale collective action or social movement. Bennett and Segerberg show that, in addition to the affordances[2] enabled by new media, some cohort-cultural characteristics are crucially needed in order to explain the distinct and surprising organization of current contentious political action. On the one hand, individuals get together in order to achieve common goals. However, contrary to traditional social movements, these actions are organized by highly individualized publics. These publics would not otherwise join formal political organizations, because traditional organizations could restrict the definition and expression of their own beliefs. On the other hand, what explains current political collective action is the decreasing cost of organizing (thanks to new media), which enhances individual agency to organize. Organizations now matter less, because people have more agency that can shape their experiences of collective action and of the organizations

[2] This research understands affordances as defined in Earl and Kimport (2011) ""An affordance is the type of action or a characteristic of actions that technology enables through its design" p.10.

(Bimber et al., 2012). New technologies "become agents in connective networks, automating and organizing the flow of information and providing various degrees of latitude for peer-defined relationships."(Bennett & Segerberg, 2013, p. 196). These two characteristics will explain in part the patterns of participation and organization in these types of collective action.

The cohort characteristics will explain the "individualized publics," because younger generations have shifted their identification away from traditional organizations in consequence of the advances in democratization processes. While traditional collective action "builds on strong leadership, brokered coalitions among formal organizations, and action frames that draw on ideology or group identity (class, race , gender, nationality)"(Bennett & Segerberg, 2013, p. 2) that focused on resource mobilization and formalization, Bennett & Segerberg (2013) present a new logic of "connective action" in the digitally networked environment; it is centered on particular interests. A type of mobilization based on individualistic purposes focuses on single motives in which digital media "accommodates diverse individual paths to engagement" (Bennett & Segerberg, 2013, p. 7).

Connective action includes multiple logics at play: the traditional collective action and its structures; a collective action in which organizations only sponsor, but do not direct, multiple action and causes; and a "crowd-enabled connective action," which is organized through networks of individuals that use digital media platforms as the organizing mechanism. Large-scale action networks become assemblages of individuals, formal organizations, and technologies in interaction so that "even seemingly disjointed crowd-enabled connective action networks may achieve coherent organizational form" (Bennett & Segerberg, 2013, p. 9). These connective action networks can also mobilize resources and respond to the environment's demands. It is important to mention that the fact that people seek to personalize their political

engagement does not mean that "their politics are less serious or less aware of the presence of others who share their concerns than are activists driven by particularistic ideologies or mutual support for established organizations that represent them" (Micheletti, 2003 in Bennett & Segerberg, 2013, p. 117). Individuals feel connected to social and environmental realities beyond their private lives at the same time as they integrate new practices into their day-to-day lives.

Peer-to-peer production. Yochai Benkler (2006) states that the current special moment of human history facilitated by "the networked infrastructure" allows us to improve our capacity to do more for and by ourselves without formal organizations or market transactions. His argument works on three levels: (1) The individual or micro level on which he rejects the assertion that the "utility maximization" principle is the single motivating factor in productive behavior; (2) A political and economic impact which, contrary to the twentieth century mass media, has a democratizing role and: (3) A more practical level for analyzing power relationships in the networked society. For this dissertation, I focus on his ideas about the motivations for collective action rather than his ideas about political impact and power.

According to Benkler, people have always been diversely motivated: "we act instrumentally, but also noninstrumentally" (Benkler, 2006, p. 6). He recognizes that beyond the material incentives, we all act based on psychological well-being and gratification and for social connectedness" (Benkler, 2006, p. 6). Therefore, focusing solely on the instrumentality of motivation would give too narrow a view. It is on this point that this dissertation bases its research questions.

According to Benkler, digital technologies allow individuals to interact with each other "as social beings rather than as market actors through the price system" (Benkler, 2006, p. 6). In

fact, sometimes nonmarket collaborations can be better at motivating effort and can allow creative people to work on information projects more efficiently than traditional market mechanisms and corporations would allow (Benkler, 2006). An example of this is the term "commons-based production," which is a characteristic of production on a nonproprietary social model. The inputs and outputs of the process are shared, freely or conditionally, and that leaves goods equally available for all. Interestingly, in his argument, he assumes that the socially produced good, which is released freely, would be—all other things being equal—more efficient than a proprietary market model that looks for profit. Benkler emphasizes that the increased capabilities of individuals are the core driving social force behind the networked information economy. He suggests that "we have become more adept at filling some of the same emotional and context-generating functions that have traditionally been associated with the importance of community with a network of overlapping social ties that are limited in duration or intensity (Benkler, 2006, p. 16). This explanation goes beyond the traditional utilitarian perspective.

As explained in the paragraphs above, most of the current theories explaining collective action in the digital environment rest on the classical instrumental view of collective action. In the 1980s, a transition occurred in the studies of social movements: the "resource mobilization" approach had a "cultural turn" by introducing the understanding of culture as the key factor in explaining collective action (Williams, 2004). This dissertation suggests that currently we are experiencing a similar moment in theoretical development; we are identifying more than just instrumental factors in our understanding of collective action online. The next section focuses on the theoretical gaps that can be filled by the incorporating these new elements.

Theoretical gaps.

The literature review allows us to find theoretical gaps in the models of digital collective action that still leave room for attempts to make a coherent, overarching framework for integrating conceptual, theoretical, and empirical work to explain the whole collective experience happening off and on digital media networks. The analytical frames of digital collective action reviewed here include collective action space, hybrid media systems, connective action, and peer-to-peer production. Table 1.1 shows each one of the analytical frames presented in the previous section with the gaps that are still left. The traditional collective action theories do a good job of explaining organizational structure, but they explain neither the socially driven collective action nor the changes in the environment that are a consequence of digital media networks. Rather, these traditional collective action theories rest only on individuals' self-fulfilling motivations.

The collective action space concept is good for diversifying and expanding the understanding of "organization membership." However, it does not explain ephemeral collective action (such as protests or flash mobs).The hybrid media system ideas helps to understand the changes in the environment by the describing the interaction between old and new media. Yet this model cannot explain the ephemeral collective action. The connective action space concept is strong because it introduces the digital media networks into the equation of rational calculations of utility maximization, but it also rests heavily on the instrumental view of collective action theories. The peer-to-peer production model is perhaps the most comprehensive, even though it is still limited in depth. It allows us to understand individuals' motivations (which are not only utilitarian) for engaging in collective action.

In general, all these models are mostly descriptions of when, where, and how the digitally mediated collective activity happens, rather than answers to why this collective activity

is motivated and expressed in ways different from what instrumental views predict. This question remains in a new "cognitive black box," especially at the individual level. Most of the models—except Benkler's peer-to-peer production model—rest on the utilitarian/instrumental motivation as the almost exclusive mechanism that explains collective enterprises. The next section introduces the elements that complement current theoretical development of collective action in the digital media networks.

Table 1.1
Analytical frames of collective action in digital media networks.

	Analytical frames of collective action in digital media networks				
Explanation of:	**Traditional collective action theories (Olson-Williamson)**	**Collective action space (Bimber)**	**Hybrid media system (Chadwick)**	**Connective action (Bennett & Segerberg)**	**Common-base peer to peer production (Benkler)**
Ephemeral collective action	Free-ride/principal-agent problems	Not explained	Not explained	Momentary collective experiences	Not explained
Extended collective action	Hierarchical structure	Fluid and heterogeneous organizations	Hybrid organization	Hierarchical structured; Open structured; and horizontal structure	Horizontal forms: cooperative enterprise
Individualistic motivation	Utilitarian/ instrumental	Utilitarian/ Enhancement of individual agency	Utilitarian	Utilitarian/ Personalization of collective action	Utilitarian and nonutilitarian
Socially driven motivation	Not explained	Social motivation is important to only one type of person	Old social norms and practices shape new actions	Personalized publics	Psychological well-being and gratification, and social connectedness
Role of digital media networks	Not explained	Change the context where collective experience happens	Interact with the old system	Decreased costs of dig networks; "crowd-enables connective action"	Offers a platform to adopt radically decentralized cooperation strategies
Research focus	Organizations	Individuals' style of collective experience	Organizations	Social movements/ global contentious politics	Horizontal organizations

III. The aim: An alternative model of collective action in digital media networks

This dissertation works under the premise that the analytical frames explained in the previous section have the potential to more fully explain the new patterns of collective action in the digital environment if they are complemented with concepts from different disciplines that have studied collective action previous to the Internet era. In other words, I aim to demonstrate that employing multiple theoretical perspectives (including structural, cultural and sociopsychological approaches) to study digital collective action will fill some gaps left by current analytical frames. Thus, this dissertation aims to identify these possible contributions and integrate them into an overarching argument about digitally mediated collective action.

As was explained in the beginning of this chapter, digital media networks have shaped the environment in which collective action happens. Consequently this dissertation argues that, not only must the theoretical perspective used to study this new scenario be rethought, but it would be valuable to assume a different methodological approach in order to test this multi-theory perspective. This dissertation will utilize two different methods, OLS and fuzzy logic. These are expected to complement each other and contribute to understanding the dynamics that affect civic digital campaigns in different countries.

1. Research questions

In order to achieve the goals of this dissertation, three research questions were formulated. These are:

1. What factors, beyond the traditional utilitarian views, could explain the particularities of the collective action in digital media networks?

2. Do cultural and sociopsychological factors help to explain digitally mediated collective action?

3. How do country-specific cultural and sociopsychological differences help to explain the type of collective activity online?

2. An alternative model of collective action

This first introductory chapter began explaining how the utilitarian approach of neoclassical economics, from which social movement theory takes its main ideas about resource mobilization (Gurr et al., 1970; McAdam, McCarthy, & Zald, 1996; McAdam et al., 2001; Meyer, 2004), have influenced contemporary scholarship regarding digital collective action. In order to start answering the first question of this dissertation, Chapter II explains how at least two other traditional theoretical perspectives in social sciences could complement the views about the digitally mediated collective action: first, the values-based theories of the cultural approach (Almond & Verba, 1963; Braithwaite, Makkai, & Pittelkow, 1996; Delli Carpini, 2004; Inglehart & Welzel, 2010; Noelle-Neumann, 1974); and second, the psychological approaches about cognition and emotions (Bandura, 1997, 2009; Klandermans, 2002; Leonard et al., 2011; Van Zomeren et al., 2008).

Based on the resource mobilization perspective, which has been influenced by neoclassical economics literature, this dissertation considers there to be three country-level variables in off-line structural contextual conditions which could explain collective action: (1) the political context, which is very important because it affects individuals' capacity to gather resources, and it affects the efficacy of the use of those resources (McAdam, McCarthy, & Zald, 1996; Meyer, 2004; Tarrow, 1996); (2) economic conditions, which are instrumental in catalyzing grievance and collective action (Ragin & Walton, 1990); and (3) the level of

urbanization, which has been found relevant especially to explaining protests and social movements in countries under conditions of economic liberalization (Ragin, 2000; Ragin & Walton, 1990). These country-level conditions are the structural variables that allow testing of the second and third questions of this dissertation: whether cultural and sociopsychological factors help to explain the volume and type of digitally mediated collective action.

The second group of variables comes from a cultural perspective of collective action. In order to identify the variables, a values-based approach to culture was used (Williams, 2004). The variables are informed by data from the World Values Survey (WVS), a study that reports cultural differences across countries. Specifically, four variables are used: the traditional versus secular-rational values dimension; the dimension of survival versus self-expression values; the autonomy index; and fourth, the postmaterialism index (Inglehart & Welzel, 2010). Chapter II explains the expected theoretical linkages of these variables with civic digital campaigns and tests them in three hypotheses. The third way to analyze civic digital campaigns relies on psychological variables related to the subjective evaluation of seemingly objective conditions: perceived injustice, perceived political efficacy, and the level of general satisfaction per country, which has been found to be a collective action catalyst (Leonard et al., 2011; Martijn Van Zomeren, Fischer, & Spears, 2007). These psychological variables are used in Chapter II to formulate and test four hypotheses.

In order to answer the second and third research questions, Chapter II uses descriptive statistics and regression analysis (OLS). However, it is well known that this methodology for cross-national comparative research is weak because the required homogenization assumptions about populations are rarely matched with nation-states' data (Ragin, 2000). Also, OLS analysis focuses on understanding variables under conditions of ceteris paribus, which excludes the

interactions among other variables (Shalev, 2007). Therefore, Chapter III introduces a discussion about the weakness of OLS models and how comparative methods could contribute to solving some of those weaknesses. Chapter III complements the finding of Chapter II by using the theory-based Fuzzy Set Approach, which, rather than building relationships from regression norms, builds them from a qualitative-comparative approach to causal analysis (Mahoney, 2010; Ragin, 2000). The richness of the Global Activism Data Set and the WVS gives valuable evidence to identify causal conditions and create sets based on theoretical arguments from the reviewed literature. Finally, Chapter IV integrates the discussion sections from the previous chapters as a conclusion to this dissertation, discussing the complementarity of both epistemological methods and integrating a model for understanding digital activism and online collective action.

Chapter II:
Cultural and Sociopsychological Factors Explaining Variation of Civic Digital Campaigns

Abstract

Based on a sample of 197 digital civic campaigns in 37 countries, this chapter uses regression analysis (OLS) to test whether cultural and sociopsychological factors can predict the number of civic digital campaigns at the national level. It also uses OLS to explain different countries' variation in proportions of campaign types. There are 5 campaign types, identified by the 5 different campaign goals: governance, distribution of resources, human rights, environment, and consumer satisfaction. The analysis reveals that countries with one or more of the following characteristics have more civic digital campaigns: more traditional values, a higher average of years of schooling, and less satisfaction with life in general among the country's citizens. It was also found that perceived political efficacy increases the proportion of consumer satisfaction campaigns but decreases the proportion of governance campaigns; also, more secular countries exhibit increased proportions of environmental civic campaigns.

I. Introduction

In 2010, Greenpeace launched a global online campaign asking the multinational Nestle to stop buying palm oil from destroyed rainforest in Indonesia. In an unprecedentedly short period of time, sympathizers wrote thousands of messages on the KitKat Facebook page and e-mailed the CEO of the company (Roosevelt, 2011). On April 5, 2011, when social activist Anna Hazare in India started a fast-unto-death campaign to demand an effective anti-corruption law, hundreds of thousands of Indians supported him (Global Voices, 2011). Also, 15M in Spain and the Occupy movement in the United States (both in 2011), as well as hundreds of other massive and rapidly organized initiatives worldwide have emphasized the importance of understanding the role of digital media in shaping the conditions under which individuals might cooperate to pursue common goals—in other words, the conditions under which individuals might participate in collective action.

This research focuses on only one type of collective action, similar to the examples above: the civic digital campaign, which is understood as "an organized public effort making collective claim(s) of target authority(s) in which civic initiators or supporters use digital media" (Edwards, Howard, & Joyce, 2013, p. 4). As it was said in chapter I, the term 'civic' before digital campaigns is used in this dissertation in order to differentiate this type of campaigns from political campaigns aimed to electoral purposes. The research is based in a sample of 197 civic digital campaigns from 2010 to 2012 in 37 countries. It focuses first on the number of digital campaigns per country, and second on the campaign goals in each country. Recall there are 6 identified categories of campaign goals: governance, distribution of resources, human rights, environment, and consumer satisfaction and others.

Digitally mediated collective actions have surprised scholars worldwide, and much has been written about the importance of the affordances of the Internet and social media tools contribution to the seemingly increasing level of mobilization in the last years (Agarwal et al., 2014; Carlisle & Patton, 2013; Earl & Kimport, 2011; Lievrouw, 2011). For this research it is theoretically relevant to know whether cultural and sociopsychological factors of the countries in which individuals live and are socialized mirror on the digital public sphere where civic digital campaigns form. The research questions focus on discovering what cultural and sociopsychological factors can explain the number of civic digital campaigns, and whether country-specific cultural and sociopsychological differences can explain the prevalence of different types of civic campaigns.

In order to answer these questions, as will be explained in this chapter, this research uses traditional social sciences research about collective action, which can be divided into at least three kinds of approaches: first, neoclassical economics, from which social movement theory takes its main ideas about resource mobilization (Gurr, et al, 1970; McAdam, McCarthy, & Zald, 1996; McAdam, Tarrow, & Tilly, 2001; Meyer, 2004); second, the cultural approach and the values-based theories (Almond & Verba, 1963; Braithwaite et al., 1996; M. X. Delli Carpini, Cook, & Jacobs, 2004; Inglehart & Welzel, 2010; Noelle-Neumann, 1974); and third, the psychological approach about cognition and emotions (Bandura, 2009; Klandermans, 2002; Leonard et al., 2011; Martijn Van Zomeren, Fischer, & Spears, 2007). This research makes theoretical linkages between these traditional approaches and the civic digital campaigns.

Building from neoclassical economics literature, this research considers there to be at least three country-level variables that inform about the off-line structural contextual conditions in each country: political context, economic conditions, and level of urbanization (McAdam et

al., 1996; Ragin, 2000; Ragin & Walton, 1990). Regarding cultural differences, it is hypothesized that cultural differences, from a values-based approach to culture, have an effect on both the number and the types of digital campaign in each country. The relevant information regarding cultural factors included in this dissertation comes from the World Values Survey (WVS) (Inglehart & Welzel, 2010).

The third approach used to analyze civic digital campaigns focuses on sociopsychological variables related with the perceived injustice, perceived political efficacy, and the level of general satisfaction per country, as some of the variables found relevant to explain collective action in the past (Leonard et al., 2011; Martijn Van Zomeren et al., 2007). The analysis section includes the creation of the digital campaigns distribution index (DCDI). The DCDI enables comparison between countries, with different populations, and different Internet access rates. To determine whether the cultural and psychological variables—which are controlled by structural variables—actually predict the number of digital campaigns and the proportion of campaign by goals, simple linear regressions are used (OLS).

II. Literature review

Collective action can be defined as the cooperation between individuals to pursue common goals (Olson, 1965). If these goals are civically- or politically-oriented, several avenues have been used: civic or public engagement, political participation, social movements, democratic engagement, public voice, civic campaigns, and protests, among others (Bennett, 1998; Delli Carpini et al., 2004; McAdam et al., 1996; Zukin, 2006). This research assumes that part of the scholarship regarding those concepts from the social sciences can be used to analyze a specific kind of collective action which is happening in the digital networks environment or is enabled by

the use of digital media: the civic activism campaign. The civic activism campaign is understood as "an organized public effort making collective claim of target authority in which civic initiators or supporters use digital media" (Edwards et al., 2013, p. 4). In order to differentiate these activities from political campaigns aimed to electoral purposes, this dissertation uses the term "civic digital campaign."

The literature review in this chapter analyzes three different social sciences approaches to collective action: the resource mobilization approach, the cultural approach, and the psychological approach. The first part identifies some variables from the resource mobilization perspective that will be used as control variables in the methodological section; the second and third parts hypothesize how cultural and psychological factors might be impacting digital civic campaigns.

1. Neoclassical economics and social movements

The popularity and widespread acceptance of the resource mobilization approach to studying collective action, makes it a good starting point for developing the ideas about how cultural and psychological factors can complement the explanations about digital collective action. In the following paragraphs, the main points of the resource mobilization approach will be explained, as well as how some control variables can be obtained from this approach in order to test the main hypotheses of this research.

In terms of digital activism, an important part of the explanations regarding collective action via digital media networks still rests on the utilitarian approach from neoclassical economics (Olson, 1965; Ostrom, 1990; Williamson, 1981) that social movement scholars have named as the "resource mobilization approach," for studying collective action (Gurr et al., 1970; McAdam et al., 1996, 2001; Meyer, 2004).

Traditional collective action theories are based on the premise that the individuals are respondents and decision makers. The main claim of these approaches is that the likelihood of collective action happening is negatively correlated to group size, because a larger group motivates the rational-individual to free ride on others' efforts (Alchian & Demsetz, 1972; Coase, 1937; Olson, 1965; Ostrom, 1990). For collective action and social movement scholars, the most common way to face these problems is by vertical integration, in which a central organization mobilizes resources for planning, coordinating, and offering incentives that facilitate the collaborative enterprise (Lichbach, 1995; McAdam et al., 2001; Tarrow, 1996).

The examples mentioned in the introduction of this chapter, as many other forms of current online collective action, do not necessarily match the traditional resource mobilization explanation. For example, people are now able to organize collectively faster, more cheaply, and on a larger scale than could be expected, no matter if a formal organization is facilitating the mobilization of resources (Agarwal et al., 2014; Bennett & Segerberg, 2013; Hussain & Howard, 2013; Xenos, 2014). These particular patterns of collective action have been explained by the affordances of digital technologies and its networked infrastructure. The leverage of the Internet affordances has decreased the cost of contributing to the production of collective goods. In this way, individuals have been able to control the problem of free-riders because they can decide their own collective experience and involvement, besides the digital networks have provided the networked infrastructure that reduces the cost of organizing and communicating (Bennett & Segerberg, 2013; Bimber et al., 2012; Xenos, 2014).

Most of the research and theorization regarding online collective action has been done by case studies or comparative case study in which the focus is the "collective-action" or the movements' internal features (Agarwal et al., 2014; Bennett & Segerberg, 2013; Bimber et al.,

2012; Earl & Kimport, 2011). This chapter uses a different methodology, incorporating the countries' social contexts and resources available to control for factors of the environment that could have "direct and indirect consequences for people's common decisions about how to define their social change goals and how to organize and proceed in pursuing those goals" (McCarthy, Britt, & Wolfson, 1991, p. 46). The structural variables from the resource mobilization approach are the first group of variables used in this research to analyze the impact of the context over civic digital campaigns.

As was mentioned in chapter I, literature about civic and political engagement, protests and social movements could be used to better understand civic digital campaigns. In particular, literature on social movements has identified several important factors at the national level that are relevant for explaining the organization of collective action. These factors, this research hypothesizes, can have also a role in digital campaigning, because the civic digital campaign is similar to the social movement in the sense that both are type of organizations challenging authorities in order to advance collective interests. That is the reason why these factors are used in this research as control variables to test the effects of culture and sociopsychological variables over civic digital campaigns. Conditions such as urbanization; economic hardship or average income within countries; wealth distribution; levels of unemployment; international economic dependence; and political conditions are among the most studied (Hussain & Howard, 2013; Ragin & Walton, 1990). This dissertation takes into account that cross-national index comparisons could have some methodological critiques, especially considering in-country variance, but the value of mapping the contextual conditions under which civic digital campaigns appear is still recognized. It is not expected that one single variable explains the whole society context, but that the different variables together can give a good explanation of the differences

between countries. The following paragraphs explain the variables that account for structural contextual factors in this research.

The political context, as political opportunity structure theory states, is important because it affects the individuals' capacities to gather resources, and affects the efficacy of the use of those resources (McAdam et al., 1996; Meyer, 2004; Tarrow, 1996). In the political context, issues related to authoritarianism or free speech could actually be triggering and/or constraining certain social movements (Tarrow, 1996). In order to operationalize this concept, this dissertation uses as a variable the type of regime, which is informed by the Polity IV index, which covers 167 countries on qualities of democratic and autocratic authority in governing institutions (Marshall, Jaggers, & Gurr, 2011). The index is built from a 10-point democracy scale in which the competitiveness of political participation contributes a maximum of 3 points; the competitiveness of executive recruitments (elections contested by two or more parties or candidates) could add up to 2 points; the openness of executive recruitment (the potential opportunity of any citizen to achieve the position by following a process) contributes up to 1 point; and constraints on the chief executive could add up to 4 points. Level of autocracy (or dictatorship) is measured by negative versions of the same indices. Then, the two scales are combined into a single democracy-autocracy score that ranges between –10 and 10. A score of 10 indicates full democracy; 6 to 9 indicates partial democracy; 1 to 5 indicates open anocracy; -5 to 0 indicate closed anocracy; and -10 to -6 indicate autocracy (Marshall et al., 2011).

The economic conditions in which a group lives has been considered influential in literature about collective action and participation in two different ways. First, the classic idea from breakdown theories states that relative deprivation and shared grievances associated with generalized beliefs (not necessarily with rational beliefs), are determinants for participation (Gurr

et al., 1970; Smelser, 1963). Second, the economic conditions are influential in the resource mobilization approach. In this second approach, in contrast there is the improvement in welfare associated with better economic conditions what catalyzes collective action (McAdam et al., 1996; Ragin, 2000). Economic conditions could be factors for both destabilizing countries and consequently producing citizen mobilization related to grievance (Ragin & Walton, 1990), or, on the contrary, for demonstrating the availability of resources—good economic conditions—that could explain more organization in the resource mobilization approach. Traditionally, different indicators have been used to account for these characteristics, such as income per capita, inflation, and inequality. This dissertation uses only one general indicator to compare economic conditions between countries: the gross domestic product of a country by purchasing power parity divided by its midyear population, commonly known as "GDP (PPP) per capita." This indicator is the best for this research because it allows the comparison of individual resource availability. In this chapter, it is simply referred to as "GDP (PPP)" (The World Bank, 2013).

The level of urbanization in a country is a structural condition that explains dynamics of citizen mobilization. Urban population rate has been found to be one of the main factors—controlling for other structural variables—which explain the occurrence of protests and social movements for economic reasons (Ragin & Walton, 1990). This variable has been studied and found to be influential especially for explaining protests in countries under conditions of liberalization measures that have controlled the size of the State, decreased the number of public employees, and reduced subsidies and real wages (Ragin, 2000; Ragin & Walton, 1990). This is relevant for this research because economic liberalization is the dominant trend in organizing resource distribution for most countries at the beginning of the 21st century—in other words, it would not be appropriate to use theories that explained peasant revolutions in the agrarian or

industrialization eras. This research uses data about percentage of urban population by country as used by the United Nations Department of Economic and Social Affairs (United Nations, Department of Economic and Social Affairs, Population Division, 2013). Table 2.1 illustrates the three concepts from the resource mobilization approach that are used as variables for this research.

Table 2.1
Structural variables influencing digital civic campaigns.

Concept name	Conceptual definition	Theoretical linkage	Independent variable operational definition
Economic conditions	The general state of the economy in a country. Common indicators of economic conditions in a country are economic growth, inflation, poverty, GDP, and more.	In breakdown theories, communities experiencing economic deprivation participate more in protest and mobilization. In resource mobilization approaches, the availability of resources is positively related to participation in collective action.	Gross domestic product converted to international dollars using purchasing power parity rates, referred to as "GDP (PPP)." this variable is expressed in U.S. dollars and analyzed as a continuous variable.
Government type	An indicator of the country's political context.	In the resource mobilization perspective, political context affects individuals' capacities to gather resources and make use of them. Consequently, more authoritarian political contexts tend to have a negative impact on collective activity.	Polity IV index informs the quality of democracy in a country. This index ranges from 10 to -10 and describes government types as follows: • full democracy (value of 10) • democracy (6 to 9) • open anocracy (1 to 5) • closed anocracy (5 to 0) • autocracy (-10 to -6) This is a discrete variable expressed in scale points and analyzed as a continuous variable.
Urban population	Urban population refers to the number of citizens living in cities and urban areas (as opposed to living in the countryside).	A large percentage of urban population in a country explains increased numbers of protests and mobilization.	The operationalization of the variable is the percentage of people living in cities in a country. The variable is expressed in percentages and analyzed as a continuous variable.

The resource mobilization approach has been dominant in the explanation of collective action in the pre-Internet era, and it has continued to be relevant to explain digital collective action. However, some theories also suggest that a good way to answer these questions of why

and how people engage in collective action is to bring together theories about human psychological subjectivity and the sociological perspectives that focus on culture and social structures (Benkler, 2006; Van Zomeren et al., 2008). This research analyzes collective action, in the form civic digital campaigns, based on the cultural and sociopsychological context in which it appears.

2. Culture and collective action

An alternative route to the traditional resource mobilization view of collective action was taken during the 1980s. The "new social movement theory" exponents had turned the discussion to include culture in the equation of understanding collective action (Cohen, 1985; Habermas, 1981; Melucci, Keane, & Mier, 1989; Melucci et al., 1989; Williams, 2004). These scholars focused on the content or concerns that motivate the activism. In other words, they focused on the "norms and identities rather than material interests and economic distribution" that motivate the collective action (Williams, 2004, p. 92). In the United States, framing studies represented this cultural turn with abundant scholarship. The goal was to understand how the use of symbols, claims, or identities makes the people organize (Williams, 2004). The type of scholarship is "movement-centric," studying internal dimensions of the movement, its norms, beliefs, symbols, identities, and stories that mobilize individuals (Williams, 2004, p. 94). In terms of digital collective action, it is still possible to see some research along these lines, focusing on the content, symbols, and dynamics of online movements (Earl & Kimport, 2009; Kuhlow, 2013; Ratto & Boler, 2014; Yang, 2013).

Another line of research that takes a cultural approach to studying collective action, and the one that this dissertation employs, focuses on the cultural contexts in which movements appear. In this view, the unit of analysis is not the "movement" but rather the cultural context

and the configuration or structure of formal and informal meaning. Culture is defined as the "array of values, which were [are] widely and deeply held, and solidly institutionalized [in a group]" (Williams, 2004, p. 98). Although there is no agreement about how exactly socialization of cultural values and practices influences the involvement in the civic and political world, there is consensus about its significant role (Delli Carpini et al., 2004; Inglehart & Welzel, 2010). Extensive work has been done in the past along this line—for example, studying the political culture and perceived norms in a society and how they influence public opinion and political and civic participation (Almond & Verba, 1963; Noelle-Neumann, 1974); and examining the cohort and environmental characteristics in which group members are socialized (Bennett, 1998; Zukin, 2006). However, there is still not much large-scale research comparing countries, according to their values and culture, in the analysis of digital collective action. This has become of great importance, considering current trends in digitally-facilitated collective action.

In the study of cultural context, the values-based approach has been particularly popular. This approach understands the cultural environment as the "array of values, which [are] widely and deeply held, and solidly institutionalized" (Williams, 2004, p. 98). The cultural environment puts boundaries between actions that are legitimate and those that are not (Williams, 2004). In past research, some of the attitudes and beliefs that have been found relevant to explaining civic participation are political efficacy, social trust, political interest, civic duty, and tolerance (Delli Carpini et al., 2004). Attitudes and beliefs do not act in isolation, but intersect with other frameworks that try to understand collective action, such as social identity theories as will be seen in following section about sociopsychological variables. In terms of digital media, it is widely accepted in literature that people's values and culture interact with the design, the use, the resistance and the modification—(re)appropriation—of artifacts and technical systems (Agarwal

et al., 2014; Flanagan, Howe, & Nissenbaum, 2008; Hughes, 2004; Latour, 1991; Winner, 1980). Furthermore, with this evidence, it can also be suggested that it is not only the leverage of the technology affordances that matters for digital activism but also the values that compose the cultural environment. This is what this research focuses on—analyzing if and how the cross-nation cultural differences mirror the number and type of civic digital campaigns.

The World Values Survey (WVS) is the best current, representative study that analyzes the cultural context in different societies. The WVS includes 54 countries and territories, covering nearly 90 percent of the world's population. (The 90 percent amounts to about 6.7 billion people when the WVS's world population estimate is used (Esmer, 2007)). The WVS is a data set composed of data from surveys of representative national samples of individuals, using a standardized questionnaire applied for several years at a time. Each period is called a wave, and there have been six waves leading up to 2014. The WVS fifth wave, conducted between 2005 and 2008, become the main source for analysis of cultural factors for this research. The WVS measures support for the following things: democracy, tolerance to foreigners and ethnic minorities, gender equality, the role of religion, attitudes about the environment, work, and family, among others (World Values Survey Association, 2008).

Factor analysis of the WVS data aggregated to the national level (by taking the mean score for each nation from previous waves) has shown that more than 70 percent of the cross-cultural variance is focused in two major statistical dimensions: traditional versus secular-rational values and survival versus self-expression values (Ronald Inglehart, 2005; World Values Survey Association, 2008). A dimension is a statistical concept that shows equivalence between two different units. This means that "two units of measure have the same dimensionality if there is a function that maps values in one unit of measure to values in the other and the inverse of the

function maps values in the second units back to the values in the first" (OECD, 2008, p.40). Initially, works regarding these two dimensions used factor scores based on 22 variables, but current dimensions use factor scores based on 10 variables. This change has minimized the problems of missing data, because when one variable was missing from one case, an entire nation was lost from the analysis (Inglehart, 1997; Inglehart & Baker, 2000; World Values Survey Association, 2009). The current dimensions are called: 1) traditional versus secular-rational values dimension, that explains 46 percent of total cross-national variation, and 2) survival versus self-expression values dimension that explains 25 percent of total cross-cultural variation (Ronald Inglehart, 2005, p. 49); both dimensions are explained in the following paragraphs. See more information regarding factor loadings for the aggregated date through 2005 in Table A.1 in Appendix A.

The traditional versus secular-rational values score informs a statistical dimension from WVS that "reflects the contrast between societies in which religion is very important and those in which it is not" (Inglehart & Welzel, 2010, p. 563). This orientation has other implications; for example, more religious societies tend to emphasize the importance of parent-child ties and greater distance from authority, and they are against divorce or abortion. In traditional societies people have high levels of national pride, favors more respect for authority and they rarely discuss politics. They emphasize conformity rather than individualistic striving (Inglehart, 2005). This variable is expected to have an impact on the number of civic digital campaigns because more traditional societies are very respectful of hierarchical structures, so individuals in those societies would be less likely to organize campaigns to target authorities. This theoretical linkage helps to phrase the first hypothesis:

H.1. If countries have more traditional values, then they will have fewer civic campaigns to bring claims to their authorities than more secular countries have.

The survival versus self-expression values score informs a statistical dimension related to the fact that an important part of the world population has grown up taking survival for granted so that basic needs as food or shelter are not a concern anymore. To this population, their "priorities have shifted from an overwhelming emphasis on economic and physical security to an increasing emphasis on subjective well-being, self-expression, and quality of life" (Inglehart & Welzel, 2010, p. 564). This dimension highlights the fact that individuals in industrial societies have passed from a materialist values orientation to one of postmaterialism values, in which subjective well-being and self-expression have emerged (Ronald Inglehart, 2005). For example, "[they] give high priority to environmental protection [and] tolerance of diversity, and [they support] rising demands for participation in decision making in economic and political life" (Inglehart & Welzel, 2010, p. 564). In this dissertation, it is expected that these value orientations are reflected in the type of civic campaigns different societies organize. Societies with higher self-expression values should be less likely to collectively organize to achieve economic and physical security, because according to the authors, those necessities are already granted (Inglehart & Welzel, 2010); individuals in these societies should be more inclined to organize campaigns aimed to achieve other type of purposes. This idea is stated in the following hypothesis:

H.2. If countries have more self-expression values, which would occur because they have taken survival for granted, they will have a larger proportion of campaigns oriented to consumer satisfaction and dealing with environmental issues than campaigns oriented to more basic needs such as human rights or resource distribution.

Factor analyses of previous versions of the WVS have found two other indices[3] that also account for cross-cultural diversity, and are part of the battery of the wave used in this research. The indices are: 1) the autonomy index and, 2) the postmaterialism index. The autonomy index refers to "the state of being a self-governing agent" rather than being governed from the outside (Kagitcibasi, 2005, p. 404). The index indicates an emphasis on personal autonomy in educating children. It uses only four variables regarding the list of qualities that children must be encouraged to learn at home: religious faith; obedience; independence; imagination; and perseverance (Welzel, 2010; World Values Survey Association, 2009). Consequently, this research expects that a society's level of autonomy will positively influence the number of civic digital campaigns, because individuals in highly autonomous societies tend to be more self-determined and perseverant, characteristics that would motivate individuals to initiate collective action.

The postmaterialism index was created by factor analysis from initial versions of the WVS. According to the authors, this index is explained by the idea that economic affluence makes "societies become more tolerant, egalitarian, participatory, and nurturing" (Davis & Davenport, 1999, p. 649). The original index, since 1970, included two materialism items: maintaining order in the nation and fighting rising prices; and two postmaterialism items: giving the people more say in important government decisions and protecting freedom of speech (Braithwaite et al., 1996). In response to critiques to the validity of the 1970 index, the 1990 version of the WVS included the new Inglehart index from 1977, with twelve items presented in

[3] –Index: upper-level statistical structure that group items with fixed weights within the structure (OCDE, 2008)-

three groups of four items (Hansen & Tol, 2003; Inglehart, 1997).[4] Each one of the sets contained two items designated to tap materialist priorities, and two designed to tap postmaterialism priorities. The materialist items emphasized the following survival needs: rising prices, economic growth, stable economy, maintaining order, fighting crime, and strong defense forces. The postmaterialism items are designed to tap into issues such as the belief that all of these needs are universal, and the belief that every human being needs sustenance and safety but also desires self-expression, esteem, and aesthetic satisfaction and has sense of intellectual curiosity (Inglehart, 1997). Table 2.2 illustrates all the cultural variables that are hypothesized in this research as influencing digital civic campaigns. As was explained earlier, because postmaterialist societies are concerned that survival and self-expression concerns are fulfilled in the whole population, it is expected that the number of civic digital campaigns in those societies will be larger. The expected influence of these last two concepts on digital campaigns is stated in the third hypothesis:

H.3. Countries with a higher level of autonomy or postmaterialism values will present more civic digital campaigns.

[4] Consistently in 1973 and 1978, in a sample of nine countries, the results of factor analysis clustered five items together (the same five items in every country) near one end of a continuum (The postmaterialist end) and at the extreme, six items are grouped (materialist items) (Inglehart, 1997). The same pattern reproduced multiple posterior analyses, as shown by the total countries and by regions in the WVS 1990-1991 wave (Inglehart, 1997).

Table 2.2
Cultural variables influencing digital civic campaigns.

Concept name	Conceptual definition	Theoretical linkage	Independent variable operational definition
Traditional versus secular-rational values dimension	This dimension contrasts more conservative countries—in which religion is very important and which show greater respect for authority—with countries that are more secular and that have less respect for authority.	Considering that more traditional countries tend to maintain hierarchical structures, they are less likely to mobilize claims to target authorities that can implement or direct the changes.	National-level mean scores on traditional/secular-rational, aggregated values from 1981 to 2007. Values range from -2.5 (more traditional values) to +2.5 (more secular-rational values). This variable is analyzed as continuous.
Survival versus self-expression values dimension	This dimension contrasts countries in which the priorities of the society are economic and physical security with the countries that prioritize subjective well-being and self-expression.	Considering that countries with self-expression values have their survival needs already granted, they will be less likely to collectively organize to achieve economic and physical security. Proportionally, they will organize more for consumer satisfaction and environmental issues.	National-level mean scores on survival/self-expression values dimensions from 1981 to 2007. Values Range from -2.5 (more survival-oriented values) to 2.5 (more self-expression values). This variable is analyzed as continuous.
Autonomy	This value refers to the perception of the individual as a self-governing agent who values determination, imagination and perseverance. In contrast to this are individuals for whom faith and obedience to authorities are valued.	Countries with a higher level of autonomy (self-determination and perseverance) will have more collective action for achieving the common good.	The index of autonomy ranges from -2 (less autonomous) to +2 (more autonomous, meaning less obedience and less religious faith, and high determination and independence). This variable is analyzed as continuous.
Postmaterialism	This value emphasizes that self-expression, esteem, aesthetics, and intellectual curiosity are part of human needs, as opposed to emphasizing safety and other survival needs.	Postmaterialism considers that both survival and self-expression are necessary. Consequently, countries with more postmaterialism values will have a greater amount of issues to mobilize for. Thus, they will have more collective action.	The postmaterialism index is composed by 12 items. The index values range from 0 (materialistic values) to 5 (postmaterialism values). This variable is analyzed as continuous.

3. Psychological approach

A third approach includes sociopsychological factors that have aided the understanding of collective action in the past. It comes from studies focusing on ideas portraying individuals not only as rational-instrumental decision makers—as the resource mobilization view does—but as people searching for psychological well-being and gratification, and desiring social

connectedness (Barling, Fullagar, & Kelloway, 1992; Benkler, 2006; Klandermans, 2002). These studies also view the collective action as triggered by cognitive and affective processes (Conover & Feldman, 1984; Delli Carpini et al., 2004; Leonard et al., 2011).

Social connectedness and the subjective feeling of being part of a group have great impact on fostering collective action that could favor the group's well-being (Barling et al., 1992). Social identity, which is "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups), together with the value and emotional significance attached to that membership" suggests that the more an individual identifies with a group, the more likely he or she will be to join collective activity (Tajfel, 1978 in Klandermans, 2002, p. 63). The identification with the group is not enough to produce collective action, but identification is the psychological connection between the other two necessary conditions that sociopsychological perspectives have found to be key predictors of collective action: the perception of the level of injustice (awareness that an unfair situation is happening), and the perception that engaging in collective action could actually change the situation (which is usually called "perception of political efficacy") (Van Zomeren et al., 2008).

One element that can be important for individuals' ability to perceive injustices is having appropriate information about the injustices, together with the cognitive skills to process this information (Delli Carpini et al., 2004). Some cognitive skills conditions that are commonly studied in political communication as necessities for different types of civic and political engagement are: attention, perception, memory, comprehension, and predispositions (Alvarez & Brehm, 2002; Tourangeau, Rips, & Rasinski, 2000). Although there's not agreement about which factors are more relevant for 1 or other type of engagement, there is a consensus that, in general, the development of cognitive skills is related to participation in formal education

(Downey, Hippel, & Broh, 2004). Consequently, what can be expected is that countries with a higher average of years of schooling are more cognitively skilled to process information and recognize injustices, and are thus more likely to organize civic digital campaigns. From this rationale comes the fourth hypothesis.

H.4. If a country's citizens' average number of years of schooling is higher, then the total number of campaigns will be higher.

Also, considering that perceived injustice motivates organization, it is also expected that the recognition of one problem will motivate online collective action in that problem area more than in others. In this way, it is hypothesized that:

H.5. If a country's population recognizes a problem as a high priority, the proportion of campaigns with that specific goal type is larger.

The second element that is important to being able to perceive injustices is the perceived responsiveness of the authority to the individuals' demands (Balch, 1974). In other words, in terms of joining others in action, what does matter is the "people's subjective expectation of whether collective action would be effective in achieving its goal(s)" (Van Zomeren et al., 2008, p. 506). Socio-psychological perspectives of collective action state that not only is the individual perceived political efficacy important, but group efficacy is also a good predictor of whether or not collective action will be initiated. Perceived group efficacy is understood as the "shared belief that one's group can resolve its grievances through unified effort" (Van Zomeren M et al., 2008, p. 507).

Although the definition of what constitutes political efficacy or perception of political efficacy seems generally accepted, the operationalization of the concept has been more complicated (Welch, Miller McPherson, & Clark, 1977). Considering the difficulties in the

operationalization of political efficacy in the literature, this research uses a simple proxy of it, which could also contribute to the ongoing debate and research, with divergent results, regarding the relationship between online and off-line participation (Enjolras, Steen-Johnsen, & Wollebaek, 2012). This proxy is based on the assumption that willingness to participate in the off-line political or civic activities, or the actual participation in these activities, implies a perceived tradition of efficacy of such actions. Otherwise, according to the theory, individuals in those societies would not consider taking part in the action. Then, this dissertation expects that the manifested willingness to participate or actual participation in offline civic or political activities could also inform the perception of political efficacy in civic digital campaigns. In other words, a society that perceives offline actions as effective will also tend to consider civic digital campaigns more effective than societies that do not consider offline action to be effective. This idea is stated in the sixth hypothesis:

H.6. If a country has a higher proportion of people participating in off-line collective action, then the country will also likely have a higher number of civic digital campaigns.

This concept is operationalized as the average number of people that have politically participated or are willing to participate in any form of political action. The available data from WVS gives four different options of ways to participate: signing a petition, joining a boycott, attending a peaceful demonstration, and assisting with other demonstrations (World Values Survey Association, 2009). The different activities combined allow a binary variable to be created for each individual, indicating whether or not he or she has responded yes to any of those. After that, what is used as predictor in this chapter is the percentage of individuals by country that have responded yes to any of those activities.

Although the perception of justice is relevant to predict collective action, as well as perception of political efficacy, some research attests that emotional components seem to be very important factors in the equation of collective activity as well, because they ignite the action (Klandermans, 2002; Leonard et al., 2011; Marcus & MacKuen, 2001; Martijn Van Zomeren et al., 2007). Among the most extensively studied emotions that drive collective action is anger. It has been shown that when a group is very angry, people in that group are not willing to tolerate new injustices and consequently the members join others to change the situation (Leonard et al., 2011). Anger acts as a conceptual bridge, decreasing the threshold of action between group subjective perception of injustice and specific action tendencies to confront those responsible for unfair deprivations (Van Zomeren et al., 2008). The angrier the group is, the higher the chances will be of a reaction against a perceived injustice (Leonard et al., 2011). On a national level, it can be expected that an angrier country will organize more campaigns "making collective claim(s) [against] target authority(s)" (Joyce et al., 2013a, p. 5) than countries with a lower level of angriness.

While it was not possible for this research to find accounts of "angriness" by country, what is possible is to use the WVS's relevant data regarding the individuals' level of satisfaction with current life, using a 1–10 scale from completely dissatisfied to completely satisfied (World Values Survey Association, 2009) as an instrumental variable. This is an appropriate measure since several researchers in psychology have demonstrated that anger has an inverse relationship to satisfaction (Hong & Giannakopoulos, 1994) and happiness (Van Kleef, De Dreu, & Manstead, 2004), the same in marketing research, where anger has been found inversely correlated with satisfaction with product or services (Casado-Díaz, Más-Ruiz, & Kasper, 2007; Liljander & Strandvik, 1997). In this way, the literature states that satisfaction and anger are on

opposite side of the emotional spectrum, and although it is not a perfect measure of angriness in a country, it follows that less satisfied societies would organize more civic digital campaigns. In short, the next hypothesis is:

H7. If the level of satisfaction of the population in a country is low, then the country will have more campaigns.

All the variables from the sociopsychological perspective that are hypothesized in this research as influencing civic digital campaigns are illustrated in Table 2.3.The conceptual definition, theoretical linkage, and the operational definition of each variable that will be used in the analysis are summarized in the table.

Table 2.3
Sociopsychological variables influencing digital civic campaigns

Concept name	Conceptual definition	Theoretical linkage	Independent variable operational definition
Cognitive skills	Individuals' mental capacities to process information.	Sociopsychological approaches to collective action emphasize that cognitive skills are necessary to perceive and interpret injustices and to organize collective action. Consequently, societies with more developed skills will collectively organize more than countries in which their citizens have less developed cognitive skills.	Average years of schooling. There is relative consensus that formal education helps to develop cognitive skills. Consequently, the average years of schooling is used as an instrumental variable that can inform about these cognitive capacities in a society. The variable is measured in years and analyzed as continuous.
Political efficacy	Informs the individuals' perception of whether engaging in collective action will actually resolve the grievances and create the common good.	Socio-psychological perspectives state that in order to engage in collective action, individuals need to perceive that engaging in collective action can change the situation that motivates the activity.	Perception of off-line efficacy. The actual participation or the willingness to participate in off-line activity is used as a proxy for the individuals' perception of the efficacy of collective action. This variable accounts for the percentage of people who have politically participated or might participate in any of the following forms of political actions: signing a

			petition, joining a boycott, attending a peaceful demonstration, and assisting with other demonstrations. This is a continuous variable.
Anger	An emotion that acts as a bridge between the perception of injustices and the actions that could resolve the issue.	Theoretically, the angrier a population is, the more likely those individuals will be willing to react to perceived injustices.	Satisfaction with life in general. Because anger is not an emotion popularly measured in public opinion surveys, the level of general life satisfaction in a country is used (which has been proved to be the opposite of feeling angry, and it is conveniently measured by the WVS). The life satisfaction variable is measured on a scale of 1 to 10, from completely dissatisfied (1) to completely satisfied (10).

Summary of research questions and hypotheses.

Research questions: What cultural and sociopsychological factors could explain civic digital campaigns? Could country-specific cultural and sociopsychological differences explain the prevalence of different types of civic digital campaigns?

H.1. If countries have more traditional values, then they will have fewer civic campaigns to bring claims to their authorities than more secular countries have.

H.2. If countries have more self-expression values, which would occur because they have taken survival for granted, then they will have a larger proportion of campaigns oriented to satisfying themselves as consumers and dealing with environmental issues than are oriented to more basic needs such as human rights or resource distribution.

H.3. Countries with a higher level of autonomy or postmaterialism values will present more civic digital campaigns.

H.4. If a country's citizens' average number of years of schooling is higher, then the total number of campaigns will be higher.

H.5. If a country population recognizes a problem as a high priority the proportion of campaigns with that specific goal type is larger.

H.6. If a country has a higher proportion of people participating in off-line collective action, then the country will also likely have a higher number of civic digital campaigns.

H.7. If the level of satisfaction of the population in a country is low, then it the country will have more campaigns.

III. Measurement

This chapter analyzes civic digital campaigns as forms of collective action that occur on or by the use of digital media networks. The variability is measured in number and goal type of digital campaigns in 37 countries using a sample of 197 campaigns. Although neither the sample of countries nor the campaigns selected can be statistically representative of the world population, still this data is rich to provide the possibilities to make comparison among countries around the world (that together account for more than 5 billion people).

The Global Digital Activism Data Set (GDADS) (Joyce, Howard, & Edwards, 2013b) contains qualitative and quantitative variables describing digital activism campaigns. The first part of the project gathered protest event data from 1,180 cases from 1982 through 2012, from 151 countries, using a snowball sampling strategy (GDADS1). The second data set (GDADS2), which this dissertation works with, contains 426 cases that were selected using a purposive sampling method, which consists of studying the events by means of news reports about them.

The cases were selected by reviewing all reports for those years regarding digital activism, using particular key terms from Global Voices Online, Actipedia, and LexisNexis.[5]

The unit of analysis in GDADS is the digital activism campaign while the unit of observation is the news report about that campaign. This unit is commonly used for research about social movements (Edwards et al., 2013). The content analysis was done by "a group of trained and supervised graduate student coders who reviewed news stories" (Edwards et al., 2013, p. 9) to later assign values for qualitative and quantitative data in 25 variables that informs: campaign identifiers, actors, time, digital media applications, and outcomes. In this way, this version has a higher level of data quality than the first GDADS (Edwards et al., 2013).

This research about cultural and sociopsychological factors impacting digital collective action considers that the requirements for being a "digital activism campaign" in the sampling process and content analysis in GDADS2 make digital campaigns a more complex type of organization than other, less stable initiatives, such as a single protest event or a manifestation.[6] Consequently, the type of organization can inform better about patterns of digital collective action worldwide. It is noteworthy to mention that in order to avoid redundancy, annual campaigns are coded only once, and sub-campaigns inside of the larger campaigns were not considered as separate units. Considering the sampling method and the way in which qualitative data was obtained, this research can only attest that any finding is the result of the evidence

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[5] All detailed information regarding the data set can be obtained from: Frank Edwards, Philip N. Howard, Mary Joyce, "Digital Activism and Nonviolent Conflict: Project Report and Codebook," Digital Activism Research Project, 2013. 34 pp. Seattle, University of Washington.

[6] The requirements for being considered a case in the GDADS2 were: it is digital in the sense that initiators or supporters use it at least on digital media tactics; it is a public effort that sought to engage citizens as participants; it is collective; it has claims, meaning alternatives of solutions for which it could be identified whether they succeed or fail; it has a target to whom could be directed the petition to implement the solutions, and finally; it is civic—the initiator is not a government or private enterprise (Edwards et al., 2013).

found in the sources reviewed, and not a statistical representation of worldwide digital campaigns as a whole. Still, I believe that in this research, GDADS2 is a close representation and "the best available data set on one of the most important trends in global politics" (Edwards et al., 2013, p. 4) at this time.

Regarding cultural and sociopsychological variables, all relevant variables are obtained from the WVS. This chapter uses the fifth wave corresponding to 2004–2008 (World Values Survey Association, 2009).[7] While this data might seem outdated, this is not a concern for this research. Because literature states that early socialization is crucial for explaining public and civic engagement (Amadeo, Torney-Purta, Lehmann, Husfeldt, & Nikolova, 2002; Cook, 1985; Jennings & Niemi, 1974, 1981; Putnam, 1995), it would be more important to measure the period in which current initiators of the digital activity were socialized than to measure the moment in which they are executing campaigns. This research intends to check the contextual conditions under which digital campaigns appear and to test whether those differences do actually mirror the campaigns in number and goal type.

Information regarding structural variables was obtained from the United Nations Division of Statistics (United Nations, Department of Economic and Social Affairs, Population Division, 2013), from the Human Development Index (Malik & United Nations Development Programme, 2013), and from the International Telecommunication Union (International Telecommunication Union, 2013). ITU is a UN agency that collects data primarily from official country information.

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[7] The WVS is organized as a network of social scientists coordinated by a central body, the World Values Survey Association. The interviews are carried out with nationally representative samples of the publics of almost 100 societies on all six inhabited continents. The WVS is administered in waves that consist of a battery of general questions to all the countries, plus some items that are included for each territory. The WVS is carrying out the sixth wave of surveys 2010-2013. However, that data is not available at this time—it is expected to be available in 2014. This dissertation will use the fifth wave corresponding to 2004-2008 (World Values Survey Association, 2009).

The data are collected from an annual questionnaire sent to official country contacts, usually the regulatory authority or the ministry in charge of telecommunication and ICT. Additional data are obtained from reports provided by telecommunication ministries, regulators and operators and from ICU staff reports. In some cases, estimates are made by ICU staff; these are noted in the database (World Telecommunication/ICT Indicators database 2014).Information regarding the political regime is obtained from the Polity IV index of quality of democratic and autocratic governments. The Polity IV index contains information from 167 countries on qualities of democratic and autocratic authority in governing institutions (Marshall et al., 2011).

1. Models

The method used is the ordinary least squares (OLS), which is part of regression analysis that are "procedures for studying the relationship between an outcome variable *y* and a set of regressors *x*" (Cameron & Trivedi, 2005, p. 66). The OLS is a single-equation linear regression model in which the outcome variable is continuous (Cameron & Trivedi, 2005). The OLS allows predicting values of the digital campaigns as a function of the independent variables as function of the addition of the independent variables. More specifically, it informs the marginal change of the dependent variable as a result of a 1-unit change in 1 of the independent variables, holding all the other variables constant at their means (Carlson & Thorne, 1997). Here is the main model that is being tested in this doctoral project:

Number of Civic digital campaigns = three structural vs. + four cultural vs. + three socio-psychological vs.

This general model has two different expressions, with two different dependent variables. The first dependent variable is the digital campaign distribution index (DCDI) that was created in order to make countries with different populations and with different Internet access comparable

to other countries, as will be explained in the following pages. The second dependent variable comes from the data obtained from the Goal Description Variable from the GDADS2, which is a narrative of the goal description of the campaign.[8]

The variable used in this research is the proportion of each type of campaign goal by country. Each campaign can be classified as having one of six types of goals: governance, human rights, resources, environment, consumer satisfaction, and other. This classification is explained in the next section about variables. The "other" category is omitted from the analysis because it included less than 5 campaigns.

There are three groups of independent variables: cultural variables, sociopsychological variables, and control variables. In order to analyze which variables predict the number of digital campaigns, operationalized as the digital campaign distribution index, and the probabilities of one or other type of campaign, ordinary least square models were run in Stata 13.1. First, the ordinary least square model (OLS) was used for predicting the value in the DCDI that a country is likely to have according to the independent variables (regressors). This method is appropriate since the dependent variable, the natural log generated in the index, can be analyzed as a continuous variable. Second, the model tries to predict the change in the proportion of every type of campaign, according to the independent variables. Then, five OLS models were used:

% of "type of campaign") = three structural vs. + four cultural vs. + three socio-psychological vs.

[8] Goal type variable is an inductive category obtained from content analysis of "Goal Description Variable" which is a textual variable. The agreement among the multiple coders is not calculated.

2. Limitations of the OLS for this analysis

One point regarding the OLS method that is necessary to consider for interpretation is related to the assumptions that underlie its calculations. In statistical terms, the OLS assumes three things: (1) that all predictors or independent variables are known and defined exactly as they are without random error (meaning they are known and defined with the absence of unpredictable variation); (2) that variance must be constant over all the range of the independent variables (homoscedasticity); and (3) that the errors from each observation are independent from the regressors (Carlson & Thorne, 1997).

Real-world data, which as the one this research uses, presents an important limitation for OLS, because it hardly allows being certain about the accomplishment of those three premises (Carlson & Thorne, 1997). One of the efforts taken to overcome these limitations is creating, or assuming, homogenized populations that allow the cross-case analysis. This effort also has some weaknesses, which will be stated in the next chapter (Ragin, 2000). Another path to deal with the concern that OLS assumptions will not be met is to use more sophisticated statistical methods such as using robust standard errors, or using instrumental variables that researchers are certain are independent but allow consistent estimation of the causal relationship of interest (Cameron & Trivedi, 2005; Carlson & Thorne, 1997). This research considers those limitations in the interpretation of results.

A last point particularly relevant to this analysis is the size of the sample. In the existing literature, there is no consensus on how to calculate the appropriate size sample size for logistic regression (Demidenko, 2007). Most authors' formulas for sample calculation propose between 10 and 30 observations per independent variable being tested (Marascuilo & Serlin, 1988). What is actually understood is that technically a model can be fitted with a sample that has one

observation more than the number of independent variables (n= K+1) (Hayashi, 2000). However, the smaller the sample is, the more problematic it is to get precision of estimations (large standard errors and a large variance of the sample mean) (Goldberger, 1991). Nevertheless, if the model is restricted to a small number of observations and still gets strong statistical results, this shows that researchers have good reasons to trust the conclusions. In order to diminish the possible problems related with a small sample in this dissertation, two routes were taken: First, a long literature review was done in order to include only variables that have been significant to explain collective action in the past research. Second, an index was created for the dependent variable. This mathematical procedure will allow controlling part of the variance of the sample, as will be shown in the next section.

3. Data management

Three main data sets were combined for this research: the WVS data set, the GDADS 2013, and one of my own called "national data and demographics." The WVS data for the fifth wave was divided into two files called "a" and "b." The "b" data set contained only five extra countries, which I decided to include in order increasing diversity of the sample. After combining the data sets, pertinent corrections were made to merge the data sets. Among the corrections were: aggregating data that was originally at the individual level, in order to bring it to national averages; and making nomenclature for countries consistent among different data sets (for example, using "US" instead of "USA" or "United States").

Operationalized dependent variable 1.

Any cross-country comparison that involves digital technologies has to deal with the unequal access in different countries –and sometimes inside of a country. Indeed, the digital divide is a concern for this research, but only in terms of trying to isolate its effect on the

international comparison. Similar to Howard et al. (Howard, Anderson, Busch, & Nafus, 2009), in this research it was created and indexed to make number of campaigns by country, comparable units among countries with different populations and different proportion of people with access to Internet, as it is explained in next paragraphs. Consequently the explained variation of the model is the consequence of other factors.

To better account for the impact of socio-psychological factors in the likelihood of digital campaigns and the type of digital campaigns, I formulated the Digital Campaign Distribution Index (DCDI). This index relates the number of Internet users to the number of digital campaigns of the county in a way that allows us to identify, for example, countries where the number of digital campaigns is more or less than what would be expected in relation to the total number of Internet users among the countries analyzed. This index was created through a ratio of two ratios. First, I calculated a ratio of a country's number of campaigns divided by the total number of campaigns in the dataset (197) over the three-year period. Then I calculated a ratio of a country's Internet users according to the information obtained from the ITU (International Communication Union, 2013) to the total number of Internet users in the data set of 37 countries in 2012. The ratio of these two ratios reveals whether a country has about the expected proportion of digital campaigns, given its number of Internet users.

$$\text{Ratio of ratios} = \frac{\frac{Campaigns_{\,country}}{\sum_{World} Campaigns}}{\frac{I.Users_{\,country}}{\sum_{World} I.Users}}$$

Half of the distribution of possible values from this ratio of ratios ranges from 0 to 1 (a disproportionately small share of campaigns in a country, given its number of Internet users) and the other half ranges from 1 to +infinity (a disproportionately large share of digital campaigns in

a country, given its number of Internet users). However, by taking the natural log of the ratio of ratios, the index will become more balanced: from –infinity to 0 becomes a less than proportionate share, and from 0 to +infinity becomes a more than proportionate share. Below, Table 2.4 explains the meaning of the DCDI. This index will be the distinct operationalized dependent variable for the first OLS model in this research.

Table 2.4
Example countries according to the digital campaign distribution index.

Digital campaigns distribution Index		Selected countries	Interpretation
High activism	> 1.5	Chile, 2.10 Georgia, 2.47 Iran, 2.17 Hong Kong, 1.81	A higher positive number is exhibited by a country's having a higher proportion of campaigns than what is expected based on its number of Internet users and the total number of campaigns in the sample.
Expected activism	= 0	Brazil, 0.05 Mexico, 0.04 Poland, -0.05 Thailand, -0.12	A close-to-0 -value index is a country that has close to the expected proportion of campaigns according to its number of Internet users and the total number of campaigns in the sample.
Low activism	< - 0.4	China, -.166 Japan, -2.55 Germany, -1.49 South-Africa, -0.99	A negative number is exhibited by a country that has fewer campaigns than the expected according to its number of Internet users and the total number of campaigns in the sample.

Operationalized dependent variable 2.

The second dependent variable is the proportion between the number of digital campaigns by goal type (governance, distribution of resources, human rights, environment, and consumer satisfaction) in each country, to the total number of campaigns in that country. For example, 43 percent of Canada's campaigns concern environmental issues and only 14 percent are consumer campaigns. In contrast, only 8 percent of the United States' campaigns are environmental, but about 40 percent are consumer campaigns. Then, the OLS in this model attempt to predict the increase/decrease of these proportions according to the independent variables.

The goal type was identified specifically for this research by analyzing data from GDADS2. The GDADS2 includes a qualitative variable called "GOALDESC" that is a narrative related to the description of the campaign goals. The research team in GDADS2 made several attempts to categorize these goals using classifications from the literature. However, it was very difficult for the coders to agree according to what Krippendorff suggests as optimal α minimal α of 0.667 for speculative conclusions (Hayes & Krippendorff, 2007). This implied that the goals' concepts continued overlapping (Edwards, Howard, Joyce, 2013). The GDADS2 report (2013) encourages researchers to continue working over this variable to make it more valid (Edwards, Howard, Joyce, 2013). This research is a step further in that direction.

For this dissertation, building from previous experience in which the main researcher also took part as coder, a different approach was taken. A content analysis was conducted on the text of the narratives of goal description, and on the narratives of the campaign, in an attempt to inductively identify conceptual categories from the texts. To begin, all narratives were imported into an Excel spreadsheet, and the main researcher conducted the process of coding, which is basically one of selective reduction: breaking down the contents of materials into meaningful and pertinent information. The next step was to read the units of information that show which type of goals the campaigns were referring to: unemployment, animal rights, education access, among others. Later, by relational content analysis, these concepts were grouped under larger conceptual units, that were refined by saturation (meaning there were no more categories that could group new campaigns) into six categories, five referring to specific topics and one "other" goal category that included only five campaigns. As it was explained in the previous section, the category "other goals" is not included in the second model. The metacategories that join all the other campaigns are: governance, distribution of resources, human rights, environment, and

consumer satisfaction. The conceptual definitions for each one of these metacategories are presented in Table 2.5. These definitions were drawn from the code book version 4.0 of GDADS2. .

Table 2.5
Types of digital campaigns according to their goals.

Type	Conceptual Definition
Governance campaign	Campaigns calling for any issue related to the governance structure. Examples include campaigns in favor of the following: accountable, transparent, and effective government; the resignation of unjust leaders; regime change and democracy; free and fair elections; voter registration; free information; free speech; and free media, as well as campaigns that are against the following: impunity of government officials and other political elites; corruption; dictatorship; and military rule. (Excludes, however, incidents of organized violence by or against the state).
Distribution of resources campaign	Campaigns for: fair distribution and equal access to goods and services in society; access to quality education; physical and mental healthcare; public safety, housing, social security and pensions; employment and fair wages, and other government services; and fair taxation. Campaigns against poverty and austerity.
Human rights campaign	Campaigns against: discrimination; oppression; physical harm; all instances of organized violence or unfair application of the law to an individual or a group on the basis of race, national or ethnic origin, gender, sexual orientation, cultural traditions or religion, political beliefs or parties; or any circumstance in which an individual or group member is denied something based on his/her identity or membership in a group.
Environmental campaign	Campaigns for: the protection of plants, animals, and nature; green energy; and urban green space. Campaigns against: the depredation or indiscriminate uses of natural resources; pollution, energy sources that harm the environment; and genetic modification of organisms.
Consumer satisfaction campaign	Campaigns for: goods, services, and activities that fulfill the desires of those who purchase or pursue them; and the responsiveness of entertainers to the preferences of their publics. It also includes campaigns in which an individual or a group feels that their quality of life (not related to the other types of campaigns) is affected.

Using installed capacities, a subset of the initial coders (grad students) were trained again in this variable and recoded all the campaigns reaching inter-coder reliability of 0.691 using Krippendorff's alpha. Still, the agreement is low. However, the main researcher believes this low agreement is due to the limited test done in this last stage (contrary to the other variables that received multiple random tests). Also, fatigue or poor training among the coders could have produced this inconsistency in the coding. Then, in order to make this classification more accurate, that researcher reviewed the coherence between all “goal type” categorizations,

comparing them with "campaign title" and the "narrative of the campaign." In this way, 20 campaigns (over 426 coded), or 4.6 percent of the campaign goals were corrected, mainly because of inconsistencies between the narrative and the assigned category. Although it is not possible to measure the Krippendorff's alpha because of a single coder in this last stage (Hayes & Krippendorff, 2007), that researcher is confident that the multiple instances of categorizations increased internal validity. Also, it is important to consider that the categories as they are defined are only pertinent to this data set.

Independent variables.

As was explained in the literature review, four variables are included to account for cultural factors: Dimension traditional versus secular-rational values; dimension survival versus self-expression values; autonomy index; post-materialism index. Three variables are included for sociopsychological factors: average number of years of schooling; perception of offline political efficacy; and general life satisfaction. Three variables account for control conditions: Government type; GDP; and Percentage of Urban Population.

IV. Results

The following section presents the results of this research together with the discussion of the hypotheses that guided the project. First, the descriptive results are presented, followed by the results regarding the OLS for the prediction of DCDI. Next, the OLS that predicts the changes in proportion of each type of digital campaign over the total number of campaigns per country is explained.

To start the results, as is seen below, Table 2.6 shows in the first column the number of campaigns included in the sample by country. The second column shows the digital campaign

distribution index. A closer-to-zero value reflects a country with a number of campaigns that are similar to what is expected according to its number of Internet users and the total number of campaigns in the sample. Graph 2.1 also shows the variation in the DCDI. A zero-value indicates a country that has the expected number of campaigns according to its number of Internet users. A higher positive number (shown by larger bars) shows that a country has more campaigns than the expected value. In the same way, a country with a lower negative number has fewer campaigns than what is expected according to the same factors.

In descriptive terms, the 37 countries for which data is available show different numbers of campaigns when the campaign numbers are normalized by number of Internet users by country and number of campaigns in the whole sample. Some countries are far above what would be expected according to the number of Internet users (Iran, Moldova, Georgia, Peru, Chile, Hong Kong, and Iran) and others far below (Japan, China, and Germany). This research is aimed to 1) identify what cultural and sociopsychological factors explain the difference in the DCDI, and 2) to test whether country-specific cultural and sociopsychological differences explain the different proportions of types of civic digital campaigns.

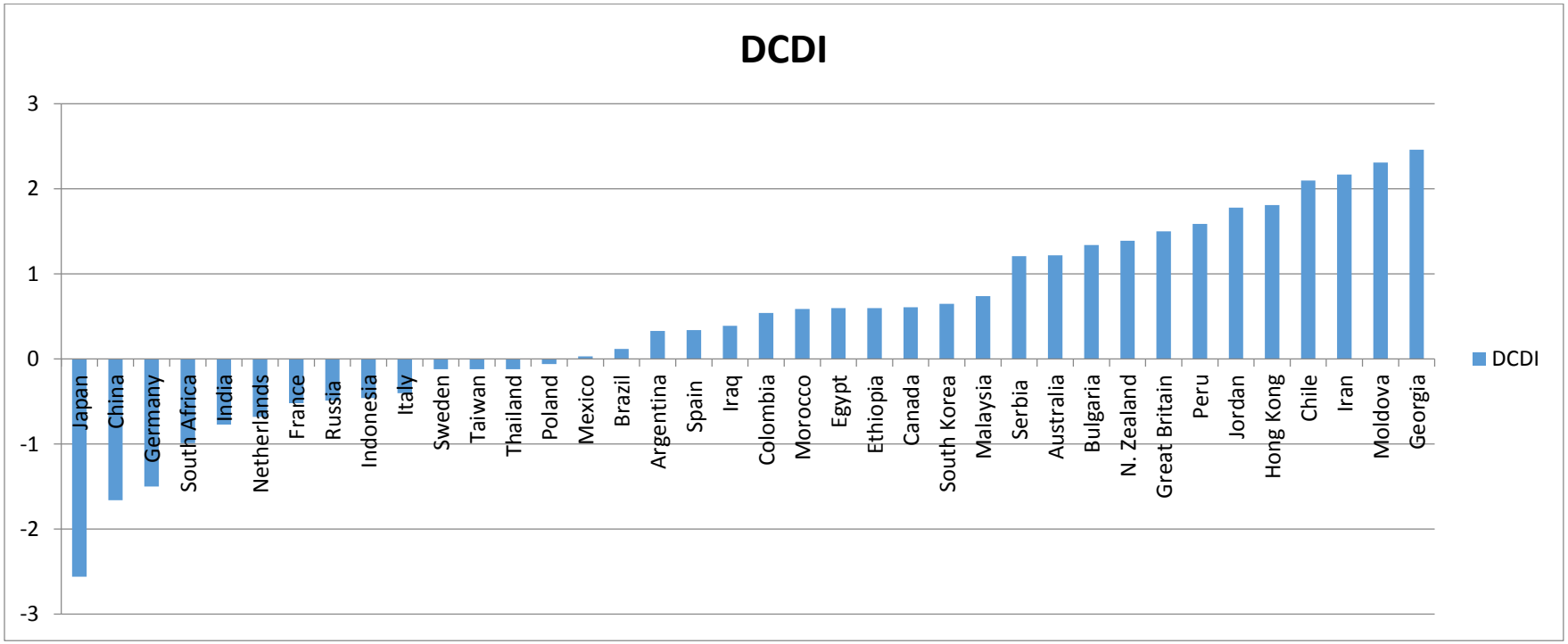
It is noteworthy to mention here in this descriptive section that one of the independent variables—and its consequent hypothesis—was dropped from the models. The fifth hypothesis, "If a country's population recognizes a problem as a high priority, then the proportion of campaigns in that specific problem area is larger," was not possible to test. Because the percentage of individuals that think a specific problem is the most or second most important problem for their country is, for all but a few countries, the same: poverty, and in the few others poverty was the second most important (World Values Survey Association, 2009). Consequently, this variable was not used in the final models.

In order to answer the first question, OLS was run using the DCDI as a dependent variable. It is noteworthy to mention than using the DCDI not only allows for accurate comparisons between countries of difference sizes, but also allows the researcher to control variance among the cases. As noted in the method section, this is particularly important when the number of observations is small. The next analysis test determines whether or not these differences can be explained by cultural and sociopsychological characteristics of the population in those countries.

Table 2.6
Distribution of civic digital campaigns.

Country	Campaigns	DCDI
Argentina	4	0.33
Australia	8	1.22
Brazil	14	0.12
Britain	31	1.50
Bulgaria	2	1.34
Canada	7	0.61
Chile	11	2.10
China	14	-1.66
Colombia	5	0.54
Egypt	8	0.60
Ethiopia	3	0.60
France	4	-0.52
Georgia	3	2.46
Germany	2	-1.50
Hong Kong	4	1.81
India	9	-0.77
Indonesia	3	-0.46
Iran	9	2.17
Iraq	1	0.39
Italy	3	-0.40
Japan	1	-2.56
Jordan	2	1.78
Malaysia	5	0.74
Mexico	6	0.03
Moldova	2	2.31
Morocco	4	0.59
N. Zealand	2	1.39
Netherlands	1	-0.68
Peru	7	1.59
Poland	3	-0.06
Russia	6	-0.49
South Africa	1	-0.99
South Korea	10	0.65
Serbia	2	1.21
Spain	6	0.34
Sweden	1	-0.12
Taiwan	2	-0.12
Thailand	2	-0.12

Graph 2.1
Digital campaigns distribution index by country.



OLS Results

The column in Table 2.7 shows the predicted probability of DCDI. Four variables were found to be statistically significant—holding all the other independent variables constant at their means—for the prediction of an increase or decrease in the DCDI (this means more or less campaigns). The four variables are the traditional versus secular values dimension; schooling; satisfaction; and GDP. These findings allowed the confirmation of hypotheses 4 and 7, and the rejection of hypotheses 1, 3, and 6, as is explained in the following paragraphs.

Table 2.7:
OLS, dependent variable digital campaigns distribution index.

	DCDI
Traditional-secular values	**-0.572***
	0.294
Survival-self-expression values	0.363
	0.353
Autonomy index	-0.408
	0.521
Post-materialism (12)	1.017
	0.743
Schooling	**0.337****
	0.112
Political efficacy	0.321
	1.615
Satisfaction	**-0.833****
	0.349
Government type	-0.019
	0.046
GDP	**-0.006****
	0.002
Urban population	0.012
	0.014
Adjusted R2	0.446
F	0.002
N	37

Note: *p< 0.01; **p<0.05; Standard errors reported bellow regression coefficients.

The first statistically significant variable is the dimension of traditional and secular values which decreases the DCDI. That means that 1 point increase in the dimension scale of secular values decreases the DCDI by 5 percent ($p<0.1$). Consequently, this finding rejects hypothesis 1, which is: If countries have more traditional values, then they will have fewer civic campaigns to bring claims to their authorities than more secular countries have. The evidence actually shows that countries with more traditional values have more campaigns than more secular countries.

The second statistically significant variable is the one that for this research has been considered an indicator of the general cognitive capacities in a country: the average years of schooling. This variable was included in hypothesis four: If the country's citizens' average number of years of schooling is higher, then the total number of campaigns will be higher. This hypothesis is confirmed in the analysis. That means that every extra year of schooling actually increases the DCDI by 3.3 percent.

The third variable that is statistically significant is the average level of satisfaction among the population in a country, meaning that 1 point increase in the level of satisfaction decreases the DCDI by 9 percent ($p<0.05$). This finding supports the seventh hypothesis: "If the level of satisfaction in a country is low, then it will have more campaigns." The last variable that is statistically significant for predicting a change in the number of civic digital campaigns is the GDP per capita. Although it was not formally stated as a hypothesis for this research, it is congruent with the literature. An increase in the GDP actually decreases the number of digital campaigns ($p<0.05$). As was explained in the literature review, the lack of monetary resources and the state of relative deprivation and shared grievances could also be a factor that increases collective action online.

The evidence does not allow the corroboration of either hypothesis 3, that "countries with a higher level of autonomy or postmaterialism values will present more civic digital campaigns" or hypothesis 6, that if the country has a higher proportion of people participating or willing to participate in off-line collective action, then the country will also have a higher number of civic digital campaigns." For both hypotheses, it seems there are no relation—at least not one that is statistically significant—between the independent variables proposed and the number of digital campaigns.

In order to answer the second question of this research that tests whether country-specific cultural and sociopsychological differences can explain the different proportions of types of civic digital campaigns, five different OLS models were run. Each one uses the proportion of campaigns by goal type in each country as a dependent variable. Although the OLS regressions were run for all the five type of campaign goals, only three of them are reported in Table 2.8. For the other two types of campaigns, resource distribution and human rights, the results have negative adjusted R-squared which implies the models have weak prediction value (Hayashi, 2000)[9]. The R-squared value is a measure to inform how close the data are fitted to the regression line, and the adjusted R-squared is a version of the R-squared adjusted for the number of independent variables in the model. The adjusted R-squared increases only if the new independent variable improves the model more than would be expected by chance. It decreases when the variable improves the model less than would be expected by chance; thus, the adjusted R-squared can be negative if the model is not well fitted (Hayashi, 2000). In the case of these two models with negative R-squared these results could be due because of the low number of

[9] The table with all five results is included in Appendix A Table A.2

observations resulting in a large variance of the sample mean, for instance in human rights campaigns there are only 21 observations and the countries that concentrates more number of this type of campaigns have little in common (Brazil, China; G. Britain, Egypt; Iran, USA), this means that every other independent variable added to the model increases variance and errors, making more difficult to align the prediction to a straight line. The same situation happens in resource distribution campaigns, which have only 25 observations with countries with large variance among them (Brazil, Chile, G. Britain USA). Then, it could be said that for these types of campaigns the random probability is better predictor than the model, consequently these are neither reported nor analyzed in this dissertation. Table 2.8, columns 1 through 3 show the probability of change in the proportion of a given type of digital campaign according to the cultural and sociopsychological factors, controlled by the structural variables.

Table 2.8
OLS, dependent variable proportion of campaigns by goal type per country.

	Governance goals	Environmental goals	Consumerism goals
Traditional-secular values	0.018	**0.206****	-0.064
	0.096	0.093	0.078
Survival-self-expression	-0.099	**0.194***	-0.102
values	0.116	0.111	0.094
Autonomy index	-0.048	-0.195	-0.005
	0.171	0.164	0.139
Post-materialism (12)	0.325	-0.106	-0.338
	0.243	0.243	0.199
Schooling	0.055	-0.006	-0.005
	0.037	0.035	0.030
Political efficacy	**-0.954***	0.010	**1.157****
	0.529	0.509	0.432
Satisfaction	0.056	0.091	0.058
	0.114	0.110	0.093
Government type	-0.005	-0.005	0.005
	0.015	0.014	0.012
GDP	0.003	-0.068	-0.008
	0.007	0.007	0.638
Urban population	0.008	0.002	-0.002
	0.005	0.004	0.004
Adjusted R^2	0.174	0.156	0.016
F	0.119	0.142	0.424
N	37	37	37

Note: *p< 0.01; **p<0.05, GDP = E $^{-6}$; Standard errors reported bellow regression coefficients.

Considering the note above, hypothesis two can be partially confirmed with these findings: "If the countries have more self-expression values, because they have taken survival for granted, then they will have more campaigns to satisfy themselves as consumers rather than for distribution of resources." In environmental campaigns, two cultural variables become statistically significant to explaining the increase in the proportion of these types of digital campaigns. As it was hypothesized, countries with more self-expression values, as measured in the dimension scale, increase the proportion of campaigns about the environment by 19 percent ($p<0.1$) and countries that have one extra point in the rational-secular scale (meaning they are more secular, less religious) increase in the proportion of environmental campaigns by 20 percent ($p<0.05$). However, the second part of the hypothesis was not confirmed. Whether or not a country has more self-expression values does not explain the variance in the proportion of digital campaigns with consumer satisfaction goals.

Other relevant findings in terms of the likelihood that the proportion of a specific type of campaign is affected by any of the independent variables were: for governance campaigns, the percentage of people willing to participate or that have participated in off-line civic or political activities (as an instrumental variable that would account for subjective perception of political efficacy) is statistically significant for explaining a decrease in the number of governance campaigns. This means that for every 1 percent of people that actually do or are willing to sign petitions, or participate in demonstrations among other actions, the proportion of campaigns in governance decreases by 9.5 percent ($p<0.1$). This variable, "the perceived political efficacy," however, has a positive impact on "consumer satisfaction campaigns." This variable increases the likelihood of this type of campaign by 11.5 percent ($p<0.05$). In this sense, it seems that the perceived efficacy of that kind of actions actually speaks to the role of individuals as consumers

more than as citizens. Incidentally, the type of government was not statistically relevant for any of these campaigns.

V. Discussion and conclusions

This chapter focused on whether country-specific cultural and sociopsychological factors can explain the number of civic digital campaigns per country, and whether these same cultural and sociopsychological differences can explain the prevalence of different types of civic digital campaigns. In order to answer these questions, 197 campaigns from 37 countries were analyzed. Building arguments from different social sciences that have studied collective action in the past, this research identified three groups of independent variables that can explain these differences: cultural, sociopsychological, and the control variables that came from the resource mobilization approach to collective action.

Among the cultural variables studied, only the traditional-secular dimension from the WVS was statistically significant. This means that countries that are more religious and are more inclined to conservative values in general terms organize more civic digital campaigns than countries that are more secular. Those countries that are more conservative, such as Jordan, Peru, Iran, and Chile, have leveraged the decreased cost of contributing to collective action, and then the action is perceived by the citizens as less defiant to the authorities. This finding is coherent with other research that interprets the collective action as a consequence of a decreased cost, and increased agency, facilitated by digital media.

In terms of sociopsychological variables, the average number of years of schooling in a country, which is used in this research as a proxy to evaluate cognitive skills, is a characteristic relevant to explaining increases in the number of digital campaigns. This is consistent with socio-psychological approaches that state that well-developed cognitive skills are necessary to

understand information regarding injustices, and are a necessary step for engaging in collective action. Although it could seem suspicious to consider schooling as a measured of cognitive capacities rather than 'economic' development, this research considers that both the data and the analysis show that they are different variables. From a statistical point of view, GDP is also significant in the model, but in qualitative terms is possible to see how some ex-USSR countries have higher averages years of schooling and low GDP, while on the other hand some Middle Eastern countries have large GDP with low averages of schooling.

Also among the psychological variables, the lack of life satisfaction in a country is the most statistically significant variable that increases the likelihood of organizing digital campaigns. In accordance with the literature about anger, which catalyzes collective action, low satisfaction also predicts the organization of digital campaigns. It seems that there is an underlying socio-emotional stage of dissatisfaction, even 1 to 4 years before the campaigns, which seems to propel reactions to other stimuli that ignite collective action online.

The last statistically significant result of OLS is related to the availability of resources in a country, as measured by GDP. The availability of resources becomes relevant to explaining the number of digital campaigns. Richer countries show fewer campaigns than poorer countries. This finding could be explained by the lack of resources or relative deprivation of resources that catalyzed grievances and social movements in the pre-Internet era. This explanation goes against the resource mobilization approach that attests to the availability of resources what actually produces the collective action. On the contrary, it is more similar to breakdown theories that explain collective action as results of more non-rational actions motivated by deprivation.

Another important finding of this research is that individuals' participation in off-line political or civic activities does not determine if a country will have more civic digital

campaigns. This finding informs the ongoing scholarly discussions regarding generalizable relationships between online and off-line activities. It seems in this case that the rationales and motivation that explain the willingness to participate or the participation in offline actions are distinct than the ones that motivate online dynamics. It would be interesting to test in future research a regression model that could also measure offline mobilization and its determinants.

In terms of campaign type, the offline participation variable does explain variation in opposite directions in the proportion of governance campaigns and consumer satisfaction campaigns. Countries with more individuals that have participated, or show willingness to participate years before the actual campaigns, increase in their proportion of consumer satisfaction campaigns but decrease in their proportion of governance campaigns. This result could have two explanations. The perceived efficacy of collective action has a larger impact on individuals as consumers rather than as citizens. On a more intuitive level, if the individuals in a country already have mechanisms of participation, in terms of governance and/or have a constant tradition of manifestation, protesting or social mobilization, then online campaigning is not perceived as effective in those issues, but they use the new media for campaigning on issues related with market transactions.

In environmental campaigns, the cultural dimension of traditional/secular-rational values explains a larger proportion of this kind of digital campaigns. More secular countries have more campaigns about the environment. It seems to be because “as long as lower-order physiological needs are satisfied and individuals are socialized into more affluent and economically secure societies, traditional materialist values are slowly replaced by higher-order, noneconomic concerns—by postmaterialist values…” (Davis & Davenport, 1999, p. 649). Environmentalism is

one of these new postmaterialism values. Still, it is necessary to mention that the postmaterialism index does not statistically explain environmental campaigns.

Limitations

The findings of this research presented above could be subject to some limitations regarding the nature of the method and the data. There are three main possible limitations for understanding these results: (1) the assumption of homogenized population for comparison (which is the dependent variable and sample); (2) the construct definitions (independent variables); and (3) the sample size.

The dependent variable, as explained in the method section, was extracted from the GDADS 2013. Although this research expects the variance among the cases to allow reliable comparison, the dependent variable could still present some sample bias regarding the way in which it was built by news reports of events rather than by an impossible random sample. For example, regarding the finding that more conservative countries have more campaigns, it could imply that because these countries are conservative, the novelty of their campaigns makes them more likely to be covered by news reports. That would mean it is not that more religious countries have more campaigns, but rather that the campaigns are just over reported in those countries. For example, it could be that the news outlet surveyed tended to report more campaigns from the developing world than from the richer countries in the sample. Another factor to consider is those non–English-speaking countries that do not translate their news (it is more interesting to report a dispute with an authority in India than a petition to the authority of a small town in Sweden). While the dependent variables (the global activism data set and its categorization) could have some weakness in terms of representativeness, still, it is the best comprehensive data set about global activism to date.

Also related to homogenized populations, the fact that countries are understood as units of analysis is also problematic in the sense that this hides in-country variation. For example, the values that are held overall in a country do not necessarily represent the values of the initiators of the campaigns. On the contrary, the campaign initiators could be dissident parts of the dominant culture. The other option is that in-country variance among values tends to be formed by cohort, and that marked generational differences in individuals' political goals and behaviors do exist (Valenzuela, 2012). As some research has suggested, current online collective action is actual organized by "mostly cosmopolitan and younger generations of mobilizers [who] felt disenfranchised by their political systems" (Ramadan, 2012 cited in Hussain & Howard, 2013, p. 61). Therefore, findings in regard to postmaterialism values do not seem relevant because, at the aggregative level, the values of the initiators of digital activism (young people) are neutralized into the countries' averages. Still, it is necessary to note that any approach trying to measure the static accounts of culture as a collection of norms and values is informative, but insufficient for understanding the whole process of challenge, contestation, and change. These are the aspects of the campaigns that this research focuses on (Williams, 2004). Also, another weak point of the attempt to measure culture in this way is that it limits the expression of individual's agency and the understanding of reality as socially constructed (Williams, 2004). In future research, it would be interesting to test how the interaction, instead of the aggregation, of the different variables could explain organized digital collective action. The next chapter uses another methodology, the fuzzy set logic, in order to test whether the interaction of factors can explain the DCDI.

As mentioned previously, in this chapter, a small sample size can be problematic in order to generate fitted models, and a common heuristic is that one should have at least twenty

observations for each independent variable, because of the trade of between the size of the standard errors and the size of the sample. However, considering that the sample analyzed consisted of only thirty seven countries and that it was possible to fit good models for the OLS to run with the DCDI as dependent variable, it seems that the theoretical assumptions made good sense. This was not the same story regarding the models about the proportion of type of campaigns, which are not well fitted. Because not all countries have all types of campaigns, the sample is also reduced; thus, the variances, and consequently, the errors, are larger and the models did not pass most of the significance testing. In future research, with a similar sample and type of data, it would be recommendable to use a different methodological approach. A qualitative analysis, or simple descriptive statistics regarding the type of campaigns per country, could give, perhaps, more valuable information than these less well-fitted models.

Chapter III:

What Factors Better Explain Countries' High Digital Activism? The Cultural and Sociopsychological Fuzzy Causes of Civic Digital Campaigns

I. Introduction

Civic digital campaigns as expressions of collective action organized on or by the means of digital networks is the main focus of this research. Specifically, as mentioned before, this research aims to explore whether cultural and sociopsychological factors that have been studied in social sciences in the pre-Internet era are part of the causal explanations of digitally mediated collective action. While Chapter II uses regression analysis to answer these inquiries, this chapter introduces fuzzy-set logic as an alternative and complementary method to answer the same questions.

Previous chapters have focused first on analyzing current frameworks for explaining digital organization, and then in using social sciences theories from before the Internet era to identify variables that could explain current patterns of collective action. Chapter II operationalizes the variables and tests, by using linear regressions, whether those variables could explain differences in the number and types of civic digital campaigns seen among countries. The results of the analytical section show that countries with more traditional values, with a higher average for years of schooling, and that are less satisfied with their general life have more digital campaigns. It was also found that perceived political efficacy increases the proportion of consumer satisfaction campaigns but decreases the proportion of governance campaigns; it also was found that countries with secular values have a larger proportion of environmental civic campaigns.

The first part of this chapter develops some of the weakness of regression analysis for comparative work. Later, this chapter introduces fuzzy-set logic, a method that might bridge the gap between the single case study that explains in detail complex causal relationships and the variable-oriented approaches as regression analysis that isolates effects of single variables. The

research presented in this chapter uses the same variables and data sets used in the previous chapter to answer the main question of this project. Specifically, the method is intended to find the causal recipes of the combination of causal conditions that could better explain countries that have more digital campaigns. This chapter includes two scenarios for the analysis. The first scenario includes all the ten variables from the regression analysis for the prediction of changes in the number of digital campaigns. The second scenario simplifies the analysis by using only the 7 variables that returned statistically significant results in the previous chapter. A more complete comparison between the results from Chapter II and Chapter III is presented in the conclusion chapter of this dissertation.

The literature review of this chapter makes a short comparison between the case studies approaches and variable-centered approaches in order to introduce comparative methods and Fuzzy-Set Logic. The next section explains the rationales to select specific variables as relevant for creating causal condition sets. The following section explains the data calibration and assigns membership scores to every case regarding that specific causal condition. Results, discussion, and conclusions are the last part of this chapter.

II. Literature review

This chapter contributes to the overarching goal of this dissertation project, which is to better explain the new patterns of collective action in the digital environment. This section introduces the comparative method and theory-based fuzzy logic. Later, the causal conditions for civic digital campaigns are explained.

1. Different approaches to accessing the phenomena

Social sciences have studied social phenomena mainly from two epistemological perspectives: a case-oriented approach and a variable-oriented approach. The case-oriented research focuses on the complexity of the phenomena, and "attention is typically directed towards understanding how the different causal conditions combine in each case to produce the outcome in question" (Ragin, 2000, p. 40). This approach is normally operationalized as "case studies." When researchers attempt this type of in-depth analysis in an intermediate-sized sample (say, N =20), they are often confronted with what seems an unmanageable diversity, making the understanding of the phenomena a very complicated task. Therefore, when the goal is to generalize findings, what is normally used is the variable-oriented approach. This second epistemological approach, rather than focusing on an individual case, analyzes multiple instances of the phenomena (large N), trying to identify the repeated patterns among them (Ragin, 2000). Then, the researcher focuses on statistical relationships between variables and not on the differences and similarities between cases (Ragin, 1981). This dissertation used this second approach for the analysis of digital campaigns in Chapter II.

The variable-oriented approach requires the researcher to operate with several powerful homogenizing assumptions that become limitations for real world data. These assumptions relate to cases, variables, and populations (Ragin, 2000). First, the researcher must be able to clearly define the population of observations, to clearly delimit what a case is and what is not; second, the researcher must be able to sample from that population, and in some type of this analysis, like OLS in chapter II, the size of the sample must be large enough in order to achieve good predictions (Goldberger, 1991); third, the observations must be comparable instances of the phenomenon (which implies that the measured constructs must be understood in the same way

across all the cases); and fourth, the observations must be independent of one another (Ragin, 1981). As discussed in Chapter II, a nation-state, in general, as an observation unit "does not conform very neatly to the four formal requirements of the statistical method" (Ragin, 1981, p. 115), especially concerning the third and fourth conditions (comparable instances of the phenomenon and independent observations). For example, it is not totally agreed upon that concepts are understood in the same way for different countries, and even worse, the concept can be mistakenly translated, a very important point regarding survey data used for cross-national comparison (Kurzman, 2014). In addition, concerning to the fourth assumption, it is not very clear that cross-national correlations are due to the measured conceptual variable or that they are "statistically associated with each other because of the process of diffusion (meaning patterns of dominance) or because of historically persistent patterns of intersocietal interaction" (Ragin, 1981, p. 115). In other words, perhaps repeated trends could be due to the influence of one country to others rather than the measured variable. In short, considering all these constraints, the variable-oriented approach tends to have results that skew diversity in order to homogenize populations for comparison.

2. The comparative method

In order to deal with these dilemmas, this chapter will use a comparative method based in a diversity-oriented approach as a way to complement the variable-oriented analysis from chapter II. The diversity oriented approach is a midpoint between the case-oriented research and the variable-oriented research (Ragin, 2000). It is complementary to the statistical analysis in several points, as is explained in the next paragraphs (Ragin, 1981).

In the comparative method, the researcher does not need samples of homogenized populations because it does not require testing statistical significance. The boundaries of a

comparative examination are set and clearly explained by the researcher (Ragin, 1981). Populations "are not coterminous with the boundaries of an arbitrarily defined or (more typically) undefined population of societies" (Ragin, 1981, p. 112). In this way, comparative methods can bring to the analysis evidence from multiple cases and instances to allow a cross-case analysis (Ragin, 2000).

The variable-oriented approach assumptions regarding populations also hide the diversity that could exist among distinct groups in populations (Ragin, 2000). In contrast, comparative methods account for the differences and uniqueness of the cases. Comparative methods are organized to highlight the particularities of deviating cases, forcing the researcher to explain those differences (rather than considering random error as does the variable-oriented approach). Thus, the variable-oriented approach is very well suited to theory-building and synthesizing current theories (Ragin, 1981, p. 112).

As was explained in Chapter II, the statistical procedure is purposely organized around isolating the effect of each causal variable in an additive manner (Ragin, 1981, 2000). This feature is considered an advantage of the method because it allows answering questions such as, what is the effect of GDP on digital campaigns? However, the method does not allow answering questions regarding the configuration of or interaction between multiple causal variables over an outcome. Those kinds of questions are important considering that in the real-world data, all variables are interacting rather than being held at their means (Ragin, 2000; Shalev, 2007). The comparative method allows for configurational thinking about causal relationships. In order to make configurational comparisons, each case must be directly examined and contrasted to all other relevant cases, as opposed to the variable-oriented research in which the researcher focuses

“on the relationship among variables (correlations) and not on the differences and similarities between cases” (Ragin, 1981, p. 113).

In summation, comparative methods allow studying social phenomena from the perspective of diversity-oriented research. Cases are understood as configurations and not as homogenized populations. It is not necessary to abandon the idea of variables; rather, “it is necessary simply to abandon the idea that variables should be seen as independent, separable aspects of cases. Instead, variables should be seen as the components of configurations" (Ragin, 2000, p. 73).

The theory-based fuzzy set analysis is a comparative method that “combines some of the affordances of variable-oriented quantitative approaches with the strengths of case-oriented qualitative knowledge” (Hussain & Howard, 2013, p. 52). Fuzzy-set logic offers researchers an interpretative method that is half conceptual and half mathematical-analytical (Ragin, 2000). Based on the diversity of populations, fuzzy-set logic identifies possible causal conditions for certain outcomes. For each causal condition, a set is created, and then the cases within that set can have varying degrees of membership, signaled by scores “that directly reflect their theoretical arguments" (Ragin, 2000, p. 4). These conditions are later combined by using Boolean algebra in order to discover causal configurations (recipes) that could explain the outcome (Mahoney, 2010; Ragin, 2000).

In this method, all sets range from 0 to 1 depending on the level of membership to the theoretical set. Table 3.1 shows examples of different fuzzy set scores. The first set has only three different options. A score of 1 means being completely in the set, which is the complete form of membership in the set. A 0.5 means neither in nor out, and 0 means out of the set. What score is assigned to a particular case is qualitatively determined by the researcher according to

the underlying theory. The second set in Table 3.1 has four values and the third has six values. The number of possible values will vary on what best fits the theory behind that set. The last set is a continuous fuzzy set in which the case in the set can have any value in the 0–1 range. In the process of building fuzzy sets, the focus is on the interpretation of the variable scores in context. It draws from qualitative view that the importance is placed on the combinations of relevant attributes that the cases exhibit. Then, by grouping cases into a relatively small number of configurations of attributes, it is possible to establish different kinds of cases. Thus the researcher can understand types of cases as different configurations of attributes (Ragin, 2000).

Table 3.1
Fuzzy sets (adapted from Table 5.1 from Chapter 5 in Ragin & Rihoux, 2009).

Three-value fuzzy set	**Four-value fuzzy set**	**Six-value fuzzy set**	**"Continuous" fuzzy set**
1.00 = fully in	1.00 = fully in	1.00 = fully in 0.90 = mostly but not fully in	1.00 = fully in 0.50 < X < 1.00 = Degree of membership is more "in" than "out"
0.50 = neither fully in nor fully out	0.67 = more in than out 0.33 = more out than in	0.60 = more or less in 0.40 = more or less out 0.10 = mostly but not fully out	0.50 = crossover: neither in nor out 0.00 < X < 0.50=Degree of membership is more "out" than "in":
0.00 = fully out	0.00 = fully out	0.00 = fully out	0.00 = fully out

3. Sufficient and necessary conditions

There is one last relevant point regarding causal attributes. This regards to recognizing the distinctions between necessary and sufficient conditions among the different possible causes that could explain an outcome. Necessary conditions are all those causes that must be present for the outcome in question to occur. In order to assess necessity, the researcher must search for all the instances where the outcome happens and test whether that cause is present. A sufficient

condition cause is one whose presence will always produce the expected outcome, regardless of what other causal conditions are present or not (Ragin, 2000). Fuzzy-set approach assesses the necessity and sufficiency of causal combinations (rather than of single causal attributes). Thus, in this method it is possible to find multiple sufficient combinations of conditions that produce the same outcome. For example, if two different causal configurations of conditions produce the same outcome, the analysis of cross-case evidence will show that neither combination is necessary, but both combinations will pass the test of sufficiency.

Researchers can also make inferences about sufficiency using probabilistic methods. This procedure results in a "quasi-sufficiency of causal combinations." In this way, the researcher evaluates the proportion of cases in which the causal combination is sufficient. Yet the benchmark must be arbitrarily explained and is subject to debate (Ragin, 2006). In fuzzy-set theory, the quasi-sufficiency of causal configurations is expressed as "coverage" of the recipe. The evaluation of necessity of the causal configuration is expressed by the "consistency" of the recipe, which expresses the proportion of cases in which having that causal configuration makes them move towards the outcome set—in other words, the degree to which cases adhere to a particular configuration (Hussain & Howard, 2013; Ragin, 2006). The next section explains how causal conditions are theoretical identified, to later explain how membership scores were assigned to each set.

4. Causal variables

Collective action and the conditions under which individuals engage in collective action has been of high interest of social sciences. At least three different approaches have been used to analyze these questions: neoclassical economics literature and social movement theory; a cultural approach; and a sociopsychological approach. These different strains are the ones that originate

the causal variables that will try to explain in this research the civic digital campaigns. First, three causal conditions are presented that come from neoclassical economics and the resource mobilization approach to social movements. Second, four cultural variables are presented along with three socio-psychological variables that will be analyzed as possible causal conditions of the digital collective action.

Neoclassical economics literature has influenced social movement scholars to create the resource mobilization approach to collective action (McAdam et al., 1996; Meyer, 2004; Tarrow, 1996). In this approach, the provision of resources from organizations as well as the availability of incentives—mainly monetary—is the key to any collective activity. For the purpose of this research's building argument, as explained in Chapter II, there are considered three country-level structural variables that inform the contextual conditions that affect the availability of resources in a country: political context, economic conditions, and level of urbanization.

The political context—which is important because it affects the individuals' capacities to obtain resources and the way in which those resources can be effectively used (McAdam et al., 1996; Meyer, 2004; Tarrow, 1996)—is informed in this research by the information provided by the Polity IV Index of regime type (Marshall et al., 2011). The second variable associated with this approach is the economic conditions in a country, which is relevant in order to provide a context of availability of resources that can be mobilized as incentives for collective action (Ragin, 1990). In order to represent the economic conditions of a country, it is used the gross domestic product divided by midyear population or GDP for 2012 adjusted for the purchasing power parity (The World Bank, 2013), for this approach it is also used the level of urbanization, which has been found especially relevant to explaining protests and social movements in countries undergoing economic reforms (Ragin, 2000; Ragin & Walton, 1990).Urbanization rate

is informed by the data obtained from the United Nations Department of Economic and Social Affairs (United Nations, Department of Economic and Social Affairs, Population Division, 2013).

For the second group of variables that refers to cultural differences, the values-based approach has been particularly popular, because it helps understand culture as an aggregate of values and norms that delimit the boundaries within which legitimate social action can occur (Williams, 2004). As it was mentioned in chapter II, culture from this point of view is defined as the "array of values, which were [are] widely and deeply held, and solidly institutionalized [in a group]" (Williams, 2004, p. 98). The best current representative effort to capture the cultural differences across countries is the World Values Survey (WVS). Specifically, four variables are used: first, the traditional/secular-rational values dimension reflects the contrast between societies in which religion is very important and those in which it is not (Inglehart & Welzel, 2010); second, the dimension of survival versus self-expression values (Inglehart & Welzel, 2010); third, the autonomy index that refers to "the state of being a self-governing agent" (Kagitcibasi, 2005, p. 404); and fourth, the postmaterialism index that accounts for the idea that self-expression, esteem, aesthetics, and intellectual curiosity are important and universal needs (Davis & Davenport, 1999).

The third group of variables to use in the analysis of civic digital campaigns stands on sociopsychological approaches. As explained in chapter II, the first two variables are related to the subjective evaluation of seemingly objective conditions: perceived injustice and perceived political efficacy. The third variable informs the level of satisfaction per country, which has been proved to be the opposite of the emotion anger, which has been found to be a catalyzer of collective action (Leonard et al., 2011; Van Zomeren et al., 2007). The last sociopsychological

characteristic that this research analyzes is the average number of years of schooling, which could inform the development of cognitive skills necessities for engaging in collective action (Delli Carpini, 2004; Downey, Hippel, & Broh, 2004). The next section explains the ways in which all of these identified variables are calibrated and the membership scores are assigned to theoretical fuzzy sets.

III. Data calibration

The goal of this research is to inquire about the necessary and sufficient conditions that better explain the high level of digital campaigns in some countries. The information from the Digital Campaign Distribution Index (DCDI)—which accounts for the number of civic digital campaigns by country normalized by their number of Internet users as calculated in Chapter II—was used for calibrating the outcome set. The outcome set defines countries ranging from low to high in their amount of digital activism. Next, ten theoretical sets are presented as possible causal conditions that might explain the outcome variable (high activism) in different configurations. These ten causal conditions exactly reflect the ten variables used for the statistical analysis in Chapter II. The names of those original variables are adapted to reflect the theoretical sets. For example, the variable GDP is transformed to a fuzzy set called "Rich-developed countries."

The calibration of the sets as well as the calculation of the fuzzy configurations were made through the Fuzzy-Set/Qualitative Comparative Analysis (FsQCA) software following indications given by the authors (Ragin, 2008). In order to calibrate all the sets it was necessary to qualitatively specify the values in the data that would inform three qualitative breakpoints that structure a fuzzy set: the threshold for full membership (fuzzy score = 0.95), the threshold for full nonmembership (fuzzy score = 0.05), and the crossover point (fuzzy score = 0.5). Once the

breaking points were established, the membership scores for all other values were assigned by the analytical program using probabilistic analysis (Ragin, Drass, & Davey, 2006). The next paragraphs explain the calibration of each one of the sets. The complete membership scores for each set can be seen in Tables B1 to B4 in Appendix B.

Set 1: Outcome variable, high activism

The fuzzy-scores for high activism countries were created using the scores obtained from the Digital Campaigns Distribution Index (DCDI), explained in chapter II (which account for the ratio between the ratio: number of campaigns by country divided by the total number of campaigns (197) in the sample of countries (37); and the ratio between number of Internet users in one country, divided by the total number of Internet users in the sample). The threshold for full membership (fuzzy score = 0.95) is a DCDI of 1.5; the crossover point (fuzzy score = 0.5) is a DCDI of 0; and the threshold for full nonmembership (fuzzy score = 0.05) is −1.5.

In Chapter II, the sample consisted of 37 countries for which it was possible to find enough information about the independent variables. Here, by patching the data in qualitative terms, five other countries are able to be included. The new included countries and the patching method can be found in Appendix B. In this way, the total number of countries analyzed is 42, out of which 27 present the outcome (high activism) and 16 do not present the outcome.

In the fuzzy-set approach the outcome set, countries high in digital activism must be explained according to the complex configurations of events and structures that confirm the different cases (Ragin, 2000). In order to test these configurations and inquire why some countries have more civic digital campaigns than others, ten fuzzy sets were carefully tailored to fit theoretical concepts. The first three sets (2 to 5), as was explained in the previous section, come from the resource mobilization approach to understanding social movements. The second

group of four sets (3 to 8) refers to the cultural factors that might be causal conditions of digital campaigns. The last three theoretical sets (9 to 11) are composed by the causal conditions referring to sociopsychological variables.

Set 2: Democratic countries (Political context)

This set includes full membership for those countries categorized as democratic. This set is informed by the scores of the index of quality of democracy in a country. In this index, a 10 means a full democracy; 6 to 9 means a democracy; 1 to 5 means an open anocracy; −5 to 0 is a closed anocracy; and −10 to −6 is an autocracy (Marshall et al., 2011). In the fuzzy set, the threshold for full membership (fuzzy score = 0.95) is a 9 in the original scale; the crossover point (fuzzy score = 0.5) is 5; and the threshold for full nonmembership in the set of democratic countries is −7 (fuzzy score = 0.05).[10]

Set 3: Rich-developed countries

The threshold for full membership (fuzzy score = 0.95) is a theoretical country with $40,000 of GDP per capita; the crossover point (fuzzy score = 0.5) is on $15,000 of GDP per capita. This is a theoretical country that differentiates between countries that could be considered rich from one that is not. The threshold for full nonmembership in the set of rich countries is $3,000 per person (fuzzy score = 0.05).

Set 4: Highly urbanized countries

There are several mechanisms that link high levels of urbanization with protest: urban populations are easier to mobilize for collective action, urban populations are more susceptible to

[10] Polity IV index does not include information regarding Hong Kong. In order to account for the case, it was assigned a value of 0.5 in democracy. This means it is neither in nor out of the set considering the special case of this territory as part of China but with an independent democratic administration.

political-economic changes (rural populations experience the effects of austerity measures later, for example), structural conditions that overcrowd poor population in urban areas also are a link to higher levels of protest (Ragin, 2000). The OLS analysis in chapter II also proves that urbanization is relevant to the explanation of certain types of digital campaigns. The degree of membership in the set of urbanized countries is marked by the threshold for full membership (fuzzy score = 0.95), which represents over 75 percent of urbanized population; by the crossover point (fuzzy score = 0.5), which is at 50 percent of the population; and by the threshold for full nonmembership in the set of urbanized countries, which is 20 percent of population (fuzzy score = 0.05).

Set 5: Rational-secular countries

This set shows whether a country is more secular, in comparison to those with more traditional-religious values. The set is built using information at a national level from the Traditional/Secular-rational, 1981–2007 dimension obtained from the World Values Survey (Inglehart & Welzel, 2010). The scale ranges from -2.5 (more traditional values) to +2.5 (more secular-rational values). For the fuzzy set, the threshold for full membership (fuzzy score = 0.95) is 1.8, the crossover point (fuzzy score = 0.5) is 0; and the threshold for full nonmembership (fuzzy score = 0.05) is −1.25.

Set 6: Self-expression values countries

This set shows whether a country has more self-expression values, in contrast with those with values more oriented to survival. The set is built using information at a national level from the Traditional/Secular-rational 1981–2007 dimension obtained from the World Values Survey (Inglehart & Welzel, 2010). The original scores on Survival/Self-expression range from −2.5 (more survival-oriented values) to +2.5 (more self-expression–oriented values). The threshold for

full membership (fuzzy score = 0.95) is 1.8; the crossover point (fuzzy score = 0.5) is 0; and the threshold for full nonmembership (fuzzy score = 0.05) is −1.3.

Set 7: Autonomous countries

This set is built with the information obtained from the autonomy index from the WVS (Inglehart & Welzel, 2010; Li & Bond, 2010). This original index ranged from −2 to +2. The most autonomous countries are completely in the set of autonomous countries with a value of 1 (fuzzy score = 0.95); the crossover point (fuzzy score = 0.5) is 0; and the threshold for full nonmembership (fuzzy score = 0.05) is −1.[11]

Set 8: Post-materialist countries

This set is built with the information obtained from the Inglehart's (1977) index, with twelve items presented in three groups of 4 items (Hansen & Tol, 2003; Inglehart, 1997). The materialist items emphasize the following survival needs: 'rising prices,' 'economic growth,' 'a stable economy,' 'maintaining order,' 'fighting crime,' and having 'strong defense forces'. The index ranges between 0 meaning materialistic values, to 5 post-materialistic values. While there are five possible values, the countries are only located between 2.75 points in the index (Sweden) and 1.22 (Taiwan). The most post materialist countries, completely in the set, have a value of 2.5 in the index (fuzzy score = 0.95); the crossover point (fuzzy score = 0.5) is at 2.0; and the threshold for full nonmembership (fuzzy score = 0.05) is 1.4.[12]

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[11] The WVS does not report autonomy index scores for Colombia, Hong Kong or Iraq. In order to account for these cases, Colombia was assigned a 0.7 fuzzy score similar to other South-American countries as Argentina, Chile, and Peru; Hong Kong was assigned a fuzzy score of 0. 5 Midpoint between China and South Korea; Iraq was given the same score as Iran 0.42.

[12] The WVS does not provide information on the post-materialism index for Colombia, Hong Kong or Iraq. However, in order to account for this cases were, they assigned the following fuzzy scores: Colombia was assigned a value of 2.2, which is similar to the following South-American countries: Argentina, Chile, Peru; Hong Kong is not

Set 9: Most educated countries

This set represents a very educated population. In order to have full membership (fuzzy score = 0.95), a country's citizenship must have an average of 12 years of education (an average of primary and secondary education completed). The crossover point (fuzzy score = 0.5) in this set is an average of 8 years of education (which is a standard of minimal basic education). The threshold for full non-membership (fuzzy score = 0.05) is a theoretical value for a country whose citizens have an average of less than 5 years of schooling.[13]

Set 10: More participant countries (political efficacy perception)

This set shows countries in which most of the individuals in a society participate or are willing to participate in offline political or civic activities. For this set, a highly active country is one with a participation average of over 75 percent of the population (fuzzy score = 0.95). The crossover point (fuzzy score = 0.5) is 30 percent of the population being active, and the threshold for full nonmembership (fuzzy score = 0.05) is 10 percent of the population being considered politically or civically active.[14]

Set 11: Satisfied society

This set represents the level of dissatisfaction in a society. The original scores for this value are taken from a 1- to-10 scale, with −1 meaning completely dissatisfied and 10 meaning completely satisfied (World Values Survey Association, 2009). The most satisfied countries are considered 8

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reported but was assigned a value of 1.8 (similar to South Korea); and Iraq was assigned a score of 1.78 a midpoint between Morocco and Iran.

[13] There is not official information from the UN regarding Taiwan's average years of schooling. The fuzzy score of 0.6 was given to this country, assuming an "average" of 9 years of education as the minimum compulsory education in the country.

[14] The WVS does not inform the post-materialism index for Hong Kong and Iraq. For Hong Kong was assigned an arbitrary fuzzy score of 0.77, similar to South Korea and Taiwan and above China. For Iraq was assigned a 0.3, midpoint between Iraq and Morocco.

points (fuzzy score = 0.95). The crossover point (fuzzy score = 0.5) is 7, and the threshold for full nonmembership or very upset countries (fuzzy score = 0.05) is less than 5 or less on the scale.

IV. Analysis

The analysis includes two scenarios. The first scenario includes all the ten causal conditions included in the regression analysis in the previous chapter and the second scenario only includes the seven variables that were found statistically significant for explaining change in the DCDI.

First Scenario: All ten causal conditions

The first step using fuzzy-set/Qualitative Comparative Analysis Software (FsQCA) after calibrating the outcome set and causal conditions sets is to generate a truth table. In this case, the selected outcome set is "high activism countries." After adding the rest of the causal sets (sets 2 to 9), the truth table (all possible combinations) has $2^{10} = 1{,}024$ possible configurations.[15] However, not all of these combinations are represented in the data set by real cases. All of the combinations that do not present cases, which are called remainders, are deleted. In this way, only 26 combinations have real cases represented. A next step is to choose a consistency cutoff for when a causal path leads to the outcome. Because the truth table lacks a clear gap in consistency between values, it was decided to assume a cutoff point of 0.95. So, all configurations above 0.95 in consistency were coded have the outcome "1"; all below were coded to have the outcome "0."

[15] Description of the analysis was done by following the guide by Elliot, T. (2013): Fuzzy set qualitative comparative analysis: Part 2. Retrieved from http://thomaselliott.me/pdfs/fsqca2.pdf.

Once the outcome variable was coded in the truth table, a standard analysis was performed. The software gives three classes of solutions, which are understood as configurational recipes that will explain high activism countries. The software will calculate a complex solution, a parsimonious solution, and an intermediate solution. The complex solution makes no simplifying assumptions. It takes the rows from the truth table coded as 1 on the outcome, and then applies Boolean simplifications to combine rows. Because of the larger number of causal conditions (10 in this case), there are rather complicated solutions (possible configurations) with little coverage of explanation as to why they are not reported in this chapter. In order to obtain the intermediate solution, the software used counterfactuals to try to simplify the complex solution without making unjustified assumptions (Elliot, 2013). This is a strength of this method because allows the inclusion of assumptions based on the cases and theory (Ragin, 2000). Then input for each one of the sets (that is based on theory or previous evidence) must be given about whether each causal variable is present or absent. For this chapter, intermediate solutions are not reported. The parsimonious solution uses any and all remaining rows to help simplify the solution. If a remaining row helps create a simpler solution, then it is assumed to have the outcome and is included in the solution. Nine parsimonious solutions resulted from the analysis and five of them are reported in the results section for this scenario with ten causal variables.

Second scenario: Seven causal variables

The second scenario only includes the variables found to be statistically significant for any of the equations in Chapter II; GDP, urbanization, the secular-rational values dimension, self-expression values dimension, participation, satisfaction, and education. While the total number of combinations possible is 128 there were only 20 combinations that have real cases

represented. All the combinations that do not represent cases were deleted. The consistency cutoff point here was also 0.95.

V. Results

To be able to compare the difference between regression analysis and fuzzy logic analysis, two fuzzy models were constructed that match the selection of variables used in regression analysis. The first fuzzy analysis used ten variables, and the second more focused model used seven variables. While the comparison between the two methods is done in the conclusion of this dissertation (Chapter IV) the result and discussion of the fuzzy-set analysis is presented in the following sections.

Looking at the membership scores for any specific country with high activism (as can be seen in Tables B1 to B4 in Appendix B) each country can be described according to its unique combination of causal factors. However, the combinations that are reported here are not the only plausible ones, but are the limited combinations that plausibly explain multiple cases with good coverage and consistency. It is noteworthy to remember that "coverage refers to the percentage of cases explained by that recipe. Consistency refers to the degree to which cases adhere to a particular causal recipe" (Hussain & Howard, 2013, p. 57).

For the first scenario, with ten variables, Table 3.2 presents five of the parsimonious models with the best balance of case coverage and solution consistency (there were total 9 recipes).[16] It is noteworthy to remember that in fuzzy-analysis different combinations of causal conditions can produce the same outcome; however, these five recipes had the largest raw

[16] See the complete list of nine solutions in Table B.5 Appendix B

coverage of cases with good consistency. As a set, they explain 73 percent of the cases. It is important to notice that among the five solutions, there are two conditions that are not included in any recipe: 'highly urbanized countries' and 'satisfied societies'.

Table 3.2
Five parsimonious causal recipes, with ten variables, for countries with high digital activism
.

Ten variables included: government-type, GDP, urban population, rational values, self-expression values, autonomy, post-materialism, education, participation, satisfaction.

Causal Recipe	**Raw Coverage**	**Unique Coverage**	**Consistency**	**Best Instances**
1. ~government-type ~rational values*	0.30	0.09	0.94	Irán (0.95, 0.99), Morocco (0.9,0.76), Jordan (0.88, 0.97), Egypt (0.87,0.77), Ethiopia (0.83, 0.77), Iraq (0.62, 0.69)
*2. ~rational values*self-expression values* post-materialism*	0.42	0.09	0.93	Mexico (0.85, 0.51), Colombia (0.73,0.75), Argentina (0.65, 0.66), Canada (0.65, 0.77), Brazil (0.57,0.56)
*3. ~gdp*education* participation*	0.33	0.02	0.95	Peru (0.72,0.96), Serbia (0.66,0.92), Argentina (0.63,0.66)
4. gdp~autonomy*~post-materialism*	0.29	0.00	0.95	Iran (0.55, 0.99), Bulgaria (0.52,0.94)
5. government-type ~gdp*autonomy* education*	0.31	0.00	0.92	Serbia (0.69, 0.92), Ukraine (0.62,0.86), Moldova (0.59, 0.99)

Notes: This table shows only five of the nine causal recipes of the parsimonious solutions set with a cutoff point set at 0.95 (the complete list of nine solutions in Table B.5 Appendix B). Altogether, the solution coverage is 0.73 and solution consistency is 0.89.

Table 3.3 summarizes the five different causal configurations among ten variables that are the best recipes for accounting for countries with high digital activism. In the last section of this chapter are discussed these five recipes, emphasizing the recipes 1 and 2 which have the best representation of real cases.

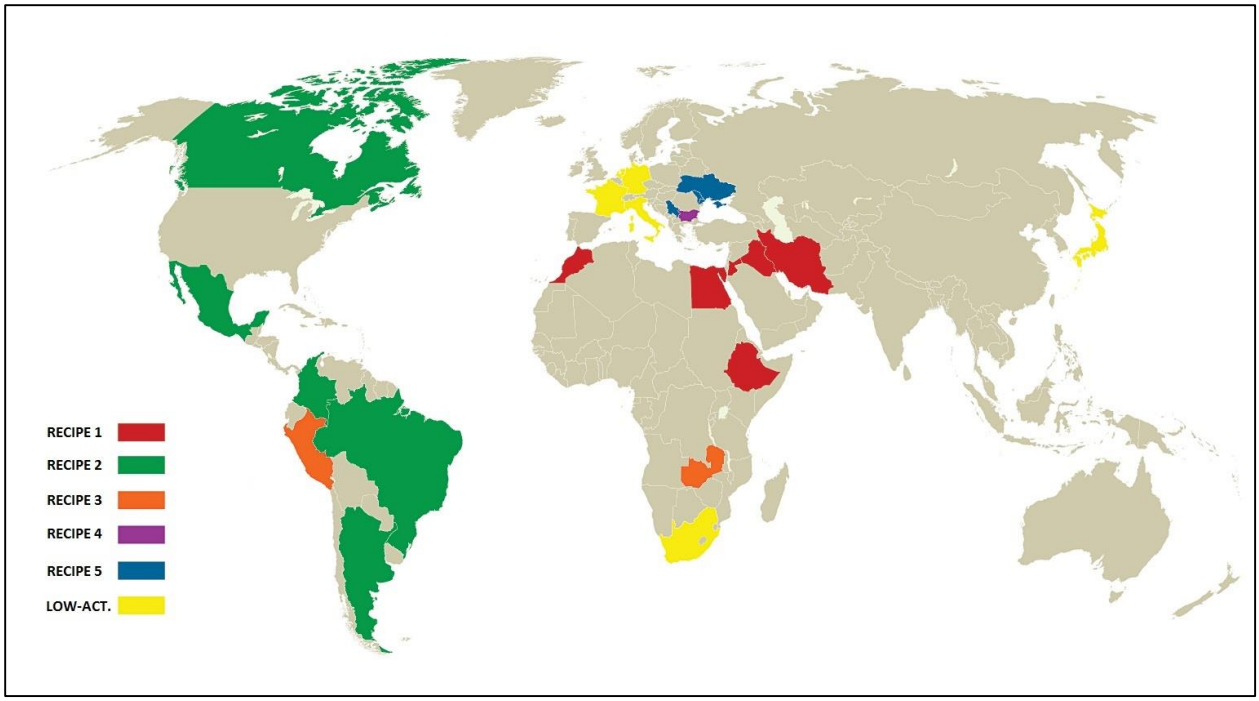
Table 3.3
Summary of five causal recipes.

Causal Conditions	High activism				
	Recipe 1	**Recipe 2**	**Recipe 3**	**Recipe 4**	**Recipe 5**
Democratic	Absent				Present
Rich			Absent	Present	Absent
Urbanized					
Rational-secular	Absent	Absent			
Self-expression		Present			
Autonomous				Absent	Present
Post-materialism		Present		Absent	
Educated			Present		Present
Pol. efficacy			Present		
Satisfied society					

Note: The table shows presence or absence of each causal condition in each one of the five causal recipes with the best coverage and consistency under the Fuzzy analysis with ten variables (from Table 2).

The map, Figure 3.1, shows the countries that are the best instances for each recipe from Table 3.2). Although the five recipes are similar in terms of consistency and coverage in the fuzzy-analysis, only the first two represent consistent cases (Recipe 1 and 2). The first recipe explains several African and Middle Eastern countries and the second explains several western countries from the Americas. In yellow are the countries with less civic digital campaigns than the expected, and which are not explained by the fuzzy analysis.

Figure 3.1
Map of groups of countries with the best instances for each recipe



The scenario two for the fuzzy-analysis, in which were only included the causal conditions that represented the seven variables that OLS in chapter II found to be statistically significant, results in five different causal recipes. In terms of coverage and consistency the five best recipes with seven conditions are equal to, or as good as the best five in the ten variables recipes. However, the best instances—real cases—that represent the formulas are below in coverage or consistency. Consequently, in order to analyze diversity among real cases, the first scenario will be used for discussion and conclusions in the rest of this research.

Table 3.4 shows the results of the fuzzy analysis with only seven variables, the best two recipes include being a wealthy country and being more traditional (low in rational values), the difference between the two recipes is that while for the first the set ‘participation’ is present, for the second ‘self-expression’ is present instead. The third recipe also includes countries with self-

expression values but with low ‘participation’. The fourth and fifth recipes include ‘low GDP’, ‘low satisfaction’, and those high in ‘education’ and ‘participation.’

Table 3.4
Five parsimonious causal recipes, with seven variables, for countries with high digital activism
.

Seven variables included: gdp, urban population, rational values, self-expression values, education, participation, satisfaction.

Causal Recipe	Raw Coverage	Unique Coverage	Consistency	Best Instances
1. gdp~ rational values*participation*	0.38	0.10	0.94	USA (0.98,0.7), Canada(0.65,0.77), Chile(0.57,0.99),Mexico (0.54,0.51)
2. gdp~rational values*self-expression*	0.38	0.00	0.94	USA(0.87,0.7), Canada (0.65,0.77), Malaysia (0.54,0.81), Mexico (0.54,0.51)
3. self-expression values ~participation*	0.29	0.03	0.90	Colombia (0.71, 0.75), Malaysia (0.54, 081)
4. ~gdp~self-expression values* education*participation*	0.29	0.00	0.94	Serbia (0.66,0.92), Zambia (0.59,0.95)
5. ~gdp~satisfaction*education* participation*	0.28	0.00	0.94	Serbia (0.66, 0.92), Zambia (0.59, 0.95)

Notes: The five causal recipes are all the parsimonious solutions set with a cutoff point set at 0.95. Altogether, the solution coverage is 0.54 and solution consistency is 0.91.

VI. Discussion and conclusions

The fuzzy-set solutions reported in first scenario (with all the ten variables Tables 3.2, 3.3 and Figure 3.1) shows that there are five different recipes, or combinations of causal conditions that best explain the countries with high digital activism. The empirical relevance of these configurations is given by the assessment of the coverage of each recipe (Ragin, 2006). In this assessment it was found that these configurations altogether cover 73 percent of the countries, with 89 percent consistency. As was explained in the literature review, diversity-oriented

research understands that having multiple causal recipes is not a weakness of the method. On the contrary, because social science data are rarely uniform, having different explanations that produce the same outcome for different types of cases is considered a strength of the method.

In the first causal recipe, the "Arab Spring Recipe," high activism is explained by a less democratic political environment and by more conservative religious values. It is concordant with the sociopsychological theories that state that collective action requires individuals to be aware of the "injustices." Consequently, a less democratic and very conservative context traditionally constrains possibilities to perceive the injustices in their environment or actually to believe that those conditions must be changed (due to prevailing religious norms and hierarchies). Then, new media, and particularly social media platforms exchange of information helped to increase the recognition of the injustices, and at the same time the digital exchange with groups in other countries increased the perception of political efficacy, as it is explained by Hussain and Howard (2013) in their study about the Arab Spring: "democratic ideas spread across borders, [and] through informal networks of families, friends, and interested onlookers" (p. 57). Then countries more conservative seems to have more civic digital campaigns because the collective action was constrained by their, cultural environment with controlled information. Digital media breaks the barriers between people that previously limited the comparison and imitation of other cultural contexts.

As it was explained in the resource mobilization approach, a more restrictive political context decreases the perception of political efficacy regarding off-line activities. Restrictive contexts affect the individuals' capacities to gather resources and make use of them for mobilizing. In this way, increased digital activism as a phenomenon can be explained by the frameworks that attribute it to the affordances of the Internet. Particularly, the decreased costs of

contributing to digital campaigns offset the structural political constraints that traditionally offline campaigning have had. The best representatives of this recipe are Iran, Morocco, Jordan, Egypt, Ethiopia, and Iraq.

The second recipe, the "Aspirational Recipe," includes only cultural conditions as explanations for digital activism. These countries are characterized by postmaterialism values and self-expression values, at the same time they are conservative in religious terms. These countries aspire to distribute resources and fulfill needs more equitably among whole populations. This means that they are concerned with higher-level needs (such as self-expression), but at the same time they are also interested in the idea that economic and physical security must be universally fulfilled. Consequently, in terms of goals, it can be expected that goal type for their campaigns is spread all along the entire spectrum, with the motivations for collective action—and online campaigning—thus are also larger, and this would explain their high digital activism.

A brief glance at the best instances of this recipe shows that several of these countries have high levels of inequality. There could be a structural condition, not measured in this research, which perhaps has something to do with the number of campaigns. Then, in a place with high inequality, but with a society in which values are of postmaterialism, it can be expected that the whole population is concerned with the welfare of their individuals. This explanation is concordant with the Bennett and Segerberg's (2013) logic of connective action and related ideas about networked-individualism. What it is being seen in this group of countries is that individualized publics organize for different reasons. And some of these rationales are distinct to the traditional ideological or identity-related social movements that gave origin to the resource mobilization approach at the same time, and are that still organized toward the

materialist campaigns. A qualitative analysis of these countries' campaigns could contribute to testing this hypothesis in future.

This second recipe also has the feature that although all its countries are modern in their vision of human needs, they are conservative in religious terms. In these countries, religiosity still plays an important cultural role. However, the type of religiosity does not discourage the organization of online campaigns (as it has not discouraged collective action in the past). The best instances of this recipe are Western countries from the Americas: Mexico, Colombia, Argentina, and Canada. These countries have large Christian populations, contrary to the first recipe, in which most of the countries have a large Muslim population.

While recipes three to five have just little bit less consistency and coverage than recipe one and two, these have representative cases with less consistency and coverage. This means that mathematically, in the Boolean analysis, these configurations are plausible, however they seem to not be that representatives of real cases. Considering this, in Chapter IV there is a discussion regarding how recipe one and two relate with current theories of digital collective action and how they help to answer the research questions of this dissertation. That being said, recipes three to five are discarded from the conclusion chapter and only presented in the next few paragraphs.

The third configuration which will be called the "emancipation recipe," refers to countries that have low GDP. (They are mostly out of the set considered to be rich countries.) At the same time, they have higher average years of schooling; this means that according to the assumption of this research, they are cognitively more able to recognize injustices. These countries also have a tradition of off-line participation. It seems that digital campaigns are just another expression of the collective action that has traditionally occurred in these countries in

order to improve the distribution of resources. The best representatives of this recipe are countries with people from very diverse backgrounds: Peru, Serbia, Argentina, and Zambia.

The fourth recipe includes countries with a high GDP that are still concerned with materialistic values of physical and economic security. These countries are not very autonomous, which means they highly value religious faith and obedience. The interpretation of this recipe is similar to the third recipe: digitally enabled perception of injustice and political efficacy can increase collective action. While this recipe still has good coverage and consistency, the best representatives are not very high in coverage (which means they are only slightly in the set): Iran and Bulgaria.

The fifth recipe, "autonomous poor erudite," includes countries that have democratic governments and are highly autonomous; they value obedience and religious faith less, and they have high average years of schooling. However, their GDP is low. It seems that for historical reasons these countries do not have traditions of protesting; their off-line participation in civic a political activities was low. However, digital media combined with their high education and autonomy decreased the costs of organizing collective activity. The best representatives of this recipe are Serbia, Ukraine, and Moldova.

Each one of the different recipes could give rationales for further research aimed at explaining the specific configurations that triggered collective action in each group of conditions. It would be interesting to analyze the cross-variance among countries in each formula and discover the topics and specific circumstances that motivate collective activity. The Arab-spring phenomenon has received the closest analysis in the latest years. Even more, in some public discussions there is a tendency to generalize the findings from this recipe to relate it to digital collective action worldwide. This research effectively demonstrated that there seems to be an

underlying pattern that explains collective action in those countries, but that at the same time the conditions under which each uprising happened does not explain other contexts. In this research, at least 5 different groups of highly digitally active countries were found, each one with different underlying cultural and sociopsychological causal attributes.

In terms of an overview of the causal conditions, GDP is the attribute included in most of the recipes (three of the five). However, in two of them, the countries must be poorer and in one, they must be richer. Similar findings, in opposite directions of inclusion in the set, were found for the causal recipes in other causal conditions. For example, being a democratic country is a requirement of recipe five, but being out of the set of democratic countries is a requirement for recipe two; being included in the set of autonomous countries is a requirement for recipe number five but absent for Recipe number four; and being in the set of postmaterialist values is part of the recipe one, but being a conservative country is part of Recipe four. When considering the best instances, of all these recipes, as we intuitively imagine, it seems that the motivations to campaign are different among countries. Similar to what was found in the OLS regarding types of campaigns.

Limitations

One of the main limitations of fuzzy-set analysis is found in its sample selection. In traditional regression analysis, to select a sample based on the outcome reveals a bias. Even though it is a requirement to do this in fuzzy-set analysis, the results only explain the causes of the outcome; they do not explain why some countries do not present the outcome. For example, knowing these 5 recipes that explain digital activism does not show why some countries—such as Japan, China, Germany, and the Netherlands—have fewer campaigns than expected. Another limitation of these findings is due the correction of some missing data. The qualitative assignment of fuzzy

score to countries with no information about a specific causal condition could be distorting some of the results. This research, however, has documented each one of the places in which the data is patched, and believes that distortion is nonexistent and that the whole data set is actually improved.

Chapter IV: Towards a Model of Collective Action in Digital Media Networks

State-of-the-art in the study of digital collective action

As it is been mentioned in the first chapter of this dissertation, digital media do not come from a vacuum and then affect individuals; digital media interact with specific, long-lasting social practices and organizational structures and then produce new hybrid arrangements. The route taken by this dissertation tries to understand these complex organizational forms by focusing on the contextual conditions that underlie one visible kind of collective action as it is digitally mediated: through civic-digital campaign. In order to fill some of the gaps in the current digital collective action frameworks, this dissertation used multiple theoretical perspective tested by two different methods of analysis.

As the title of this dissertation "From the Village to the Global Village" suggests, I aimed to test whether the contexts that surround individuals in the physical world mirror the digital public sphere. Specifically, this research analyzed how the number and type of civic digital campaigns per country, as expressions of digitally coordinated collective action, are explained by cross-national differences in the contextual structural conditions that have traditionally informed collective action, and also by their differences regarding cultural and sociopsychological factors. The final section explains the main conclusions of this dissertation.

1. The diversity of collective action literature

The first goal of this dissertation was to inquire about what elements, beyond the traditional utilitarian views, could explain the particularities of the collective action in digital media networks. Neoclassical economics literature and social movement theory, which have been the predominant approaches to the study of collective action among social movement scholars, give an important role to the free-riding calculations, in the context of high personal costs, to explain participation in the production of common goods. Chapters I and II explained how digital

collective action theorists have heavily relied on these assumptions of individuals as rational thinkers acting in order to maximize personal benefits to explain that digital media networks' affordances explain current collective action, because they have decreased the cost of individuals' contributions to the creation of common goods. The only particular difference today is that, contrary to traditional resource mobilization theories, these actions are organized by highly individualized publics that use the networked infrastructure of digital media for coordination rather than depending on formal organizations.

Contemporary theorists recognize that the public spaces have changed as a consequence of the interaction of old social practices with newer digital media. However, they still generate theory mainly from a single perspective that has explained collective action in the pre-Internet era. The first chapter showed how main analytical frameworks lack the integration of other approaches that could aid a comprehensive model for understanding the new hybrid environment. Chapter I presented four theoretical models that have studied digital collective action: 1) collective action space (Bimber et al., 2012); 2) hybrid media system (Chadwick, 2013); connective action (Bennett & Segerberg, 2013); and peer-to-peer production (Benkler, 2006). A general summary of this literature finds that all but one, peer-to-peer production, agreed with the utilitarian view. Consequently, if contributing to the production of a common good is cheaper and less risky, then there is more organization (in everything from sporadic flash mobs or protests to much more institutionalized new hybrid structures).

In the bibliographic review, to find other perspectives that can contribute to answering the first question of this dissertation, it was found that this assumption—about rational choice calculations—has not been the only rubric used to study collective action. Questions such as, "why do people organize?" "who are the initiators and followers?," and "in what forms of

collective action do individuals take part?" have been answered from different points of view since the nineteenth century (Van Stekelenburg & Klandermans, 2009). Those theories are a rich source for understanding digital collective action from a communication perspective that is aimed at understanding the hybrid media system.

At the beginning of the twentieth century, spontaneous collective action was explained from a perspective totally different from the utilitarian view. By then, protesting was considered a very primitive and irrational crowd behavior (Le Bon, 1922) ignited by relative deprivation and subsequent grievances (Gurr et al., 1970; Smelser, 1963). So, it was thought that engaging in collective action was likely to happen in places with individuals affected by economic crisis and other societal breakdowns (Van Stekelenburg & Klandermans, 2009). The structural approaches, from which resource mobilization came, were a response to these ideas. These were motivated by the Civil Rights movement in the United States in the 1960s and 1970s, where participants—it was noted—were not irrational, marginalized individuals. Rather, they were more civically engaged citizens, whose actions were explained by political opportunities and political processes in which organizations facilitated mobilization (Van Stekelenburg & Klandermans, 2009). Resource-mobilization scholars emphasize that social movements are a consequence of an increased sense of welfare rather than by grievances about perceived deprivations (McAdam et al., 1996)

The political process theorists, whose theories are a variant of structural approaches, consider the cultural and ideological context and other subjective matters in which the movements originate are to be determinants of the repertoire of action that mobilization will take (McAdam et al., 2001; Tarrow, 1996). Nevertheless, the emphasis in the culture approach is best represented by a social-constructionist approach—the "new social movement," which is more

concerned with new grievances of the postindustrial societies that explain why individuals are inclined to engage in some collective actions (Cohen, 1985; Habermas, 1981; Melucci et al., 1989). They also focus and expand on the conceptions of emotions and sociopsychological explanations of structural approaches (Van Stekelenburg & Klandermans, 2009). Social psychology and social identity theories emphasize these subjective matters (Rivenburgh, 2000; Tajfel, 1978; Van Stekelenburg & Klandermans, 2009).

As it has been seen, the collective action literature is rich and fertile in order to provide constructs and theories that can provide explanations for the digital collective action. However, integration of the different approaches is clearly missing. Recognizing the value of trying to understand digital collective action in a comprehensive way, Chapter II and III test whether these different approaches—structural, cultural, and sociopsychological—can be employed together to explain civic digital campaigns.

2. Findings: The multiple explanations of civic digital campaigns

Two different and complementary methodological routes were taken in order to answer the second and third questions of this dissertation. The first, as employed in Chapter II, used descriptive statistics and regression analysis (OLS) to analyze differences between number and type of digital campaigns by country. The second route, as used in Chapter III, was the theory-based Fuzzy-Set Approach which was used to find causal configuration of variables that can explain the differences in number of digital campaigns among countries. To this general end, this dissertation analyzed a sample of 263 civic digital campaigns in 42 countries.

Caveats about data.

In order to understand the results of this research it is important to remember a few caveats related to the data that have been mentioned in previous sections: First of all, as

explained in chapter II's 'measurement section,' the units of analysis are civic digital campaigns. These were selected using a purposive sampling method that consisted of studying the events by means of news reports about them. This research can only claim that any findings are the result of the evidence found in the sources reviewed, and are not a statistical representation of worldwide civic digital campaigns. Still, this data set is rich in providing possibilities for comparing digital activism among a large number of countries; second, also related to the civic digital campaigns, it is important to mention that annual campaigns are coded only as one event, although they could have been reported via several opportunities. Also, sub-campaigns inside of larger campaigns were not considered as separate units; third, the civic digital campaigns were only informative about activism that uses any form of digital media. It does not make claims to the possible offline components of those campaigns. Offline-only campaigns are not included in the data set, consequently any result only refers to civic digital campaigns.

Having this information in mind, the next paragraphs explained how each of the chapters responds to the second and third questions of this dissertation.

The OLS results.

As presented in Chapter II, from the literature review seven hypotheses were stated in order to test the relationship between cultural and socio-psychological variables with civic digital campaigns. Although regression analysis does not permit strong causal language, it does allow for an explanation of the variation in the dependent variable as one-unit changes in each one of the independent variables, and thus it is possible to contrast hypotheses. The first hypotheses tested cultural orientations and their effects on the variation of number of civic digital campaigns. The first hypothesis predicted that because traditional societies are very respectful of hierarchical structures, then individuals in those societies would be less likely to organize

campaigns to target authorities. Then, it was expected that countries with populations with more traditional values will have fewer civic digital campaigns. This hypothesis was rejected by the data, and on the contrary, the cultural variable says that traditional-religious countries had organized more campaigns than more secular countries.

The second hypothesis related to cultural variables predicted that because societies that have a self-expression values orientation have already satisfied their basic needs, they will be less likely to collectively organize to achieve economic and physical security campaigns, but will be more inclined to organize campaigns aimed at achieving other goals. This hypothesis was framed as: If countries have more self-expression values they will have a larger proportion of campaigns oriented to satisfying themselves as consumers and dealing with environmental issues than are oriented to more basic needs such as human rights or resource distribution. This hypothesis is partially confirmed because countries with more self-expression-oriented values actually increased the proportion of campaigns about the environment. However, the explanation of the variance in the proportion of consumer satisfaction campaigns was not supported.

The third theoretical linkage between cultural variables and civic digital campaigns predicted that more self-determined and perseverant societies, and countries with individuals with more postmaterialism values, because they consider both basic and higher level needs as requirement for the whole population, will then tend to organize more civic digital campaigns. The third hypothesis reads thus: Countries with a higher level of autonomy or postmaterialistic values will present more civic digital campaigns. This hypothesis was not confirmed by the data.

The fourth hypothesis included a sociopsychological variable, and predicted that countries with a higher average of years of schooling will be more cognitively skilled and then able to recognize injustices and act accordingly. The fourth hypothesis is: If a country's citizens'

average number of years of schooling is higher, then the total number of campaigns will be higher. This hypothesis was confirmed by the data. Also, considering that perceived injustices motivate organization, the fifth hypothesis expected that the recognition of one problem as a high priority in a country will motivate more civic digital campaigns aimed to solve that problem. However, this hypothesis was discarded from the analysis because for all countries the priority problem was similar: poverty.

The sixth hypothesis tested the relationship between the perceptions of political efficacy in offline collective action toward their impact in the number of civic digital campaigns. The hypothesis states: If a country has a higher proportion of people participating or willing to participate in off-line activities, then the country will also likely have a higher number of civic digital campaigns. With the OLS it was not possible to corroborate this hypothesis and, it seems that there is no statistically significant relation between the offline political efficacy perception and the number of civic digital campaigns.

The last hypothesis refers to the studied idea that anger is a predictor of collective action. This hypothesis was tested by using the average level of satisfaction in a country and it was expected that less satisfied societies would organize more civic digital campaigns. The statement is: If the level of satisfaction of the population in a country is low, then the country will have more campaigns. This hypothesis was confirmed by the data, and the level of satisfaction is inversely correlated with the number of civic digital campaigns.

Summarizing the hypotheses from chapter II, it can be said that only few of the cultural and sociopsychological variables were relevant for explaining an increase in the number of civic digital campaigns: Traditional-religious countries organized more civic digital campaigns than more secular countries. It was also found that a higher number of the average years of schooling

in a country does positively impact the number of campaigns. And finally, the sociopsychological variable—which had the largest impact on the model—is the level of general life satisfaction among a country's population. In other words, how dissatisfied a population is will predict an increase in the number of civic digital campaigns the people organize. Another interesting result from the regression analysis was to find that contrary to the overwhelming literature from the structural approach, GDP is the only structural condition that has statistical significance for explaining DCDI. And contrary to resource mobilization theory, this relation is negative; it was found that richer countries have fewer campaigns.

Focusing on whether the variables impact the types of campaigns, there are two findings that are significant. Countries in which a larger percentage of the population has participated—or is willing to participate—in political or civic activities offline, have larger proportions of consumer satisfaction campaigns. And on the contrary, countries with a smaller percentage of people with a positive political efficacy perception have more campaigns regarding governance. It seems that the reasons why there are more campaigns in governance are related to the "low"' political efficacy perception of other types of mechanisms of participation (or the absence of those). The second statistically significant result from this part of the research is that a secular or less traditional country organizes more environmental campaigns than more traditional countries.

The complementarity of fuzzy-set logic.

As has been mentioned earlier, regression analysis, in the additive form of OLS, has the advantage of predicting changes in the dependent variable as the independent variables change. This method is highly appreciated in an epistemology that considers universality, externality, and measurability in causation (Lee, 2013). However, the findings related to the regression analysis have some limitations for this specific research.

Related with the sample, from the initial number that counted 42 countries with a total of 243 campaigns, five countries were dropped in the calculations, because they lacked information in any or some of the independent variables. The OLS requires that missing values cannot be invented or qualitatively created. Therefore, information about the five countries drops from the analysis. Unfortunately, as it was explained in the chapter II, OLS requires an important number of observations for each independent variable be included in the model. Then, losing cases has potential consequences for the prediction of the models, especially important when the samples have a real constraint regarding their number of observation, especially as countries measured by the WVS are already constrained. This situation, however, was not that relevant in the OLS model that used the DCDI has a dependent variable, because the creation of the index allowed for a control of the variance among countries. Consequently, it was possible to find several statistically significant variables that permitted the confirmation or rejection of several hypotheses. But, it was not the same with the model that accounted for the proportion of type of campaigns. For two types of campaigns (resource distribution and human rights), the model had very little predictive value (negative R-squared), problem attributed to the reduced number of observations.

Another limitation of OLS that could be constraining the finding of others statistical significant variables is because the method works under conditions of ceteris paribus, which excludes the interactions among the other variables. So, it might be that some other variables are relevant for explaining digital campaigns only when they interact with other variables, and not just when they are held at their means (as happens in the OLS). These two flaws are the main ones that can be tackled using a fuzzy-set based methodology.

If this dissertation would have only used OLS analysis, the conclusion section would end at this point. I would have mentioned. , these limitations and explained why those results could be due to the selected method. In this dissertation, however, a second method was employed to analyze the same data, in order to answer the same questions in a different way, expecting to complement the results and overcome some of the limitations of OLS models. Therefore, if the findings are concordant with what theory predicts, and with what the OLS model (with its limitations) explained, the conclusion of this dissertation will make a stronger contribution regarding the model of collective action in the digital environment.

Besides the advantages of using fuzzy-based analysis presented in chapter III—one does not need homogenized populations, the researcher has more discretion in defining variables; allowing increasing diversity in the analysis by not searching statistical significances—there is another useful practical consequence: the data set increases from the one employed for OLS analysis in Chapter II. If diversity-oriented research emphasizes the analysis of cases among a configuration of variables, then it also allows for inclusion of all countries for which there is information regarding the outcome variable. In this analysis was included all the countries with information regarding their civic digital campaigns. This was done by patching the missing values in the causal conditions with qualitative data, allowing the inclusion of five extra countries (Colombia, Hong Kong, Iran, Iraq, and Taiwan), increasing the sample to 42 cases.

Then, based on the fuzzy analysis, it was demonstrated that that there is not just a single recipe that explains why countries have higher scores on the DCDI. Rather, five causal recipes were found for explaining why certain countries have high amounts of digital activism. These recipes have a good balance between consistency and coverage. Each of the five best fuzzy-set recipes combined three or four causal conditions to explain why certain groups of countries are

highly digitally active. The only two variables that are not included in any recipe are the sociopsychological causal condition "satisfaction" and a structural cause identified as the "level of urbanization." This is interesting because the former was statistically significant in explaining an increase in the DCDI in the OLS analysis. It seems that when the variables are allowed to interact, both effects disappear. It is noteworthy to mention that although the fuzzy analysis showed five causal recipes with good coverage and consistency, only two of them have real cases explained with good coverage and consistency as well. The first causal configuration was called the "Arab Spring Recipe" and the second causal configuration is called the "the Aspirational Recipe".

As explained in Chapter III the Arab Spring Recipe include a group of countries characterized by a less democratic political environment and more conservative religious values, with the best representatives cases of this recipe being Egypt, Ethiopia, Iran, Iraq, Jordan and Morocco. This recipe is concordant with sociopsychological theories that explain that collective action is related to the subjective perception of seemingly objective conditions: perception of injustices and perception of political efficacy. More authoritarian and conservative societies tend to restrain collective organization because strict religious norms and respect for hierarchies in conservative societies discourage the perception of injustices (they are cultural norms), and also because the restrictive political environment decreases the perception of efficacy of off-line actions, with both decreasing the willingness to participate. However, it seems that digital technologies have allowed individuals in these societies to bypass these perceived restrictions. Civic digital campaigns seem to be an alternative for traditional off-line collective action. This explanation aligns with frameworks that attribute to the internet affordances that can be tied to

increased digital activism. Later, during the discussion of the integration of both methods, just how these models can be integrated will also be explained.

The Aspirational Recipe is distinct from the first recipe in the sense that these countries, although they are also conservative in religious terms, are included in the set of postmaterialism values and self-expression values orientation. These countries aspire to distribute resources and to fulfill needs more equitably among the whole population. It seems that these countries are not using civic digital campaigns to surpass structural restrictions in their contextual realities, rather, these countries' campaigns are aimed at achieving a multiplicity of goals. They are concerned with higher-level needs (such as self-expression), but at the same they are concerned that economic and physical security must be satisfied for the whole society. Consequently, in terms of goals, it can be expected they are spread along the entire spectrum, and each one will be dependent on the interest of particular groups, concordant with the Bennett and Segerberg's (2013) logic of connective action ideas about networked-individualism. Instances of this recipe include: Argentina, Canada, Colombia, and Mexico.

As seen in chapter III, fuzzy-set theory has the ambitious goal of bridging the distance between quantitative and qualitative methods by using theoretical claims and evidence at the same time. This 'diversity-oriented analysis' might, according to fuzzy-set researchers, tackle at the same time the weakness of the traditional methodological approach, increase the external validity of quantitative research, or variable oriented research, and increase the internal validity and generalizability of qualitative research, or case oriented research. An important note regarding the fuzzy-set analysis is that the absence of the best recipes in a country does not explain why a country has fewer digital campaigns. In fuzzy-set logic the "absence of the

outcome" must be analyzed as an outcome in itself and the conditions that explain that outcome must be studied independently.

3. Conclusions: A model of collective action in digital media networks

The two methods used in this dissertation allowed for finding synergies that help us to better understand collective action dynamics in digital media networks. It was possible to find the effect of each condition over the number of civic digital campaigns, and to complement these findings by discovering the best combinations of attributes that could explain different groups of countries with high numbers of digital campaigns. It is interesting that by just complementing the OLS results with the Fuzzy-set analysis results, and without having a deep analysis of the qualitative data of the countries campaigns, it is still possible to deduce a qualitative relationship between the cultural factors and the type of campaigns as will be presented in the following paragraphs. While there could be a desire to pick one of the methods, as a magic bullet, this would be inappropriate and would result in the loss of any of the strengths of the complementary perspective. The approach taken here attempts to recognize the value of different methodological approaches to understanding a new phenomenon under the conditions of not ideal, but still useful data.

As this dissertation has shown, countries do have different numbers of civic digital campaigns, which are bounded by changes in the countries' structural, cultural and sociopsychological contexts. Therefore, an important conclusion of this research is that the overarching hypotheses used to explain increases or decreases in digital activism oversimplify the more complex reality of interactions between the motives and forces that generate digital collective action and the contextual conditions that surround these initiators. Bruce Bimber's ideas regarding the collective action space seem to apply to the findings of this dissertation. The

collective action space is not only related to organizational structures, but it seems that the collective action space is expanded to include the wider cultural and sociopsychological contexts in which the collective action takes place. Participation is complex and heterogonous depending on the conditions individuals live in.

The main conclusion of this research, which is concordant with what other social scientists have said before, is that culture matters and that values, as the "basic orientations or principles that guide attitudes and behavior…matter as well" (Esmer, 2007, p. 3). Societies with more traditional values were found more likely to have more digital campaigns both in the OLS and in two of the fuzzy recipes. Contrary to the views that assume that globalization processes have led to cultural homogenization, this research suggests that researchers, practitioners and policy-makers must consider the usefulness of identifying cultural differences as a crucial part of understanding new social and organizational arrangements. This idea is similar to Benkler's position that digital networks, rather than enhancing individualism, have connected "human sociability" on a large horizontal scale, creating a more intense sociability engrained with the underlying cultures in question. This is an especially robust finding considering that there is no evidence of cultural convergence due to the globalization processes, and, on the contrary, the evidence shows that cultural values are ingrained in communities: they are still robust and salient (Esmer, 2007). Globalization has not yet had the power to "sweep away cultural diversity," and the melting-values concept appears to be only surface-level (Esmer, 2007, p. 5). Any model of collective action in the hybrid media system must still consider cultural differences.

The regression analysis shows us that more conservative societies tend to have more civic digital campaigns, however, even better, the fuzzy analysis allows an explanation that there

is a difference in how these values interact with other structural and cultural conditions. In the case of the Arab Spring Recipe, conservative values are immersed in a restricted political environment. The increased activism could be explained by current theories that attribute digital activism to the decreased costs of leveraging the affordances of digital technologies. This logic could be explained by traditional theories based on resource mobilization theories, which attribute power to the increased exchange of information with external groups and consequently an increase in their perceived political efficacy. Also, it seems their collective action responds to the kind of actions motivated by traditional ideological or identity-related issues goals. This idea can be deduced from the OLS model that shows how countries with low perceived political efficacy in the offline activities now have more campaigns related to governance issues. In structural terms, there are not new political opportunities or changes in the general 'objective' structural conditions of these countries that have made possible the increased mobilization, rather there has been a change in the perception of the injustices and the efficacy facilitated by social media.

On the other hand, with the Aspirational Recipe, we have countries in which conservative values are associated with a modern view of society, which implies the desire to satisfy self-expression and postmaterialist needs for the whole population. It seems that this recipe works well with Bennett's logic of connective action, in which individuals use the internet in order to achieve multiple goals, using networked-individualism. Probably these countries are the ones with a tradition of offline participation as well. Because the OLS shows that countries with increased political efficacy perception are have more consumer satisfaction campaigns. The logic of connective action could have worked together with a traditional resource mobilization approach to create social movements that emphasize the idea that collective behavior is a

consequence of an increased welfare rather than grievances over perceived deprivations (McAdam et al., 1996). The best examples of this recipe these are middle-to-high income-countries, but most of them still possess high inequality.

The findings regarding sociopsychological factors were less stable between the two methods used in the research. However, in an OLS model there is a strong relationship between the satisfaction level and a decrease in the number of digital campaigns. Digital networks would be facilitating the emotionally driven mass behavior in a manner similar to that proposed by breakdown theories at the beginning of the twentieth century. The increased possibility of sharing in the new media environment also permits emotional contagion and the subjective perception of injustices. Perhaps what is being seen is the type of crowd behavior that was explained in the revolutions seen at the beginning of nineteen century, and as related to scarcity and deprivation (Le Bon, 1922; Smelser, 1964). It would be interesting to test in future research when emotional collective action online—more similar to offline protests—is taking place, and when there is a more 'rational' planned behavior.

The variable for average years of education, used in this research as a proxy to identify cognitive capacities, was significant in the OLS and it was included in one of the fuzzy recipes (the third best according to their coverage and consistency). It seems that civic digital campaigns require a level of cognitive skills spread among the whole population beyond the initiators of the campaign; it is well known that Internet access is positively correlated with higher levels of education. It could be hypothesized that the perceived efficacy and any requirements in initiating collective action are conditional on the perception that other individuals will support the

campaign. If the initiators perceive that the likelihood of supporters is limited because of their limited education, then they will not initiate campaigns.

The two models used in this dissertation are complementary in showing that the digitally mediated collective space, the hybrid media system, is not the same in every society. As Chadwick suggested, the hybrid media system interacts with previous social arrangements and any approach to understanding new patterns of these arrangement must consider its "chaos, nonlinearity, and disintegration" (Chadwick, 2013, p. 210). Hybridity is mirrored at every level, as different collective action spaces at the organizational level, but also in the structural, cultural, and sociopsychological spectrums. This dissertation is a first step toward analyzing the new media environment in its complexity: with structural settings and institutions; culture; and socio-psychology, all in a comparative manner. It is not surprising that patterns of collective action vary across different hybrid media systems.

In epistemological terms, the fuzzy-set approach offers a step forward in the search for more appropriate methods in capturing the complex realities offered by the digital environment. Quantitative research methods have not yet adapted to account for relationships between the online and offline world, and qualitative researchers are still working to understand a new field of networks that seems endless. Comparative methods could connect both views to make a more comprehensive understanding. Still, fuzzy set analysis cannot solve all the problems related to hybrid media-systems research.

Finally, this research is subject to limitations of sampling and methodology, as outlined above. Nonetheless, the findings of the research could have important effects on the application and design of digital tools. This research proves that, in comparative terms, and using secondary

data, that the appropriation and use of technology differs by culture and the unique sociopsychological conditions in different countries. This affirmation is something that human-centered design approaches and more humanistic approaches to technologies have largely already discussed in qualitative terms. This research could also help advocacy groups know more about the general conditions that are more suitable to initiate mobilization, and shows them how to mobilize participation for their civic campaigns, according to their different cultural contexts.

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Appendix

Appendix A

Table A.1
Factor analysis for traditional versus secular values dimension and survival versus self-expression values.17

Two dimensions of Cross-cultural variation: Aggregate-level analysis	
	Factor Loadings
Traditional values emphasize the following (Secular-rational emphasize the opposite):[a]	
God is very important in respondent's life.	0.91
It is more important for a child to learn obedience and religious faith than independent and determination (Autonomy index)	0.88
Abortion is never justifiable.	0.82
Respondent has a strong sense of national pride.	0.81
Respondent favors more respect for authority.	0.73
Survival values emphasize the following. (Self-expression values emphasize the opposite):[b]	
Respondent gives priority to economic and physical security over self-expression and quality of life. (4-item Materialist/post materialist values Index)	0.87
Respondent describes self as not very happy.	0.81
Homosexuality is never justifiable.	0.77
Respondent has not and would not sign a petition.	0.74
You have to be very careful about trusting people.	0.46

Notes: The original polarities vary; the above statements shows how each item relates to the given factor (factors= 2, varimax rotation, listwise deletion).
[a] This factor explains 46 percent of total cross0national variation; secular = positive pole.
[b] This second factor explains 25 percent of total cross-national variation; self-expression = positive pole.

[17] Adapted from Table 2.1. Two dimensions of Cross-cultural variation: Aggregate-level analysis in Ronald Inglehart, 2005, p. 49.

Table A.2
OLS, dependent variable proportion of campaigns by goal type per country.

	Governance goals	Resources distribution goals	Human rights goals	Environmental goals	Consumerism goals
Traditional-secular values	0.018	-0.049	-0.119	**0.206****	-0.064
	0.096	0.085	0.096	0.093	0.078
Survival-self-expression values	-0.099	-0.038	0.056	**0.194***	-0.102
	0.116	0.102	0.116	0.111	0.094
Autonomy index	-0.048	0.128	0.082	-0.195	-0.005
	0.171	0.150	0.171	0.164	0.139
Post-materialism (12)	0.325	0.120	0.100	-0.106	-0.338
	0.243	0.214	0.243	0.243	0.199
Schooling	0.055	-0.031	0.001	-0.006	-0.005
	0.037	0.032	0.037	0.035	0.030
Political efficacy	**-0.954***	0.056	-0.209	0.010	**1.157****
	0.529	0.465	0.529	0.509	0.432
Satisfaction	0.056	-0.063	-0.062	0.091	0.058
	0.114	0.101	0.114	0.110	0.093
Government type	-0.005	0.009	-0.008	-0.005	0.005
	0.015	0.013	0.015	0.014	0.012
GDP	0.003	-0.038	0.001	-0.068	-0.008
	0.007	0.000	0.007	0.007	0.638
Urban population	0.008	**0.009****	-0.001	0.002	-0.002
	0.005	0.004	0.005	0.004	0.004
Adjusted R^2	0.174	-0.007	-0.134	0.156	0.016
F	0.119	0.488	0.821	0.142	0.424
N	37	37	37	37	37

Notes: *p< 0.01; **p<0.05, GDP = E^{-6}; Standard errors reported bellow regression coefficients.

Appendix B: Matrices of transformation using FS/QCA

Table B.1
Fuzzy transformation DCDI.

	# Campaigns	DCDI	DCDI_Fuzz
Argentina	4	0.327	0.66
Australia	8	1.220	0.92
Brazil	13	0.116	0.56
Britain	31	1.500	0.95
Bulgaria	2	1.343	0.94
Canada	7	0.613	0.77
Chile	11	2.098	0.99
China	14	-1.66	0.03
Colombia	5	0.540	0.75
Egypt	8	0.596	0.77
Ethiopia	3	0.597	0.77
France	4	-0.518	0.26
Georgia	3	2.462	0.99
Germany	2	-1.495	0.05
Hong Kong	4	1.806	0.97
India	9	-0.768	0.18
Indonesia	3	-0.455	0.28
Iran	9	2.167	0.99
Iraq	1	0.390	0.69
Italy	3	-0.403	0.31
Japan	1	-2.556	0.01
Jordan	2	1.775	0.97
Malaysia	5	0.741	0.81
Mexico	3	0.034	0.51
Moldova	2	2.310	0.99
Morocco	4	0.585	0.76
N Zealand	2	1.385	0.94
Netherlands	1	-0.682	0.2
Peru	7	1.587	0.96
Poland	3	-0.057	0.47
Russia	6	-0.489	0.27
S Africa	1	-0.993	0.12
S Korea	10	0.650	0.79
Serbia	2	1.214	0.92
Spain	6	0.343	0.66
Sweden	1	-0.121	0.44

Taiwan	2	-0.119	0.44
Thailand	2	-0.118	0.44
Turkey	3	-0.328	0.34
Ukraine	5	0.923	0.86
USA	50	0.434	0.7
Zambia	1	1.478	0.95

Table B.2
Fuzzy transformation structural variables.

	Gov_type	Gov_type_FZ	Urban	Urban Fz	GDP	GDP_FZ
Argentina	8	0.9	92.3	0.99	15,347	0.3
Australia	10	0.98	89	0.99	34,340	0.97
Brazil	8	0.9	84.3	0.98	10,152	0.47
Britain	10	0.98	79.5	0.97	32,538	0.91
Bulgaria	9	0.95	72.5	0.94	11,474	0.52
Canada	10	0.98	80.6	0.98	35,369	0.96
Chile	10	0.98	88.9	0.99	14,987	0.67
China	-7	0.05	49.2	0.48	7,945	0.27
Colombia	7	0.82	75	0.95	8,711	0.31
Egypt	-2	0.15	43.4	0.34	5,401	0.26
Ethiopia	-3	0.12	16.8	0.03	1,017	0.03
France	9	0.95	85.2	0.99	30,277	0.93
Georgia	6	0.68	52.7	0.58	5,005	0.11
Germany	10	0.98	73.8	0.95	35,431	0.96
Hong Kong		0.5	100	1	45,598	0.99
India	9	0.95	30.9	0.13	3,285	0.08
Indonesia	8	0.9	49.9	0.5	4,154	0.18
Iran	-7	0.05	66.5	0.88	10,695	0.55
Iraq	3	0.38	68.9	0.91	3,557	0.49
Italy	10	0.98	68.2	0.9	26,158	0.91
Japan	10	0.98	90.5	0.99	32,545	0.92
Jordan	-3	0.12	82.5	0.98	5,272	0.3
Malaysia	6	0.68	72	0.93	13,676	0.71
Mexico	8	0.9	77.8	0.97	12,947	0.54
Moldova	8	0.9	46.9	0.42	3,319	0.06
Morocco	-4	0.1	56.7	0.69	4,384	0.12
N Zealand	10	0.98	86.2	0.99	24,358	0.89
Netherlands	10	0.98	82.7	0.98	37,282	0.96
Peru	9	0.95	76.9	0.96	9,306	0.27
Poland	10	0.98	60.9	0.79	17,776	0.71
Russia	4	0.44	73.7	0.95	14,461	0.74
S Africa	9	0.95	61.5	0.8	9,594	0.33
S Korea	8	0.9	82.9	0.98	28,231	0.88
Serbia	8	0.9	56	0.67	9,533	0.31
Spain	10	0.98	77.3	0.96	25,947	0.88
Sweden	10	0.98	85.1	0.99	36,143	0.96
Taiwan	10	0.98	78	0.97		0.88
Thailand	7	0.82	33.7	0.16	7,722	0.44

Turkey	9	0.95	70.5	0.92	13,710	0.59
Ukraine	6	0.68	68.7	0.9	6,428	0.16
USA	10	0.98	82.1	0.98	43,480	0.99
Zambia	7	0.82	38.7	0.24	13,58	0.05

Table B.3
Fuzzy transformation cultural variables.

	Traditional /sec	Trad_fz	survival/self-expression	Self-express fuz	Autonomy	Autonomy fuzz	Postmat	Postmat fuz
Argentina	-0.66	0.17	0.38	0.65	0.028	0.52	2.149	0.71
Australia	0.21	0.59	1.75	0.95	0.567	0.85	2.422	0.93
Brazil	-0.98	0.09	0.61	0.73	0.330	0.73	2.046	0.57
Britain	0.06	0.52	1.68	0.94	0.599	0.86	2.532	0.96
Bulgaria	1.13	0.87	-1.01	0.09	-0.802	0.08	1.426	0.05
Canada	-0.26	0.35	1.91	0.96	0.439	0.79	2.595	0.97
Chile	-0.87	0.11	0	0.5	-0.022	0.49	2.338	0.88
China	0.8	0.79	-1.16	0.06	0.765	0.91	1.302	0.03
Colombia	-1.87	0.01	0.6	0.73	-0.533	0.17	2.3	0.86
Egypt	-1.61	0.02	-0.46	0.26	-1.111	0.03	1.464	0.06
Ethiopia	-0.65	0.17	-0.36	0.3	0.294	0.7	2.051	0.58
France	0.63	0.74	1.13	0.87	0.413	0.77	2.614	0.98
Georgia	-0.04	0.48	-1.31	0.05	-0.089	0.43	1.438	0.06
Germany	1.46	0.92	0.26	0.61	1.122	0.97	2.621	0.98
Hong Kong	1.2	0.88	-0.98	0.09	0.263	0.5	1.8	0.27
India	-0.36	0.3	-0.21	0.38	0.104	0.57	1.857	0.33
Indonesia	-0.47	0.24	-0.8	0.14	-0.203	0.35	1.675	0.16
Iran	-1.22	0.05	-0.45	0.26	-0.104	0.43	1.846	0.32
Iraq	-0.4	0.28	-1.68	0.02	-1.135	0.03	1.78	0.25
Italy	0.13	0.55	0.6	0.73	0.421	0.78	2.461	0.94
Japan	1.96	0.96	-0.05	0.47	1.365	0.98	2.106	0.65
Jordan	-1.61	0.02	-1.05	0.08	-0.734	0.1	1.606	0.12
Malaysia	-0.73	0.15	0.09	0.54	0.264	0.69	2.048	0.57
Mexico	-1.47	0.03	1.03	0.85	-0.199	0.35	2.344	0.89
Moldova	0.47	0.69	-1.28	0.05	0.117	0.59	1.750	0.22
Morocco	-1.32	0.04	-1.04	0.08	-0.37	0.25	1.566	0.1
N Zealand	0	0.5	1.86	0.96	0.502	0.82	2.218	0.79
Netherlands	0.71	0.77	1.39	0.91	0.629	0.87	2.536	0.96
Peru	-1.36	0.04	0.03	0.51	-0.547	0.16	2.275	0.84
Poland	-0.78	0.13	-0.14	0.42	-0.275	0.3	2.010	0.52
Russia	0.49	0.69	-1.42	0.04	0.486	0.81	1.259	0.02
S Africa	-1.09	0.07	-0.1	0.44	-0.083	0.44	1.724	0.2
S Korea	0.61	0.73	-1.37	0.04	0.805	0.92	1.887	0.36
Serbia	0.35	0.64	-0.62	0.19	0.440	0.79	1.558	0.1
Spain	0.09	0.54	0.54	0.71	0.125	0.6	2.264	0.83
Sweden	1.86	0.96	2.35	0.98	1.053	0.96	2.751	0.99

Taiwan	1.16	0.87	-1.18	0.06	0.898	0.94	1.221	0.02
Thailand	-0.64	0.18	0.01	0.5	0.110	0.58	2.036	0.55
Turkey	-0.89	0.11	-0.33	0.32	-0.100	0.43	1.998	0.5
Ukraine	0.3	0.62	-0.83	0.13	0.14	0.6	1.786	0.26
USA	-0.81	0.13	1.76	0.95	0.127	0.6	1.994	0.49
Zambia	-0.77	0.14	-0.62	0.19	-0.356	0.25	1.977	0.47

Table B.4
Fuzzy transformation socio-psychological variables.

	Education	Education Fz	Pol.Efficacy	Pol.Eff.FZ	Anger/ Dissatisfaction	Anger/ Dissatisfaction
Argentina	9.3	0.84	0.377	0.63	7.700	0.74
Australia	12	0.95	0.838	0.97	7.304	0.61
Brazil	7.2	0.65	0.299	0.5	7.644	0.72
Britain	9.4	0.85	0.676	0.93	7.552	0.7
Bulgaria	10.6	0.91	0.167	0.12	5.220	0.14
Canada	12.3	0.96	0.758	0.96	7.746	0.75
Chile	9.7	0.86	0.344	0.57	7.243	0.59
China	7.5	0.68	0.105	0.05	6.762	0.44
Colombia	7.3	0.66	0.242	0.29	8.307	0.88
Egypt	6.4	0.55	0.077	0.04	5.777	0.23
Ethiopia	2.2	0.02	0.395	0.66	4.993	0.12
France	10.6	0.91	0.709	0.94	6.864	0.47
Georgia	12.1	0.95	0.224	0.23	4.955	0.12
Germany	12.2	0.96	0.553	0.84	6.922	0.48
Hong Kong	10	0.88		0.77	6.408	0.36
India	4.4	0.17	0.361	0.6	5.793	0.23
Indonesia	5.8	0.45	0.259	0.35	6.908	0.48
Iran	7.8	0.71		0.3	6.427	0.36
Iraq	5.6	0.4	0.279	0.43	4.461	0.07
Italy	10.1	0.89	0.607	0.89	6.887	0.47
Japan	11.6	0.94	0.599	0.88	6.990	0.5
Jordan	8.6	0.79	0.083	0.04	7.202	0.57
Malaysia	9.5	0.85	0.147	0.1	6.837	0.46
Mexico	8.5	0.78	0.389	0.65	8.226	0.86
Moldova	9.7	0.86	0.298	0.5	5.450	0.18
Morocco	4.4	0.17	0.211	0.21	5.252	0.15
N Zealand	12.5	0.96	0.559	0.85	7.892	0.79
Netherlands	11.6	0.94	0.844	0.97	7.721	0.75
Peru	8.7	0.79	0.436	0.72	7.024	0.51
Poland	10	0.88	0.27	0.39	7.016	0.51
Russia	11.7	0.95	0.248	0.32	6.148	0.3
S Africa	8.5	0.78	0.293	0.46	7.200	0.57
S Korea	11.6	0.94	0.482	0.77	6.390	0.35
Serbia	10.2	0.89	0.404	0.66	6.009	0.27
Spain	10.4	0.9	0.415	0.69	7.313	0.61
Sweden	11.7	0.95	0.857	0.98	7.721	0.75
Taiwan		0.6	0.193	0.16	6.662	0.42
Thailand	6.6	0.57	0.157	0.11	7.212	0.58

Turkey	6.5	0.56	0.147	0.1	7.455	0.67
Ukraine	11.3	0.93	0.269	0.39	5.808	0.23
USA	13.3	0.97	0.795	0.97	7.261	0.6
Zambia	6.7	0.59	0.356	0.6	6.058	0.28

Table B.5
Nine parsimonious causal recipes for countries with high digital activism.

Variables included: government-type, gdp, urban population ,rational values, self-expression values, autonomy, post-materialism, education, participation, satisfaction.

Causal Recipe	Raw Coverage	Unique Coverage	Consistency	Best Instances
*~rational values*self-expression values* post-materialism*	0.42	0.09	0.93	Mexico (0.85, 0.51), Colombia (0.73,0.75), Argentina (0.65, 0.66), Canada (0.65, 0.77), Brazil (0.57,0.56), Malaysia (0.54, 0.81), Peru (0.51, 0.96)
*~gdp*education* participation*	0.33	0.02	0.95	Peru (0.72,0.96), Serbia (0.66,0.92), Argentina (0.63,0.66), Zambia (0.59,0.95)
~government-type ~rational values*	0.30	0.09	0.94	Iran (0.95, 0.99), Morocco (0.9,0.76), Jordan (0.88, 0.97), Egypt (0.87,0.77), Ethiopia (0.83, 0.77), Iraq (0.62, 0.69)
gdp~autonomy*~post-materialism*	0.29	0.00	0.95	Iran (0.55, 0.99), Bulgaria(0.52,0.94)
government-type ~gdp*autonomy* education*	0.31	0.00	0.92	Serbia(0.69, 0.92), Ukraine(0.62,0.86), Moldova(0.59, 0.99), Thailand(0.56,0.44), Brazil (0.53,0.56), Argentina (0.52,0.66)
gdp~autonomy* ~satisfaction*	0.35	0.00	0.70	Iran (0.55, 0.99), Bulgaria(0.52,0.94)
government-type ~gdp*rational values*	0.24	0.00	0.92	Moldova(0.69, 0.99), Serbia(0.64, 0.92), Ukraine(0.62,0.86)
urban population~gdp*rational values*	0.22	0.00	0.92	Serbia(0.69,0.99), Ukraine (0.62,0.86)
urban population~ gdp*autonomy*	0.31	0.00	0.89	Serbia(0.69, 0.92), Ukraine(0.62,0.86), Brazil (0.53,0.56), Argentina (0.52,0.66)

Notes: The causal recipes are the parsimonious solutions set with a cutoff point set at 0.95. Altogether, the solution coverage is 0.73 and solution consistency is 0.89.