Government 2.0: Key Challenges to Its Realization

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Abstract: Government 2.0 is often presented as a means to reinforce the relation between state and citizens in an information age. The promise of Government 2.0 is impressive but its potential has not or hardly been realized yet in practice. This paper uses insights from various disciplines to understand Government 2.0 as an institutional transformation. It focuses on three key issues - leadership in government, incentives for citizens and mutual trust - and our analysis shows that Government 2.0 efforts are too often guided by overly optimistic and simplified ideas about these issues. Our discussion suggests that there are no easy, one-size-fits-all ways to address challenges of leadership, citizen incentives and trust: a contextual approach and hard work is needed to tackle these challenges. Realizing Government 2.0 means looking beyond the technology and understanding its potential in a specific situation.

Keywords: Government 2.0, Leadership, Incentives, Trust.

1   Introduction

Government 2.0 – a more open, social, communicative, interactive and user-centered version of e-government – has the potential to reshape the relationship between government and citizens, in a sense that services, control and policy formulation are designed through a cooperation of citizens, governments and civil society. These networks of cooperation hold an enormous potential to enhance the effectiveness and legitimacy of government and, therefore, Government 2.0 is presented as the appropriate reaction to changes in society. In practice, however, the use of the Government 2.0 potential is still limited (see, for example, Mergel, Schweik and Fountain 2009). The question remains why? Is the potential overestimated by enthusiasts? Or is it underused by skeptics? In enthusiastic and promising publications on Government 2.0 (e.g. Tapscott, Williams and Herman 2008), there is an insufficient awareness of the fact that a Government 2.0 requires more than just a good idea: realizing Government 2.0 is a difficult job. It requires a fundamental transformation in relations between government and citizens (Borins 2010).

The expectations of the benefits brought about by Web 2.0 technologies for government are exceedingly high. The use of new technologies is supposed to strengthen government legitimacy as well as to boost the efficiency and effectiveness of government policies (Eggers 2005). Governments are able to tap into the intelligence of the crowd through using Web 2.0 technologies. New interactions are expected to enhance citizens' trust in government as well as to enable them to make a contribution to public policies. Yet, one could question whether, and to what extent, these expectations are realistic. Countering the promising Web 2.0 stories of gurus, Norris (2010) argues that, despite all technological developments, a greater degree of interactivity or more e-participation or democracy cannot be expected (see also Coursey & Norris, 2008). One might even argue that these stories are dangerous, since they present these new technologies as value free and inevitable. Utopian stories about new technologies may, therefore, hamper public debate about the benefits and drawbacks (Meijer, Boersma and Wagenaar 2009).

A wide variety of contextual factors has been identified in the literature on e-government and innovation to explain patterns of adoption and diffusion such as size of government, population

characteristics (income, e-readiness), form of government, technological infrastructure, political climate, etc. (see Grimmelikhuijsen, 2008 for a discussion of these factors). These contextual factors help to understand why Government 2.0 is developed in certain situations but they do not enhance our understanding of the transformational process. In order to understand Government 2.0 as an institutional transformation (Meijer and Zouridis 2006), three sets of factors need to be studied more extensively:

- *Leadership*. The first set of factors relates to government itself. Government 2.0 will only be developed if there is a government that uses technology to improve relations with citizens. How are governments enticed to change these relations? What kind of leadership is needed to realize Government 2.0?

- *Citizen incentives*. The second set of factors relates to citizens. Citizens need to be willing and able to connect to government: Government 2.0 without citizen participation is empty. Why do citizens participate in public matters? What kind of incentives need to be created to get citizens engaged in Government 2.0?

- *Trust*. The third set of factors relates to the relation between government and citizens: technologies need to be used to develop trusting relations between government and citizens. What are conditions for fruitful relations to develop? What kinds of preconditions are needed for substantive and ongoing interactions between Government 2.0 and citizens?

This paper presents an exploration of these three, interconnected factors to enhance our understanding of key challenges to the realization of Government 2.0.

2   A socio-technological perspective on Government 2.0

For a realistic assessment of Government 2.0 and a public debate about technologically induced transformations of government, we will need to define Government 2.0. Government 2.0 is the next generation of e-government: while traditional e-government strongly focused on internal and supply-driven technological changes, Government 2.0 reshifts our focus to citizens as not only users but active contributors to e-government. In a general sense, one could describe Government 2.0 as a government that uses Web 2.0. There are many definitions of Web 2.0 and several denominations (e.g. the social web, social software, social media, participative web, user-generated web) due to the different disciplines in which the term Web 2.0 is used, like informatics, communication science or business administration. According to Osimo (2008), Web 2.0 is composed of a set of technologies (e.g. AJAX, XML), applications (e.g. blogs, wikis, social networks) and values (e.g. collective intelligence, produsage, perpetual beta). Frissen *et al*. (2008, p. 62) more specifically indicate that Web 2.0 consists of new platforms for interactions with extensive input from users, integration of knowledge and user participation in the production of web services. The applications or platforms of Web 2.0 are often called social media, since they give the opportunity for individuals to be active participants in creating, organizing, editing, combining, sharing, commenting, and rating web content as well as to form a social network by interacting and linking one another (Chun *et al.* 2010). The term 2.0 is used in a metaphorical sense: the 'old' Web, Web 1.0, is being replaced by a new and better version. A similar argument is applied to government: the 'old' government is to be replaced by a new and better version. The newer version is supposed to be better because it is increasingly open (in terms of access to information as well as acceptance of new ideas), increasingly social (in terms of networks within and between government) and user-centered (in terms of content and technology).

In a more fundamental sense, we would like to define Government 2.0 as a government that uses interactive communication technologies to transform connections between government and citizens into increasingly open, social and user-centered relations. The idea of a fundamental impact of new technologies originating in their ability to create new connections is based upon the seminal work of Sproull and Kiesler (1991) on e-mail and organizations. The same changes, in terms of creating new connections, can take place in the domain of government (Tapscott, Williams and Herman 2008). Traditionally, there are connections between the representatives of citizen groups such as trade unions and environmental groups and citizen employees. Interactions are channeled through these formal connections. The new media enable direct connections between individual citizens and government employees. Individuals are no longer tied to formal structures but create their own networks.

The realization of Government 2.0 should not be understood as a techno-deterministic process but as a socio-technological process. Structuration Theory (Orlikowski 1992; Orlikowski *et al.* 1995;

Orlikowski, 2000) poses that the introduction of new technologies in organizations have to be studied as an interaction between technology and the existing social system and this theory can also be used to study the relation between technology and government (Heinze & Hu, 2005). Technologies have certain properties which, in turn, are enacted by governments using these technologies in a specific institutional context. Governments will adapt their use of Web 2.0 to their existing communication patterns but, at the same time, these existing patterns are influenced by the new technologies. The adaptation of new technologies is a process of both reinforcement of institutional structures and institutional change.

In sum, the new networks between government and citizens are facilitated by new technologies and they build upon existing structures as well as they radically alter these structures. The process of structuration should be understood as an interaction between new technologies, government (employees) and citizens. This complicated process needs to be analyzed from different angles to enhance our understanding of the new, emerging structures. We will start our analysis from a government perspective, followed by a citizen perspective, and, finally, we will analyze the relations between government and citizens. The three perspectives will provide different, sometimes slightly overlapping, insights in the complicated process of socio-technological change.

3   Challenge 1: Transformational Leadership

Why do processes of institutional innovation only take place in certain organizations? Legal constraints, financial resources, technological capacity and political climate play a role (Grimmelikhuijsen 2008) but all these factors are framed and mediated by leadership. Leadership should not be confused with management. Selznick (1957) emphasizes that leadership is crucial when it comes to critical decisions, whereas management is about routine decisions. More specifically, transformational leadership is about building something new but also reforming a preexisting situation (Boin & 't Hart, 2011; Wright & Pandey, 2010; Moynihan, Pandey &. Wright, 2012). Innovations in government generally demand the government organization to change routines and organizational structures and (transformational) leadership is needed to guide these changes (Selznick 1957, p. 10).

How can we apply these general notions about transformational leadership to issues of Government 2.0? Information technology (IT) projects often have a highly complex nature, which sometimes leads to a slowly muddling through (Ciborra 2002). The development and use of technological systems has an impact on (public) organizations and their relations with their environments and, therefore, the introduction of technology will always meet resistance. When it comes to innovation, we should focus on leaders as institution builders and reformers. This role of leadership certainly applies to the introduction of Government 2.0 since these new technologies have far reaching consequences for existing structures and routines (Luk, 2008; Noveck 2009). The introduction of Web 2.0 applications in public services requires, among others ideas, support from different actors, and a successful implementation. Meanwhile, innovations can be constrained by the institutional environment, consisting of rules, laws and regularities. Considering all these barriers, one could wonder how innovation can still occur. Strong leadership is a key factor: it is pushes these complex processes of socio-technological change forward (Ke & Wei, 2004).

While much of the literature about leadership focuses on executive leadership a broader variety of leadership roles can be identified. Selznick (1957, p. 82) defines a role as a way of behaving associated with a defined position in a social system. The first role identified in the literature is facilitating leadership; formal leaders can create and enhance an organizational culture in which employees are encouraged to come up with new ideas and try out new innovations (Jung *et al.* 2003). A culture in which new ideas can be implemented is a prerequisite for Government 2.0 projects, while such a culture can be influenced by leadership. This form of leadership is often referred to as *entrepreneurial leadership*. The second level is *hands-on leadership*. This form of leadership involves the ability to act and change. The question, therefore, is: who drives the car? The attention is focused on the leadership roles and styles that are required for a successful realization of Government 2.0. How do these levels interrelate? Entrepreneurial leaders may be successful in selecting and training the leaders that are needed to move an idea forward and, conversely, leaders who move an idea forward may be able to stimulate entrepreneurial leadership.

For Government 2.0, the traditional roles of entrepreneurial and hands-on leaders may carry an additional component: both roles need to be considered within the context of an open, interactive

environment. Entrepreneurial leadership needs to support an innovative culture means to support processes of open innovation (Chesbrough 2003). Leadership is not only about supporting experimenting and learning within the organization but also in relation with the environment. Forging new alliances with knowledge partners outside the organization is crucial to this form of leadership. Connecting and crowd sourcing can be expected to be crucial to this form of leadership: leaders need to create incentives for outsiders to contribute to Government 2.0. Entrepreneurial leaders need to be able to pick up signals from distributed communities and transfer these signals to others. Bringing together various communities becomes crucial to the work of the new policy entrepreneurs.

Hands-on leadership of Government 2.0 is about being able to lead dispersed and fragmented teams of technology developers. Increasingly, project members will be spatially and organizationally dispersed. A project team may consist of individuals in various organizations or even loosely connected to the project. The classic image of an innovator is someone sitting in his attic and developing a great idea. This image needs to be revised: the innovator of Government 2.0 is someone who develops an idea within digital communities and who uses these communities to develop the innovation. Technology developers may be able to not only use resources within their own organization to develop the technologies but also man power outside the organizations. Crowd sourcing is an important venue for technology development. Linux is the key example of technology development 2.0. Linus Torvald managed to motivate people worldwide to contribute to the development of Linux. Tapping into this type of dynamic to improve government through new technologies is both a promising and a challenging task. Bringing the efforts of these distributed individuals together in the development of Government 2.0 is a challenging task for project leaders.

Overall, one could also suggest that Government 2.0 does not require a single leader, but rather a form of collective leadership, a group of individuals who complement each other and fulfill a comprehensive set of leadership roles. Leadership needs to be exerted both bottom-up and top-down: leaders that move an idea forward need support from the top and the leaders that support an innovative culture need individuals who use the opportunities to develop ideas. Leadership for Government 2.0 is not a matter of individual great leaders but rather an issue of 'collective leadership' (Boin and 't Hart 2011; Alvarez and Svejenova 2005). Government organizations need to develop forms of Collective Leadership 2.0 to be able to effectively use the potential of Web 2.0 technologies. The need for new forms of collective leadership may count as a reason why Government 2.0 is difficult to realize. Government organizations are not organized as collectivities but as hierarchical entities with fixed functions and responsibilities. Open learning is needed for innovation but open learning conflicts with the nature of bureaucracy in which formalization and a hierarchical chain of command lines are core principles. The idea of collective leadership certainly conflicts with the traditional idea of government bureaucracies being instruments for their political masters.

4   Challenge 2: Getting Citizens Interested

Governments may develop innovative platforms for communication with citizens, yet, these platforms will only be effective if citizens actually use them. The effectiveness of citizen-government communication has declined in recent years. Bimber (2003) argues that societies have undergone a number of information revolutions whereby changes in information *costs*, *flows*, and *distributions* have impacted the relationship between governments and citizens. These changes work in two directions: first is the effectiveness of (mass) communication (campaigns) launched by governments to influence citizens top down and second is the effectiveness of communication and service delivery whereby citizens takes the initiative in starting the communication process: a bottom up process.

Two main explanations exist for the decline in communication effectiveness. First is the changed (infra) structure of our society. Trends as individualization, globalization, increasing complexity of society and the transition from a traditional to a network society, inhibit the government's potential to reach citizens (Van Dijk 2006). In this networked society, the individual is no longer tied to formal structures but creates his own networks, untying himself from governmental institutions. Furthermore, the relationship between governments and citizens has changed. Citizens' trust in government has declined over the years (Chanley, Rudolph, and Rahn 2000). Whereas in earlier days people used to trust governments morally, trust has declined and citizens judge governments directly, based on their performance (Uslaner 2002). This implies that citizens no longer consider all governmental information to be true. Related trend is that Western societies get more driven by risks and uncertainties (Beck 2009). Governments increasingly point citizens to various risks in society

(O'Malley 2004), causing citizens to gather information as a natural response. Finally, due to budget shortages, governments have adopted strategies such as privatization and a business like 'customer' approach of citizens (Osborne and Gaebler 1992). This has turned citizens into consumers (Vigoda 2002) who are less likely to be influenced by governments.

The second explanation concerns the changes in our ways of communication and the availability media to choose from. Multidirectional flows via electronic and interpersonal media evolved alongside uni-directional flows via the mass media. First reason for this change is the increase in the number of media such as mobile phones and the Internet. The latter facilitates media such as websites, e-mail, chat, and social (network) media like Facebook. Technologies like Web 2.0 are also moving from the private and business sphere into the public sector. The rapid diffusion of these media has shifted media use from the traditional to interactive media (and self-service) (Estabrook, Witt and Rainie 2007). Nevertheless, these new media are not replacing the old media. Research shows that citizens use more media in parallel for their contacts with governments (Pieterson and Ebbers 2008). Besides, the Internet and especially so called 2.0 or social media have impacted our social networks and facilitate the exchange of information within peoples' networks (Resnick 2002). This hampers governments using merely formal communication channels to control their information flows to citizens and use their top-down flow of information. Since citizens can easily initiate their own platforms for sharing opinions and debating about public issues, the bottom up flow is being emphasized. Digital natives, as the generation who grew up with Internet is often called (Gasser and Palfrey 2008), create user-generated content and share it with others based upon their own initiatives. Citizens have different incentives to use social media in general. Shao (2008) deduced four factors which are relevant for motivation to use social (user-generated) media: information, entertainment, social interaction and self-expression. Information seeking is driven by people's curious nature and desire to increase knowledge of one's self, others and the world. Entertainment is driven by escapism, emotional release, relaxing, enjoyment, time spending and arousal. Social interaction is driven by the social nature of people to interact with others. Self-expression refers to the expression of one's own identity and individuality and can be a process by which people attempt to control the impressions others have of them. Shao (2008) argues individuals use user-generated media in different ways: consuming, participating and producing. The motives are related to these uses. People consume content for information and entertainment, participate for social interaction and community development and produce their own content for self-expression and self-actualization. Applied to citizen-government communication, one could argue these four motivations are also prevalent for the specific use of social media.

Apart from the satisfaction that is gained from the above factors, people seek instant gratification through behavioral incentives, which can also be derived from underlying behavioral determinants. For example, citizens may be looking for entertainment and prefer Twitter over a website, based on the ease of use of the former channel. These more general incentives to use certain communication channels for government-citizen communication have been studied by Pieterson (2009). He empirically confirmed that four groups of factors determine the use of channels by individuals: channel characteristics, task characteristics, situational factors and personal characteristics. These factors need to be studied separately as well as in relation to each other.

Channel characteristics are divided into two sorts channel characteristics: intrinsic and extrinsic. Intrinsic characteristics are the number and kind of the cues of a channel. For example, you can't play a video on a newspaper. Extrinsic channel characteristics are subjectively constructed and situational influenced perceptions of the channel, like immediacy of feedback, level of certainty, personalization, ease of use, interactivity etcetera. These characteristics differ from person to person, depending on personal experience. Task characteristics are the perceptions of the tasks that have to be fulfilled by the user. The complexity and ambiguity of a task are founded to be the most influential task factors when it comes to channel choice (Ebbers, Pieterson and Noordman 2008). Situational factors are derived from the context of use. Factors as (geographical) distance towards the channel or the available time are situational constraints that play also an important role in channel choice. Last but not least, personal characteristics can be derived from demographic features like age or gender, and psychographic traits, like state of mind, earlier experiences, habits, and trust (Pieterson 2009). Pieterson (2009) concludes that habits appear on of the most important drivers of channel choice, where other theories often neglected habitual decision making concerning channel choice. These focused solely on rational decision making (i.e. Media Richness Theory, Daft and Lengel 1986) and the elaboration between task and channel.

Combined, both frameworks (Shao 2008; Pieterson 2009) can help us understand the incentives citizens have to use Government 2.0. Although empirical evidence of the (combined) frameworks in the Government 2.0 context is still lacking (as well as scientific studies on citizens' use of Government 2.0 in general), the framework offers a promising direction and it shows us that interaction and production of information are key factors in the distinction between Government 1.0 and 2.0, from a citizen perspective. Or, as Mengel, Schweik and Fountain (2009) put it: the information paradigm in government is moving away from the "need to know tradition" and towards a "need to share" culture. However, the bureaucratic structure of government limits this dialogue. Regulations and reporting structures hamper the collaboration, creating and sharing between governments and citizens. Government itself is more focused on one-way (mass media based) communication, given its hierarchical top-down structure (Sternstein 2006; Kraemer and King 2003). This leads to a paradox: citizens who are finally enabled to engage in (interactive) communication with government organizations cannot do so, because the government's bureaucratic structure inhibits this communication.

Input from citizens is only valuable when it can be processed according to formal procedures in governmental agencies. These bureaucratic procedures presume neutral and factual information. It clashes with the citizen's desire to use communication for social interaction and self-expression. Procedures are mostly based on information exchange, not the expression of emotions and one's self. Since "sharing" is one of the most distinctive concepts between the 1.0 and the 2.0 era, the contradiction with the top down information flow of governments grows even more, because social media initiatives grow exponentially. Self-expression and social interaction might be the incentives for citizens to interact online, but if there is a lack of platforms where those incentives can be put into practice, government-citizen communication cannot be established.

As a consequence of the top-down structure, government online communication is mostly designed as basic information platforms. Little attention has been paid to the overall view on user experience in interaction (Mahlke 2008) of governmental online communication. Yet, instrumental, for instance ease-of-use, as well as non-instrumental quality aspects, for instance visual attractiveness, are both included and essential in establishing a "good" user experience and, consequently, acceptance and usage. Or, as Van der Heijden (2006) showed us: enjoyment is of great value in web acceptance. Hence, the entertainment incentives of citizens might not be fulfilled either in online government-citizen communication since the focus is on information exchange in a formal way.

5 Challenge 3: Developing Mutual Trust

Government and citizens may be motivated to meet each other in Government 2.0 environments but the success of these government-citizen relationships depends on their mutual trust (Bannister & Connolly, 2011). Particularly in online interactions, trust can never be taken for granted; it has to be established. Since online interactions involve communications at a distance, literally behind screens, traditional trust-enhancing factors that we rely on in face-to-face interactions may not necessarily apply. It is a truism to state that trust has many meanings (McKnight and Chervany 1996). For the purposes of our paper, we can best focus on the context of virtual relationships, where Haenni *et al.* (2009, p. 40 ff.) define trust as 'the positive opinion of a trustor about a trustee's trustworthiness relative to some trust context'. Trustworthiness is someone's 'compound property of being competent and honest with respect to the actions and statements in some trust context', while a trust context is 'a particular class of actions or statements, which are not further distinguished when judging an agent's trustworthiness.' These definitions highlight that trust is a subjective, context-dependent characteristic of one party in relation to another party. Whether citizens and governments trust each other within the setting of a particular web 2.0 context will depend on several variables. Generally, trust has three primary dimensions: competence (is the trustee competent in performing her task?), benevolence (does the trustee care for the trustor?) and honesty (does the trustee perform her duties truthfully?) (Grimmelikhuijsen 2009). What remains implicit in these dimensions is that the trustee must be available and known, otherwise competence, benevolence and honesty cannot be sufficiently perceived by the trustor. Therefore, Cofta (2007) identifies two additional, we could say preconditional, dimensions: availability (is the trustee available when needed?), and identity (is the identity of the trustee established?).

Closely related to the enablers of trust in the trustee are enablers of confidence in the reliability of the trustee's statements. In governments 2.0 applications, the latter are perhaps even more important: do

governments and citizens trust the *content* of their web 2.0 interactions? Content reliability can be gauged from two types of criteria: content criteria, related to the content itself, for example consistency, coherence, and accuracy; and pedigree criteria, related to the information source, for example whether information comes from an authoritative source or from a previously reliable source (Vedder and Wachbroit 2003). In online contexts (as in many offline contexts), people find it hard to apply content criteria and usually rely on pedigree criteria (Vedder and Wachbroit 2003). In other words, trust in the Web 2.0 content often boils down to trust in the content's source, that is, in the counter-party who contributes content. Since many pedigree criteria are connected to the information's source, knowing who the source is becomes important. This underpins the importance of identity as a preconditional dimension of trust: it is a facilitating enabler for the other enablers of trust.

What, then, is identity? Given our focus on online interactions, we use a technical-organizational definition: identity is 'any subset of attribute values of an individual person which sufficiently distinguishes this individual person from all other persons within any set of persons' (Pfitzmann and Hansen 2010, p. 30). An identity thus is a collection of attributes that together uniquely identify an individual within a relevant group in a particular context; this can be 'Mr. Cameron from Downing Street, 10', or 'the tall guy in the brown coat who always takes the same morning train'. One can easily see that many different collections of attributes are possible to identify people within certain groups.

Gary T. Marx (2006) distinguishes five types of identity knowledge that can be placed on a continuum, ranging from identity information very close and specific to the individual (core identification and unique identification) through identity information specific to the type of individual (sensitive information and private information) to any identity information that can be attached to a person (individual information). These five types can be thought of as concentric circles, with core identification as the inner, most limited category, and individual information as the outer, most comprehensive category. It is useful to distinguish between these types of identity information, precisely because identification is such a key element in government-citizen relationships.

A central policy question is how much and what kind of identity information is necessary in various contexts. In particular, whether identification of a unique person is appropriate and, if so, what form it should take (Marx 2006). For government 2.0 applications, one can hypothesize that, based on identity being a key facilitating enabler for trust; trust in applications is proportional to the availability of identity information. In particular, one can hypothesize that trust increases as identity information comes closer to the core of the identity circles.

From a policy perspective, one might therefore conclude that for successful government 2.0 applications, strong identity management is needed to establish participants' identity and to enhance identity knowledge through providing more – and more personal – types of identity information. However, this conclusion is not evident, since strong identity management requires more effort from participants and therefore might raise the threshold for civil servants and citizens to participate. More relevant from the perspective of trust, however, is that there are also at least two downsides to high levels of identity knowledge that risk *diminishing* trust, especially on the citizen side. These downsides are the risks to the self-development and privacy, which are particularly visible in today's context of online interactions.

The first risk is a potentially chilling effect on self-development, which stems from the interrelationship between two forms of identity (Hildebrandt 2008). So far, we have focused on identity in the identity-management sense, which is an outsider's perspective of *idem* identity: are we talking about the *same* person? Another aspect of identity is the insider's perspective of *ipse* identity: who am I? This form of identity is crucial for self-development: individuals have to be able to develop a sense of self, in order to determine who they are or who they want to be. Both forms are inextricably related: the sense of self closely depends on being identified in social practices, and vice versa: identity management often relies on information that is also important for building a personal identity. In online interactions, particularly if profiling technologies are used for identifying or characterizing persons, identification based on *idem* identity characteristics carries the risk that people are identified with certain groups (with whom they may not share all characteristics) and perhaps consequently stigmatized or discriminated. Moreover, people can also start to self-identify (*ipse* identity) with the categories thus stamped on them. Forcing citizens to be identified in web 2.0 applications, particularly

if this involves government-created identities or 'imposed personae' (Clarke 1994), may, in the long run, amount to restricting their self-development (Hildebrandt and Koops 2010).

The second risk is the potential of privacy infringement of Web 2.0 participants, stemming from the fact that identity information often (although not always) relates to personal information. The information becomes more sensitive if it comes closer to the center of Marx's circles of identity knowledge. From an informational-privacy perspective, the amount of personal data disclosed and processed should be kept to the minimum of what is necessary for the purpose at hand. A central data-protection principle, enshrined in the Council of Europe Convention 108 and the European Union's 1995 Data Protection Directive, is that personal data should not be excessive in relation to the purposes for which they are collected, stored, or processed. This data minimization or purpose-binding principle points exactly the opposite direction from the hypothetical conclusion above that trust requires establishing as much identity knowledge as possible.

Privacy concerns are compounded in the context of web 2.0, particularly with social media where traditional social contexts blur. Individuals always play roles in social life, e.g., husband, employee, fire brigade volunteer, clarinet player, etc., presenting themselves to their audiences in different ways (Goffman 1959). These contexts are governed by norms and social practices particular to the context, for example related to the questions you are expected or allowed to ask (Nissenbaum 2010). In today's social media, audience segregation is difficult to manage, resulting in 'friends' from various contexts seeing information they would not acquire in offline contexts. This infringement of 'contextual integrity' is one of the crucial current threats to privacy (Nissenbaum 2010).

Although self-development and privacy are traditionally seen as citizen's concerns vis-à-vis the state, Web 2.0 introduces a complicating factor: state officials can take dual roles on the same media, as officials and as citizens. The networks in new media do not contain straightforward distinctions between 'the state' and 'the citizen', making the issue of 'contextual integrity' salient for all parties involved. Guidelines for civil servant participation in social media tend to stress role specification, for example in Britain: 'Wherever possible, disclose your position as a representative of your department or agency' (Cabinet Office 2008). At the same time, most guidelines warn against giving too much (personal) information, because of the Internet's everlasting memory and the potential for abuse of information. Civil servants are allowed or stimulated to participate in web 2.0 as private persons under a separate account, but warned that citizens can find them through search engines using identity information to combine their public-function and private profiles; hence, they should be careful which information they provide, both as civil servant and as citizen. Providing more identity information, then, also poses risks on the government side of web 2.0.

In sum, we can conclude that identity is a major factor in creating trust in online applications, but that it is a double-edged sword. Having more identity knowledge of counter-parties will enhance trust, but having to provide identity knowledge to counter-parties risks diminishing trust in a context where risks to privacy and self-development arise. For the success of government 2.0 applications, this challenge implies that applications must run the gauntlet of stimulating the exchange of identity information without forcing people to disclose more identity information than they feel comfortable in providing in the particular context of the application.

6 Challenges to the Realization of Government 2.0

In this paper, we have discussed three key success factors that emerge from a literature review on government 2.0. First, leadership in government is crucial since governments need to be willing to shift their interaction patterns from formal interactions with representatives of interest groups to informal information exchanges with individuals in networks – a shift that cannot take place without strong leadership. Second, incentives for citizens are a key component since government initiatives that are not used by citizens will have no effect. Citizens need to be willing to participate in these networks. Various activities demand their attention and government initiated networks are in competition with a variety of other networks. And third, trust needs to be established in these government-citizen interactions to make the networks viable and robust. This requires reflection on the trust-enhancing and trust-diminishing factors at play in a networked environment without hierarchical relationships and without face-to-face contacts. Knowledge of identity, on both sides of the interaction, is a crucial trust-related factor but also a two-edged sword. Knowing others' identity is expected to enhance governments' and citizens' trust and willingness to participate, but having to

provide identity knowledge of one-self might decrease trust because of the risks of abuse of online identity information.

The literature review provided important insights in the difficulties of realizing Government 2.0 and transforming relations between government and citizens. More specifically, we identified three challenges:

1   Creating new (collective) leadership roles that are fundamentally different from bureaucratic roles.

2   Making serious communication attractive to citizens who are increasingly motivated by game-type interactions and 'fun'.

3   Stimulating the exchange of identity information without forcing people to disclose more identity information than they feel comfortable.

These challenges may explain why it is difficult to realize Government 2.0 and why all the 'great ideas' of gurus such as Eggers (2005) and Tapscott Williams and Herman (2008) have not yet been realized.

Our discussion suggests that there are no easy, one-size-fits-all ways to address the challenges of leadership, citizen incentives, and trust and identity. Each factor in itself is multi-faceted and nuanced, while the possible interaction of the three factors – and possibly others – makes the picture even more complex. Being relatively at the start of a new technology that has the potential to transform governance, it is too early to aim at solving problems and finding the golden rule of successful Government 2.0. To avoid myopia and to acknowledge its character as an institutional transformation, we propose that research into Government 2.0 should take a contextual and historical perspective.

Realizing Government 2.0 means looking beyond the technology and understanding its potential in a specific situation. Agents of change should understand the specific need for leadership and aim to create room within bureaucratic organizations to experiment with new forms of leadership. Government organizations should be willing to investigate whether more playful interactions with citizens can help to engage on serious issues. They should acknowledge the sensitive nature of trust and be careful not to demand too much information from citizens. We would like to emphasize that the realization of Government 2.0 is not so much about general design guidelines and one-size-fits-all approaches but rather about creating innovative and specific niches that help organizations to develop technological practices that fit their context and historical development.

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