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Digitisation's impacts on publics: Public knowledge and civic conversation

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Abstract

This paper proposes a new way of classifying publics in terms of their adoption and use of digitalised communication technologies. A CATI (computer aided telephone interview) survey of 1,014 citizens revealed that people in Siena, Italy, show different patterns and gaps in adopting new media and technologies as well as in using them in their civic participation and engagement. Based on the survey results, four types of publics are suggested (inactive, analogical, hybrid, and digital publics) and a demographic profile of each public including age, gender, and education is provided. The relationships among public types, level of education, and gender on civic knowledge and civic conversation are examined. The implications for public relations scholarship, and practices are discussed. In addition, the possibility of an emerging social digital public is discussed.

Introduction

We are facing a period of transition from a traditional model of producing information and services for citizens, to a new model built around information and communication technologies and spread through the Internet and digital networks (Castells, 1996; Dutton, 1999; van Dijk, 2005; Wellman & Haythorntwaite, 2002). The Internet, in particular, can facilitate public administrations to modernise their structures and functions in order to improve performances (Contini & Lanzara, 2009; Pieterse & Ebbers, 2008), create new spaces for citizen participation and engagement (Dahlgren, 2009; Sirianni, 2009), improve processes of e-governance (Mayer-Schonberger & Laser, 2007), and foster transparency and accountability between the

organisation and its publics (Bertot, Jaeger, & Grimes, 2010; West, 2005). The aim of this study was to examine the impact of digitisation among publics, investigating the role of the Internet and Web 2.0 platforms in citizens' active communicative behaviours toward public administrations.

Literature review

Technologies are creating new types of interaction between organisations and individuals through digital relations. Governments and organisations have started to provide services using the Internet and multimedia to create and maintain more efficient and effective relations with their stakeholders. These new digital relations (created by and negotiated through digital technologies) differ from analog relations (negotiated through the traditional media). Digital relations are more interactive and time saving. They also allow organisations to calibrate messages and services to the specific needs and requests of customers and citizens. The development of Web 2.0 platforms (O'Reilly, 2005; Tancer, 2008) and the significant growth of participatory media (Rheingold, 2008) are rapidly changing these digital relations. Indeed, these technologies enable people who used to be passive information consumers to become information producers in the cyberspace (Jenkins, 2006; van Dijk, 2009). This empowerment of individuals is a fundamental change in the entire communication process, because it modifies completely the classic approaches of information models, which placed strong emphasis on the power dynamics between organisations, media, and citizens (Castells,

2009). With the impact of digitisation, people are now information prosumers (Toffler, 1981). They are actively seeking, selecting, sharing, forwarding, and even creating information as a result of digitisation.

The advent of social media (Kaplan & Haenlein, 2010) and social network sites (Boyd & Ellison, 2007) are accelerating this phenomenon. Social media are “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (Kaplan & Haenlein, 2010, p. 31). Equipped with interactive and flexible platforms, these media easily enable the production, sharing, and diffusion of various contents among the web surfers, but also the development of singular or collective actions on the Web and in offline environments (Shirky, 2008; Tapscott, 2009). Social media facilitate the creation of what Li and Bernoff (2008) call the groundswell, “a spontaneous movement of people using online tools to connect, take charge of their own experience and get what they need – information, ideas, products, and bargaining power – from each other” (pp. IX-X).

This new phenomenon is not just the result of the introduction of new technologies, but this change is happening because people want to interact with other people and with organisations using the Web. Shirky (2008) affirms this with the subtitle of his book, “revolution doesn’t happen when society adopts new technology, it happens when society adopts new behaviors”. In the digital age, citizens want to participate more actively, by building and utilising social networks and new arenas of discussions, and these interactions become public and visible to the public opinion through blogs, forums and social network sites like Facebook and MySpace (Bennet, 2008).

People seem not only to raise their voices individually but also interrelate and act together in the cyberspace. Varnelis (2008) defined these engaged people as “networked publics” (p.2). Varnelis (2008) argues that the concept of networks in which publics communicate and the roles that publics can take on within them are increasingly complex and diverse, allowing for a variety of actions in various directions.

The Web 2.0 revolution affects not only citizens’ media use patterns but also public and private organisations’ activities: indeed many organisations are actively adopting new digital technologies such as Web 2.0 and social media (Duhé, 2007; Macnamara, 2010; Solis & Breakenridge, 2009). In addition, organisations are changing their communication strategies in order to build and maintain favourable relationships with clients and citizens (Grunig, 2009; Phillips & Young, 2009; Solis & Breakenridge, 2009). But adopting Web 2.0 communication and public relations strategies requires strenuous efforts for organisations (Wright & Hinson, 2008). Communication managers in organisations have to scan the digital environment to decide who key publics are and what issues need to be resolved in addition to reflecting these in their strategic decision making systems. All of this must be done quickly and efficiently due to the fast-paced and continually changing environment brought on by Web 2.0 technologies.

In recent years, social network sites and blogs have been used increasingly to interact and communicate with politicians, brands and institutions in general (Coleman, 2005; Pew Research Center, 2010; Qualman, 2009; Tapscott, 2009). With these social platforms publics can create their own contents, publish and share their comments, concerns, and complaints about the services or products of organisations, and they can also raise their voice, activating new forms of civic engagement (Bennet, 2008; Rheingold, 2008; Zuckin, Keeter, Andolina, Jenkins, & Delli-Carpini, 2006). On the other hand, we have to consider that the use of social media is rapidly involving and modifying even the public sector, changing the modalities by which administrations are relating and communicating with citizens (Lovari & Parisi, 2011; Mergel, 2010). It is evident that different citizens interact with public administrations in different manners and to different extents. The types of citizens can vary from passive inactive citizens, who basically interact with administrations for mandatory duties like paying taxes or when it is strictly necessary, to active citizens, who not only participate in civic life, but also activate flows of communication with public bodies

about services and community issues. For this reason it can be interesting to investigate the impact of Web 2.0 and social platforms on citizens' participatory behaviours toward public administrations. Some research has been carried out in this field to investigate these emerging dynamics (Lovari & Parisi, 2011; Kuzma, 2010; Waters, Burnett, Lamn, & Lucas, 2009). For example, the study 'Government Online' reported that almost one third (31 percent) of online adults use online platforms such as blogs, email, and social networking sites to get government information: these citizens are defined "government social media users" (Pew Research Center, 2010, p. 26). Furthermore, in some cases citizens can also contribute to the creation and delivery of services (Osimo, 2008) through the implementation of crowdsourcing processes (Brabham, 2008; Hilgers & Ihl, 2010; Noveck, 2009).

Publics, participation and communication behaviours in a digital society

Few previous studies have investigated why citizens want to be involved in civic matters, when they search for information, or when they want to talk about social or political issues with other citizens. Even though new digital media and technologies may provide opportunities, they are not enough to explain why people start to seek information and to raise their voices – in particular why they communicate in a public voice for civic or political issues. As Scheufele and Nisbet (2002) point out, "the availability of information does not necessarily lead to use of information" (p. 59). They argue that if the level of information seeking increases it should be explained by other factors including personal resources such as time, money, and technology skills as well as motivation.

From a public relations perspective, publics arise when they recognise problems or issues that they feel they should resolve (Blumer, 1966; Dewey, 1927; Grunig, 1997; Grunig, 2003). Hence, civic participation can be seen as a part of public's problem-solving activities. Grunig (1997) developed the situational theory of publics to predict the different responses of publics as well as when and why publics

become active in their communication behaviours such as information seeking.

According to Grunig and Hunt's (1984) typology of publics, there are four types of publics: latent, aware, active, and activist publics. The type of public depends on problem recognition, level of involvement, and constraint recognition for a particular issue. For example, publics become active when their problem recognition is high, the level of involvement is high, and the constraint recognition is low. However, if their constraint recognition is high, publics will not become active despite of their high problem recognition and high level of involvement. Kim and Grunig (2011) recently added the new factors of situational motivation and referent criterion to the original theory and refined problem recognition and level of involvement. With the impact of digitisation, "active publics are now conceptualised as active information seekers, forwarders, sharers and selectors about a problem they are motivated to resolve" (Kim & Ni, 2010, p. 46).

This idea of digital group problem solving is embodied in the concept of cybercoping. Kim and Ni (2010) use the concept of "cybercoping" to refer to "problem-solving efforts in cyberspaces made by individual problem solvers and members of a public" (p. 46). According to Kim and Grunig's (2011) new situational theory of problem solving, people are motivated to take some communicative actions when they have high recognition about a specific problem, when they feel they are highly involved in the problem, when they think there are not many constraints to resolve the problem, and when they have high level of a referent criterion. Once they are motivated to solve a problem, they are likely to perform communicative actions including information forefending, information permitting, information forwarding, information sharing, information seeking, and information attending. These communicative actions can be done in cyberspace as a "cybercoping process" (Kim & Ni, 2010, p. 46). Kim and Ni's (2010) work highlights both the new media use patterns of individuals and the empowerment of individuals via their new voice in a digitalised world.

Civic participation and civic conversation

Publics' active participation is important for democracy (Kavanaugh, Kim, Perez-Quinones, Schmitz, & Isenhour, 2008; Kim & Han, 2009). However, the definitions of participation are varied. Sometimes civic participation and political participation are used interchangeably. However, other scholars like Zhang and Chia (2006) see a difference between civic participation and political participation. According to them, civic participation refers to "activities that address community concerns through nongovernmental or nonelectoral means," while political participation refers to "activities that aim at directly or indirectly influencing the selection of elected officials and/or the development and implementation of public policy" (p. 281). Verba and Nie's (1972) and Verba, Scholzman, and Brady's (1995) four dimensions of political participation suggest more comprehensive conceptualisation. They include the following:

- (1) the frequency of voting in local and national elections;
- (2) campaign activities, including persuading others, attending meetings, or contributing money;
- (3) citizen-initiated contacts to local, state, and national officials; and
- (4) cooperative activities, that is, involving group or organisational activities (Verba & Nie, 1972; Verba et al., 1995, as cited in Scheufele & Nisbet, 2002, pp. 56-57)

In yet another attempt to conceptualise participation, McLeod et al. (1999) pay attention to the public forums organised by civic journalism movements or community groups. McLeod et al.'s (1999) suggestion may still be useful for the digitalised society where people can participate in online public forums or in discussions of politics via their social networks on their preferred social media.

This study uses civic participation and political participation interchangeably incorporating the concepts of civic participation and political participation as Verba et al. (1995) do, rather than distinguishing between them. Therefore, the concept of civic participation in this study includes citizens' activities not only addressing community concerns on a micro

level but also influencing public policies directly and indirectly on a macro level.

In line with civic participation, the impact of interpersonal conversation in politics has also been recognised among political scientists (Delli-Carpini, Cook, & Jacobs, 2004; Rojas et al., 2005). According to Rojas (2008), political conversation has been found to contribute to political engagement (Leighley, 1990), political knowledge (McLeod et al., 1999), political efficacy (Scheufele, Nisbet, & Brossard, 2003), and community engagement (Kim & Ball-Rokeach, 2006; McLeod et al., 1999; Scheufele, Nisbet, Brossard, & Nisbet, 2004). Interested in the effects of interpersonal networks of political discussion, Rojas (2008) pays attention to Friedland's (2001) theory of a communicatively integrated community. This theory argues that communities with "rich, cross-cutting networks of association and public discussion are more likely to formulate real problems, find solutions, apply and test those solutions, learn from them, and correct them if they are flawed, in short, to rule themselves, or work democratically" (Friedland, 2001, p. 359). In a communicatively integrated community, "the focus shifts to networks of discussion that allow for the reintegration of deliberative processes into everyday life" (Rojas, 2008, p. 454).

In this study, civic conversation is defined as a conversation among citizens' social networks or among citizens about their experiences or relationships with public services, policies or civic issues. Even though Schudson (1997) argues that it is necessary to distinguish two kinds of conversations in democracy, homogenous conversation and true public conversation, this study includes both types of conversation. Homogeneous conversation means a conversation where "people talk primarily with others who share their values and they expect that conversation will reinforce them in the views they already share" (p. 302). True public conversation refers to a talk where "citizens talk with other citizens who may not share their views and values" (p. 302). This study values both types of interaction between citizens in discussing civic issues and believes that they can be oriented to problem solving in civic and political issues.

Many political scientists have studied the relationships between socioeconomic status and civic or political participation. They suggest that the individuals with high socioeconomic status tend to be more participatory in political activities (e.g., Milbrath & Goel, 1982; Rosenstone & Hansen, 1993). Higher socioeconomic status means more accessibility to resources, opportunities, knowledge, and skills, compared to people with lower socioeconomic status. In addition, people with higher education tend to be more knowledgeable about politics than the less educated. Several studies argue that knowledgeable citizens in general are likely to be active participants in political affairs. For example, Delli-Carpini and Keeter (1996) argue that “all things being equal, the more informed people are, the better able they are to perform as citizens” (Delli-Carpini & Keeter, 1996, p. 219). The connection between education and civic conversation and knowledge is explored in this study.

A new typology of publics per media use patterns

The concept of publics is very relevant to the research of civic participation which examines when and why some citizens participate in civic and political affairs while others do not. Therefore, to better understand and explain the citizen’s participatory behaviours in civic matters, various types of citizens should be distinguished. Limited work has been done to attempt segmenting these citizens, particularly with respect to digitalised citizens. In an exploratory study on the disengagement of young Americans from public life, Delli-Carpini (2000) proposes four types of actual or potential civic actors; “political elites (candidates, officeholders, organised interests, nonprofits, the media)”, “engaged citizens”, “interested but inactive citizens”, and “neither engaged nor clearly motivated” (p. 347). However, he does not elaborate how different these types of civic actors are and how they are categorised. To some extent, his approach is similar to Hallahan’s (2000) typology of publics in using the concept of activity-passivity. Delli-Carpini’s (2000) typology

focuses on civic actors rather than on citizens, however, his choice of distinction between political elites and the other three types of civic actors is not clearly explained (e.g., are political elites active according to this categorisation?). It would seem that he used the classical theory of dividing the political system into two groups, the elite and the remaining mass of citizens (White, 1997), and then he divided those citizens into three subgroups by activity-passivity. Delli-Carpini (2000) focuses on finding the “utility of the Internet for influencing civic engagement” for various types of civic actors (p. 347). Delli-Carpini (2000) argued:

For *engaged citizens*, the Internet provides ways to lower the costs of their engagement, improve its quality, and/or increase the types of activities engaged in... For *political elites* the Internet offers new opportunities for creating new networks, easing organisational communications, reaching new audiences, targeting a particular audience, tailoring messages, and so forth. (p. 347, italics original)

In addition, he argued that the Internet could be effective for reaching “interested but inactive citizens” and thus making some percentage of this group more engaged by providing information on how to change this interest into action (p. 347).

The typology of Internet users developed by Norris and Jones (1998) may be also relevant to find implications for civic participatory behaviour in the age of digitisation, even though the typology can explain only Internet users. Norris and Jones (1998) found four types of Internet users, categorised as (a) “researchers” (those who use the Internet in connection with their work), (b) “home consumers” (those who use the Internet for finding out information about travel and finances, for shopping, and for news), (c) “political expressive” (those who engage in online discussions about politics and express opinions about a political or social uses via a bulletin board, email list, newsgroup), and (d) “party animals” (those who go online to play games and get entertainment) (p. 3). Shah, Kwak and Holbert (2001) find that Norris and

Jones'(1998) distinctions are still useful for learning patterns of new media use, although their data was collected in 1995 when Internet usage levels were very low.

Norris and Jones (1998) find that Internet researchers are more politically knowledgeable and educated than other new media users. Shah et al. (2001) interpret this as suggesting that only certain types of Internet users will become more politically engaged as a result of surfing the Internet. In other words, individuals who use the Internet mainly for entertainment, such as home consumers or party animals, may not be as politically informed or engaged as researchers or political expressives (Norris & Jones, 1998). However, Shah et al. (2001) contend that for people who use the Internet for communication and information seeking and exchange, there is great potential to encounter mobilising information or civic content via the Internet.

The typology the researchers propose focuses on the citizens rather than all the civic actors related to the municipality, as Delli-Carpini (2000) suggests, and on different groups of citizens with different media use patterns. In addition, this study reflects citizens' participatory and communicative behaviours on public services. If citizens cannot gain specific support and help from the local public agencies and they find it difficult to solve their problems, a part of the citizenry would become active and raise its voice using a variety of channels of communication to discuss and disseminate their concerns or the complaints about that problem or issue. Citizens and publics are used interchangeably in this study with the term 'publics' being used mainly in the new typology by adopting Grunig's (1997) concept of publics. Inspired by Dewey's notion of public, Grunig (1997) argues that publics begin to organise groups to conduct actions to resolve problems or issues. He also contends that "people communicating actively develop more organised cognitions, are more likely to have attitudes about a situation and more often engage in a behavior to do something about the situation" (Grunig, 1997, p. 10). Likewise, citizens participate in certain civic or social issues that affect or may affect them. Citizens

who communicate actively about civic issues are also likely to be engaged in civic activities.

In suggesting this typology, the impact of digitisation on citizens' media use patterns is considered. It is assumed that there are groups of citizens who show active communicative behaviours using digital media and technologies while there are also other groups of citizens who show different media use behaviours. Previous research focused on the audience's passive information processing of the messages that mass media produce and send, but not on the proactive roles of citizens in civic or political participation. For scholars supporting the mass media effects on behaviour, people are assumed to be information consumers rather than information producers. In addition, even though recent research has touched upon the relationship between the Internet and civic participation, the diverse patterns of media use that people exhibit currently in this digitalised society were not reflected in the research. People often use more than one medium and there are still gaps among people in terms of adopting new media or information technologies. Hence, it would help us better understand the relationship between media use and civic participation if research could reflect this more complicated categorisation of people.

The researchers suggest that citizens could be divided into the following four categories of publics based on their communicative behaviours about civic issues via various media: inactive, analogical, hybrid or multichannel, and digital publics. The latter three publics are considered active publics since they adopt active communicative behaviours in order to raise their voices on specific civic issues or to try to solve problems regarding public administrations, by using traditional and/or digital media. The first group, *inactive citizens*, consists of people who do not usually give, transmit, or produce information about public administration's functions and services among their social networks. The second group of citizens, *analogical citizens*, is those people who use traditional media such as newspaper, television and radio, to communicate their remarks and difficulties about their interaction with public agencies, such as municipalities,

hospitals, provinces etc. The third group of citizens is *hybrid or multichannel citizens*, people who activate themselves not only by using traditional media but also by digital tools such as the Internet and social media. They not only have the competence to switch from one media to another, but they also use both of them for the same purpose in a synergic multichannel way. The fourth category of citizens refers to those individuals who boast active communicative behaviours, using only digital tools such as emails, websites' forms, and social media. The flow of their thoughts and the information produced is strictly electronic and they do not rely on traditional media to complain or raise problems but they share and forward messages in the cyberspace. The researchers name these people *digital publics*.

Based on this review and the proposed typology, the researchers present the following research questions:

RQ1: Are there differences among the four publics with regard to gender, education, and age range?

RQ2: Is there a difference in civic knowledge (self-perceived) (RQ 2a) and in civic conversation (RQ 2b) across publics?

RQ3: Is there an interaction effect between public types and level of education on civic knowledge?

RQ4: Is there an interaction effect between public types and gender on civic knowledge?

Method

In order to investigate this field of research we conducted an exploratory study in the city of Siena, Italy, with the collaboration of the Public Relations and Communication Department of the Municipality. Siena is a city located in Tuscany, a region in the centre of Italy. It is a small-to-medium size city, with a population of about 55,000 inhabitants. It is well known for arts, culture, a good quality of life, and for the presence of some important institutions like the University of Siena (one of the most prestigious European colleges) and MPS Bank (the oldest bank in the world). Siena is also considered to have some of the best practices in Italy with regard to public administrations' use of

innovations related to information and communication technology. Indeed, it was one of the first Italian cities to host digital fibres for delivering public services and Internet to citizens. Due to several different reasons (economic crises, lack of local funding, change of national legislation, etc.), in the last three years the Municipality of Siena faced some difficulties in developing and enhancing the digital interface with citizens, especially in the improvement and updating of the website and the adoption of institutional presences in the social web. However, the Sienease mediascape has always been characterised by the relevant role played by local press (newspapers and gazettes) and the important function of local television and radio. The impact of the Internet and the evolution of local media consumption have deeply changed this situation, and today there are many websites and electronic newspapers that intensively cover local news and issues, often substituting or integrating the institutional flow produced by the municipality. For all these reasons, Siena is in the middle of a transition phase toward digitisation that is interesting to study.

The study was conducted through a computer-assisted telephone interviewing (CATI) survey in Italy in December 2009 that collected 1,014 interviews out of Siena's approximately 55,000 inhabitants, representing 2.15 percent of the adult population. The sampling technique was constructed on three variables: gender, age, and area of residency within the municipality of Siena (historical centre, downtown immediate suburb and southern, northern, eastern, and western suburbs). The sample was representative of the entire population of the city, and the selection of citizens, according to these three variables, was random.

The questionnaire was composed of 35 questions, and it was pre-tested with a sample of 30 citizens at the end of November 2009. By reflecting the results of the pre-test, the questionnaire was finalised and administered in the second half of December 2009 (December 15-23). To reach a proportionally distributed sample, 1,838 inhabitants were called, with a response rate of 55.16 percent. The average length of the interviews was about eight

minutes, not including the time dedicated to the presentation of the research's objectives to citizens. An electronic version of the questionnaire was used to collect and manage the data in order to prepare the matrix. Data were analysed using the statistical software SPSS (version 16). The entire sample was categorised as four groups (*inactive, analogical, hybrid, and digital*) by their communication behaviour pertaining to the Municipality of Siena and the main city issues (i.e., pollution, safety, traffic, etc) through traditional (press, radio, television) or Internet-based media (email, blogs, social networking sites). In the survey the researchers included four measures about civic communicative actions in different communication medium regarding various civic issues – traditional communication media (letter and/or telephone) vs. new digital media (emails and/or blogging/social media) about various civic issues.

Through the question items, the researchers measured if the survey participant ever engaged with the given communicative actions for any of the civic issues that concerned them. To segment into digital public (who only use digitalised communication technologies), analogical public (who only use traditional communication media), and hybrid public (who use both communication media), the researchers first coded response values of traditional media as yes = 1; no = 0, whereas values of using new digitalised media were recoded as yes = 10; no = 0. Next, using summation method (see also Kim for more specific guidelines for summation segmentation procedure, in this *PRism* issue), all four measures were added. This resulted in the following range of values: 0, 1, 2, 10, 11, 12, 21, and 22. These values were recoded into four different types of public status in various civic issues: passive public = 0 (0), analogical public = 1 (1 or 2), hybrid public = 2 (11, 12, 21, or 22), and digital public = 3 (10 or 20). Thus using their engagement of communicative action and their communication media, the researchers segmented the sample into the four subpublics described in the typology before proceeding to further analysis.

To better describe the characteristics of the four publics, the researchers compared them

across other variables including self-reported perceived knowledge competences about the city of Siena and its municipality, the participants' degree of consumption of local media information, and the information seeking patterns related to Siena and its municipality. The research team also investigated the traits of the four publics using the variables gender, age, and education to examine the possible different behaviours and the various information-seeking strategies.

Results

A total of 1,014 individuals completed the CATI survey and 53.7 percent of respondents were women and 46.3 percent were men. In order to study the age variations among publics the population was divided into seven categories according to the following age-ranges: 18-24; 25-34; 35-44; 45-54; 55-64; 65-74, and over 75 years old. The majority age range was 55-64 with 24.3 percent of the total sample. Over half of the sample (65.5 percent) fell between the ages of 35 and 64. With respect to education the majority of participants (45.3 percent) had a high school diploma, and 14.2 percent had an undergraduate degree.

Out of the total respondents the researchers found that 862 people (85 percent) were inactive or passive publics: this means that only 152 citizens (15 percent) had active communication behaviours toward the Municipality of Siena. These data suggests that the majority of the citizens do not need or want to interact actively with the administration to complain, activate a dialogue or raise issues. The media usage of the 152 citizens engaged in active communication behaviours broke down as follows: 37 (3.65 percent of total respondents) are analogical publics, 29 (2.86 percent of total respondents) are hybrid or multichannel publics, and 86 (8.48 percent of total respondents) are digital publics. When considering only the cluster of active publics (152 individuals), the majority (75.66 percent hybrid and digital publics combined) uses digital tools to express opinions and raise their voices. In comparison with the size of the entire sample, these are small numbers; however, it is still useful to analyse these active publics to

better understand the impact of digital technology on people's civic participatory behaviours and communicative actions.

Differences in publics: Gender, age, and education

With respect to RQ1 the following differences were found in publics based on gender, age, and education.

Gender. Overall there was a slight gender gap in our four types of publics. Inactive (54.8 percent female, 45.2 percent male) and analogical publics (56.8 percent female, 43.2 percent male) respect the gender tendency of the sample (53.7 percent female, 46.3 percent male). These proportions are opposite of the sample demographic within hybrid and digital publics. Men hold the majority in these publics with 58.6 percent (hybrid) and 53.5 percent (digital).

Age. Members of the passive public are mostly older than the other publics. A total of 45.5 percent of this (passive) public is between 45 and 65 years old, with 25.5 percent ranging from 55-64 years old, and 20.5 percent between the ages 45 and 54. The young adult passive publics (ages 18-34) are only 8.1 percent. In contrast, analogical publics have a different age composition. The majority age group (24.3 percent) of analogical publics is between 55 and 64 years old. Interestingly, 16.2 percent of analogical publics are between 65 and 74. This is the highest percentage of active publics in this age range across the three types of active publics. They seem to be the oldest active publics, and this could reflect the traditional media consumption path and the relevance of the press media in their information-seeking choices.

Hybrid publics are mostly middle-aged citizens. A total of 48.3 percent of this category belongs to an age range between 35 and 54 years old, with 27.6 percent of this public in the 35-44 age range. On the whole, digital publics are younger than the other three types of publics with 63.9 percent of these citizens being less than 45 years old. Specifically, 27.9 percent belong to the 35-44 age range, 20.9 percent to the 25-34 age range and 15.1 percent to the 18-24 age range. Despite the younger

trend in this public, it is important to highlight that 18.6 percent of the digital public is between 55 and 64 years old. In addition, the members of the three active publics whose ages range from 18-44 represent 55.9 percent of the active publics (85 out of 152 people). This result shows that over half of the active publics in this age range are digital publics, which is a sizable amount when compared with other age groups. Thus Generations X and Y make up the majority (64.7 percent) of the digital public.

Education. Analysing the level of education across the four types of publics, we observed that analogical, hybrid, and digital publics are more educated in comparison with the mean of the citizens who participated to the CATI survey. In particular, 65.5 percent of hybrid publics and 87.2 percent of digital publics have a high school diploma compared with a sample mean of 45.3 percent. In addition, 29.7 percent of analogical publics and 34.9 percent of digital publics have university degrees compared with the sample mean of 25.7 percent.

Public type and level of knowledge about Siena and its municipality

To answer RQ2a and in order to test whether the active publics think they are more informed about the civic life, we compared the four public types with self-perceived knowledge about Siena and its municipality. The participants rated their knowledge on a 5-point scale ranging from "very poorly informed" (1) to "very informed" (5). A one-way between subjects ANOVA was conducted to compare the effect of type of publics on civic knowledge.

There was a significant effect of type of publics on civic knowledge at the $p < .01$ level [$F(3, 1010) = 4.62, p = .003, \text{partial } \eta^2 = .014$]. Among the different types of publics, analogical public reported the highest level of civic knowledge ($M = 3.03, SD = .69$), followed by hybrid public ($M = 2.86, SD = .88$), and digital public ($M = 2.86, SD = .69$). Passive public reported the lowest ($M = 2.69, SD = .671$). However, the difference on civic knowledge among three types of active publics (analogical, digital, and hybrid) was not significant. Post hoc comparison using the Fisher LSD test indicated that the mean score

for analogical public was significantly different only from passive publics (mean difference = .33, SE = .11, $p = .003$). The mean score for digital public was also significantly different from passive public (mean difference = .17, SE = .08, $p = .029$). Taken together, these results suggest that public type does have an effect on civic knowledge. However, the significant difference was only between active publics

(analogical, hybrid, and digital) and passive publics but not among the three active public types. This indicates that active publics report a significantly different level of civic knowledge than passive publics but use of different media does not bring significant differences on the perceived level of knowledge among active publics.

Table 1: Public types and civic knowledge

Public types	Mean	SD	N
Passive	2.69	.67	862
Analogical	3.03	.69	37
Hybrid	2.86	.88	29
Digital	2.86	.69	86
Total	2.72	.68	1014

Table 2: Multiple comparisons of public types on civic knowledge and civic conversation

Public types		Civic knowledge			Civic conversation		
		Mean difference	SE	Sig.	Mean difference	SE	Sig.
Passive	Analogical	-.33*	.11	.003*	-.37*	.15	.017
	Hybrid	-.17	.13	.180	-.98*	.17	.000
	Digital	-.17*	.08	.027*	-.43*	.10	.000
Analogical	Passive	.33*	.11	.003*	.37*	.15	.017
	Hybrid	.16	.17	.321	-.61*	.23	.008
	Digital	.17	.13	.206	-.06	.18	.746
Hybrid	Passive	.17	.13	.180	.98	.17	.000
	Analogical	-.16	.17	.321	.61*	.23	.008
	Digital	.00	.14	.991	.55*	.19	.005
Digital	Passive	.17*	.08	.027*	.43*	.10	.000
	Analogical	-.17	.13	.206	.06	.18	.746
	Hybrid	.00	.14	.991	-.55*	.19	.005

*The mean difference is significant at the .05 level

Public type and civic conversation

To answer RQ2b, a one-way between subjects ANOVA was conducted to compare the effect of type of publics on civic conversation. There was a significant effect of public type on civic conversation at the $p < .01$ level [$F(3,1010) = 16.71, p < .001, \text{partial } \eta^2 = .047$]. The hybrid public was the highest in civic conversation ($M = 3.69, SD = .97$), and significantly different than the digital ($M = 3.14, SD = .81$) and analogical publics ($M = 3.08, SD = .98$). Post

hoc comparison using the Fisher LSD test revealed that all three active publics are different from passive publics in terms of civic conversation. The LSD test indicated that the mean score was significantly different between analogy public and hybrid public (mean difference = $-.61, SE = .23, p = .008$) and between hybrid public and digital public (mean difference = $-.55, SE = .19, p = .005$). However, the difference between analogical public and digital public was not significant.

Table 3: Public types and civic conversation

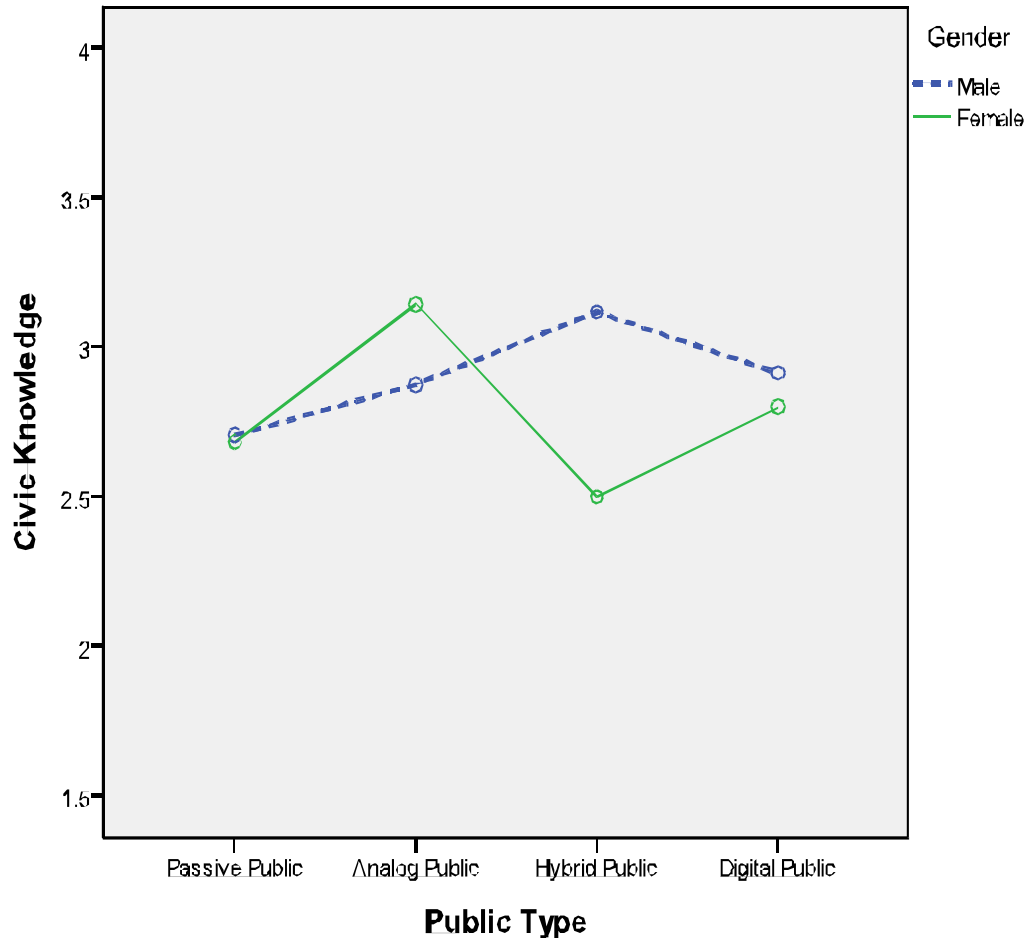
Public types	M	SD	N
Passive	2.71	.92	862
Analogical	3.08	.98	37
Hybrid	3.69	.97	29
Digital	3.14	.81	86
Total	2.79	.94	1014

Civic knowledge by gender and education

Gender. Interestingly, each sex reported higher levels of civic knowledge within the public it held the largest majority. Female analogical publics reported higher civic knowledge ($M = 3.14, SD = .79$) than male analogical publics ($M = 2.87, SD = .5$). Yet, male hybrid publics ($M = 3.12, SD = .6$) reported higher civic knowledge than female hybrid publics ($M = 2.5, SD = 1.09$). However, there was no statistically

significant effect of gender on civic knowledge. In addition, with respect to RQ4 the interaction effect between public type and gender on civic knowledge was not significant, but it is safe to say that there is a tendency because its significance level was $p = .062$ [$F(3, 1006) = 2.45, \text{partial } \eta^2 = .007$]. A post hoc Fisher LSD test revealed that the interaction effect was significant only between analogical and passive publics.

Figure 1: Interaction effect between public type and gender on civic knowledge



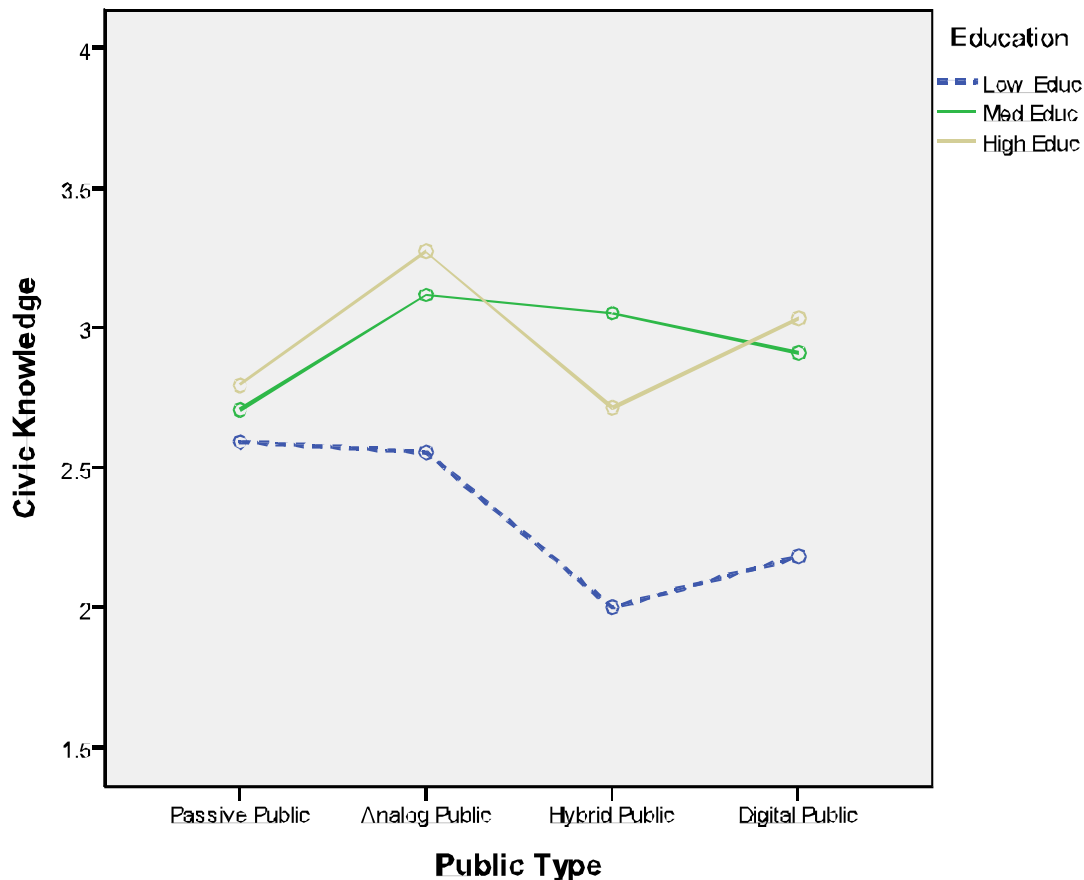
Education. Education had a significant effect on civic knowledge ($F = 10.77, p = <.001$, partial $\eta^2 = .021$). In addition, with respect to RQ3 there was a significant interaction effect between public type and education on civic knowledge at the $p < .001$ level [$F(6, 1002) = 2.78, p = .011$, partial $\eta^2 = .016$]. The mean score of analogical public was 2.56 ($SD = .53$) for people with low education and 3.27 ($SD = .91$) with high education. The mean score of hybrid public was 2.00 ($SD = 1.0$) for people with low education and 2.86 ($SD = .95$) with high education. The mean score of digital public was 2.18 ($SD = .60$) for people with low

education and 2.86 ($SD = .69$) with high education. Post Hoc test using LSD showed that civic knowledge was significantly different between people with low education and high education ($p < .001$). It did not show significant differences among all active publics. However, it did show statistically significant differences between analogical and passive publics and between digital and passive publics. Results indicate that highly educated people tend to report higher levels of civic knowledge than those with lower levels of education irrespective of public type among active publics.

Table 4: Effect of level of education on civic knowledge among different publics

Public types	Level of education	Mean	SD	N
Passive	Low education	2.59	.66	270
	Med education	2.71	.67	378
	High education	2.79	.67	214
	Total	2.69	.67	862
Analogical	Low education	2.56	.53	9
	Med education	3.12	.49	17
	High education	3.27	.91	11
	Total	3.03	.69	37
Hybrid	Low education	2.00	1.00	3
	Med education	3.05	.78	19
	High education	2.71	.95	7
	Total	2.86	.88	29
Digital	Low education	2.18	.60	11
	Med education	2.91	.73	45
	High education	3.03	.49	30
	Total	2.86	.69	86

Figure 2: Interaction effect between public type and level of education on civic knowledge



Discussion

Implications for public relations scholarship

This study has several implications for public relations scholarship. First of all, it proposes a new way to segment publics by focusing on their different media use patterns and communicative actions pertaining to civic issues. This focus allows for a better understanding of civic participatory behaviours in an age of digitisation. The new typology can provide insights on why some citizens participate in civic activities using a certain type of media while others do not. In today’s digitalised society, the advent of Web 2.0 platforms and social media seem to demand organisations and governments adopt new

technologies to communicate with their key stakeholders or publics (Philips & Young, 2009; Qualman, 2009; Solis & Breakenridge, 2009). However, this research suggests that people are still experiencing transition to adopt new communication technologies, which leads to gaps between people in terms of utilising those media or technologies to resolve their civic issues and to gather information. In addition, this new typology is more specific to the changing communication media environment in that it segments active communicators based on their use of different media. This could be a valuable avenue for public relations scholarship to consider as it moves forward and attempts to integrate existing theory with new technologies.

Second, differences in this sample were identified across the proposed four publics with respect to gender, education, and age. The hybrid and digital publics had a slight majority of male members. Also, the inactive and analogy publics had a slight majority of female members. The digital publics were on average younger than the other three publics, with more than half of their population under 45 and 36 percent under 35. This was not surprising given that younger people are quicker to adopt new technologies (Pew Research Center, 2009; Tapscott, 2009). However, it was interesting that 18.6 percent of the digital public was between 55-64 years of age, a less likely finding based on the pattern of technology adoption. The hybrid publics were mostly middle-aged citizens with almost 50 percent of them between the ages of 35 and 54. This was also not surprising as this group is likely to be in the workforce and would need to cross over to using digital media for work demands (Pew Research Center, 2011). Thus, they would be embracing new digital media but not adopting it as quickly as younger populations. With respect to education, members of the active publics (hybrid, digital, and analogical) were found to be more educated than the mean level of education of all participants. These demographics may be of use when conceptualising projects in public relations scholarship and could be further tested to see if this pattern of demographics can be repeated or is reliable.

Third, this study attempted to explore the effect of digitisation on civic knowledge. There was a significant effect of type of public on civic knowledge, and the analogical public reported the highest level of civic knowledge among the four public types. However, the difference on civic knowledge among the three types of active publics (analogical, digital, and hybrid) was not significant. This indicates that active publics have a significantly different level of civic knowledge than passive publics but that use of different media does not induce significant differences on the perceived level of knowledge among active publics. This is relevant given that technology is conceived of as making more information available more quickly than traditional media and could

therefore be thought of as making people potentially more knowledgeable. This may prove important to public relations scholarship as the role and use of new technology in public relations continues to be explored.

Fourth, a significant effect of public type on civic conversation was found. Hybrid publics reported the highest level of civic conversation among different publics, and they are statistically different from digital and analogical publics. However, the difference between the analogical public and the digital public was not significant. This result indicates that the effect of digital technologies had a boundary condition. One of the survey items, which asked participants about where they prefer to get their information, may shed some light on this finding. None of the analogical publics chose the option “talking with friends”. This could mean that this public just uses media to take information, instead of talking with friends or peers to gather news, or maybe they are less willing to share information in return and chose not to engage in this form of information seeking. On the contrary hybrid and digital publics are more likely to interact with people, and “talking with friends” is, in both cases, the third media chosen by citizens and more preferred than television for civic information seeking.

There may be many reasons why hybrid publics are more active in civic conversation than other publics, but it seems plausible that hybrid publics may become more motivated in civic conversation than others as a result of their exposure to both traditional and digital media. In other words, using two different channels might have provoked more thoughts or ideas about civic issues that lead to more frequent civic participation and conversation. Both hybrid and digital publics are more disposed to seek and take information via the Internet, using the Internet to interact and also give information to other citizens.

Finally, this study identified an interaction effect between public type and level of education on civic knowledge. Although it did not show significant differences among the three active public types, it did show statistically significant differences between analogical and passive as well as digital and

passive publics. Results indicate that highly educated people across all active publics tend to report higher levels of civic knowledge than those with lower levels of education. This confirms the previous studies on the effect of public type and level of education on civic conversation (e.g., Galston, 2001). In addition, this study observed a trend of interaction between public type and gender on civic knowledge. However, this study did not find an interaction effect between public type and level of education on civic knowledge and civic conversation.

Implications for public relations practice

For public relations practitioners, the proposed segmentation method may be useful to identify different types of publics in this digitalised society. Even though digitisation can change our behaviours and lives drastically, there is a boundary condition. The finding on active conversation among hybrid publics may suggest that a strategic mix of different media may provoke more participation among targeted publics. Even if people will become more dependent on digital media than other media, there will still be many people who will use traditional media to acquire information and to solve their problems. There is always a race among communication practitioners to upgrade whenever new media technologies become available; however, the study's findings suggest that it is still important to pay attention to the traditional media.

The results of this study also suggest that organisations have to devise customised strategies and programmes to meet different citizens' needs. Particularly for active digital publics and hybrid publics, communication managers need to be involved in their conversations and detect their issues via digital environment scanning, to listen and to collect feedback from them (Kim & Ni, 2010; Macnamara, 2010). They also need to provide useful information and services in these platforms in order to attract new users and to retain old ones (Grunig, 2009; Wright & Hinson, 2008). It may involve much effort for organisations to implement programmes and to maintain favourable relationships with those

active and hybrid publics because communication managers should not only understand publics well, but also be capable of using new technologies to interact with them.

A particular type of digital publics: The social digital publics and their posting activities

Apart from the findings above there was also evidence of a specialised version of digital public, which we will call a social digital public. Twenty-eight of the eighty-six digital public members could be labelled as members of a "social digital public". Members of this public only participated in social media (i.e., blogs and social networking sites) as a way of raising their voice and did not rely on email or other digital platforms like websites. This group was of interest because they seemed to have different concerns from other publics. Social digital publics tended to raise a bigger number of topics. In particular they raised issues like relations with immigrant people and university students that were not present in the traditional media. It is possible that use of solely social media provided these respondents the freedom to speak up about issues they would not have mentioned otherwise. The presence of varied topics here may also be the result of fewer filters, at least initially, to online postings. Social media may also be seen as more effective than other media with regard to publicising and replicating information outside of the local context, which can enlarge the effects of the information. The interlinked networks of individuals in social digital media allow for information sharing quickly across networks. The role and potential growth of this social digital public will be important to watch as the transition to digitisation becomes more complete and publics recognise the full potential of social media.

Limitations and conclusions

While the above findings contribute to the body of knowledge in public relations, media studies and political communication, this research has important constraints to consider. First, it is an explorative study that aimed to discover the role of digitisation on civic knowledge and

civic participation in Siena, Italy, where people are experiencing transition from traditional mass media to digital media. Hence, the findings from this study may not be applicable to other countries or situations where the transition to digitisation is more complete. Therefore, the findings should be understood as having an explorative purpose only. Second, a critical issue in this study is that the knowledge measure is a self-report measure. Thus, it is not surprising that the highly educated in our study perceived themselves as having high levels of knowledge. Future studies should also include more concrete knowledge measures that can be tested for reliability and accuracy. In addition, they should consider which groups have the most accurate knowledge and to test the role of different media by examining if knowledge accuracy also varies by public type.

Despite these limitations, this research offers many interesting findings, a new typology of publics based on media use, and the possibility of a social digital public. All of these could be of significance to the development of public relations practice and scholarship as it moves forward in an ever-digitalising world. Further research is necessary to see if these patterns hold true and if more support for this typology and these publics can be found. This research would need to be replicated in countries or areas of varying technological development to see if a transitional pattern in the use of media by publics may be developed.

Other future research could benefit from taking a more qualitative approach to better explore and understand the reasons for the different media use patterns and levels of conversation about civic issues that affect people's lives. This type of research would yield a better description of the different types of publics including social digital publics, which could not be thoroughly investigated with the current study.

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