

Journal of  
**Social  
Media for  
Organizations**

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Volume 2, Number 1



# LiquidFeedback in Large-scale Civic Contexts: Framing Multiple Styles of Online Participation

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## ABSTRACT

*Growing distrust in government is accompanied by new opportunities for civic involvement through online technological platforms. LiquidFeedback is one of the most interesting, as it embeds innovative features to support online deliberative processes. Designed as an intranet tool for closed, homogeneous groups, the software has also been used in large civic contexts involving citizens at large. This paper presents and analyses two large-scale deliberation projects where thousands of Italian citizens used the LiquidFeedback platform. The analysis aims to understand how well this software serves as a platform for people to gather ideas, draft proposals collaboratively, and then rate them by degree of consensus. We consider the political context for these field cases and their socio-technical design choices, look at how LiquidFeedback enables citizen participation, discuss politicians' accountability in terms of online activity, and report participants' assessment of the two projects. Our analysis adapts existing frameworks that match different participation styles to profiles of activity in online communities.*

## KEYWORDS

LiquidFeedback, large-scale ideation and deliberation, online deliberation, democracy, civic participation.

## INTRODUCTION

Manuel Castells, the well-known sociologist and author of *The Rise of the Network Society* (Castells, 1996), recently studied protest movements worldwide that arose in the wake of dramatic economic crisis. In his book, *Networks of Outrage and Hope* (2012), he writes: “the precondition for the revolts was the existence of an internet culture, made up of bloggers, social networks and cyberactivism.” In other words, ICT (information and communication technology), particularly social media, provided tools for communicating, coordinating, and knowledge sharing. It can be seen as the infrastructure that empowers social movements and political organizations in the digital era, giving them a say in the political arena. These net-enabled, grassroots movements seek radical renewal of the political class and of democratic practices. But once elected, new leaders are caught in a vise. On the one hand, they should keep the promise of participation that brought them to power. On the other, to cope with the constraints of the global market, they have to make quick, often unpopular, decisions. Regardless of political factors, which are usually the main drivers of the retreat from bottom-up participation, there is also a lack of adequate technology to support the large-scale deliberation that would enable experimenting with citizen involvement in setting policy and making decisions. This raises a dire issue: Can digital platforms, which are already giving voice to demands for change, also foster new and more inclusive practices in government? Following Mary Kaldor of the London School of Economics, in her lecture at the World Forum for Democracy (Strasbourg, November 27-29, 2013), should we ask ourselves whether and how digital technologies can enhance (representative) democracy as we know it, or how to rethink democracy for the digital era, bearing in mind that democracy is substantial (‘real’) when people can participate in, and influence, the choices that affect their lives?

Political and civic activists engaged in online initiatives have attempted to cope with these questions by developing open-source software to meet their needs. Such tools range from collaborative writing (PiratePad or MediaWiki) to petitioning (Change.org, Avaaz.org), idea gathering, and social reporting. One successful example is Ushahidi, software “initially developed to map reports of violence in Kenya [...] at the beginning of 2008” via the web and mobile phones that has grown “from an ad hoc group of volunteers to a focused organization which includes a strong team of volunteer developers” (<http://www.ushahidi.com/>). However, these tools are limited in scope (social reporting, petitioning, collaborative writing) and fail to deal with what is probably most urgent need so far: How do we identify alternative

solutions to critical issues arising from the bottom up? How do we help a group of people elaborate solutions collaboratively and then rate them according to the consensus achieved by each? How do we implement these outcomes, in collaboration with those making the decisions, or even without them?

In recent years, new solutions have been developed to meet such needs. Private companies and public projects have been set up to develop and test software that uses idea gathering to improve civic engagement in politics, such as Ideascale and the Estonian application TOM (Estonian acronym for “Today I Decide,” later a European project called TID+, tidplus.net). Other efforts focus on computer-supported argument visualization, whose literature gets rich review in De Liddo and Buckingham Shum (2014). Comparison of these and similar online deliberation tools is beyond the scope of this paper, which focuses on LiquidFeedback (LQFB hereafter), open-source software conceived of and designed by activists in the Pirate Party of Germany to aid their internal decision-making process (Domanski, 2012). Two of its features deserve attention.

- LQFB embeds a deliberative process through which people’s proposals are not only debated and supported, but also drafted collaboratively, including possible counter-proposals, and finally voted on.
- LQFB features transitive proxy voting. This innovation means that participants can delegate (revokably) other members to make proposals and vote on their behalf in specific thematic areas or on issues they are particularly attuned to. The proxies can, in turn, choose other participants to transfer their votes to. Delegation is one of the twelve communication disciplines found by Petri (1977) in studying communication pragmatics in organizations. And it is the basis of representative democracy.

These two LQFB features – deliberative process and transitive proxy voting – represent an interesting attempt both to manage the complexity of a large-scale deliberative process and to try out new, alternative forms of democratic participation that would not exist without digital technology. LQFB thus offers an original mix of – rather than competition between – direct democracy and representative democracy.

Attention originally focused on LQFB following the Pirate Party’s success in the 2009 Berlin municipal elections. Since then, the software has been used not only by the Pirate Party, but also by civil society organizations (e.g., Slow Food Germany) and local communities (e.g., the County of Friesland). There is little discussion of the Pirate Party’s experience with LQFB in the literature<sup>1</sup>.

Interest in LQFB has grown substantially in Italy, where the internet has taken an extraordinary role in reshaping politics. This is mainly due to the rise of the MoVimento 5 Stelle (literally “Five-Star Movement,” hereafter M5S), a political movement co-founded in 2009 by comedian Beppe Grillo and Gianroberto Casaleggio, an entrepreneur acquainted with web strategies. Direct democracy, intense civic participation and using ICT to repeatedly sound out movement members on hot topics are key facets of strategy for M5S, which polled second in Italy’s 2013 elections ((Bordignon & Ceccarini, 2013; Sæbø et al., 2014). Having to compete politically with M5S challenges other parties’ candidates, representatives, and coalitions to undertake online initiatives. This has brought LQFB increased attention, because M5S groups in Sicily and Lazio considered it a tool for internal deliberation. During Region of Sicily elections in September 2012, a minor party in the coalition on the left launched an initial small experiment with LQFB in a civic context designed to collect citizens’ ideas for its political platform. Shortly thereafter, the popular TV show Servizio Pubblico (literally “Public Service”) launched a much broader, but abortive, initiative called “Liquid Party” that attempted to use LQFB to gather hot topics from the audience. Thus, neither of these two trials significantly tested LQFB’s capacity to foster purposeful, extensive civic participation or deliberation. Then, in 2013, LQFB was tried out in two broader civic contexts, the first, ProposteAmbrosoli, during Region of Lombardy elections and the second, TuParlamento, just thereafter, nationwide by a group of MPs.

Following the action-research approach suggested by Hendler et al. (2008, Fig. 2), our premise is that future social web technology cannot be tested “in the micro” but must be brought into real-life settings. Any (new) tool’s technical design

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<sup>1</sup> As far as we know: Adler’s three-page note (2013) presented at the CeDEM 2013 PhD Colloquium. Luis Daniel published a long post “Democratizing Policymaking Online: Liquid Feedback” on NYU’s Governance Lab blog. Some rough data from LiquidFriesland recently appeared in German on the LQFB blog: <http://blog.liquidfeedback.org/2014/07/07/liquid-democracy-in-der-buergerbeteiligung-eine-analyse-zu-liquidfriesland>.

has to be tried out in real social context. The outcome must be analyzed to develop new trials. Each iteration yields insight into the overall socio-technical system, increasing our situated understanding (Suchman, 1987).

This paper analyzes the two large-scale Italian initiatives that tested LQFB, ProposteAmbrosoli (initially described in De Cindio & Stortone, 2013) and TuParlamento. After briefly outlining LQFB’s basic functions, we consider the underlying design choices, especially the interplay between LQFB configuration and socio-political context. This may interest those mulling further use of LQFB. The section on cross-case findings addresses LQFB’s functionality from four perspectives: the deliberative process, citizen participation, politicians’ accountability, and participants’ assessment. It interprets outcomes of the two field cases on the basis of the design choices in the two specific contexts, thus shedding light on LQFB’s capacity to foster different styles of civic participation. The conclusion summarizes lessons from the two cases and assesses LQFB’s potential to enable purposeful, extensive civic participation or deliberation.

## LIQUIDFEEDBACK BASICS

LQFB is a purely deliberative tool, with no free discussion or forum-like facilities. Its rich, articulated structure is not readily apparent through its minimalist, almost text-based, user interface. Created in 2009, the software’s first comprehensive documentation, *The Principles of LiquidFeedback*, saw the light in January 2014 (Behrens et al., 2014), well after the two field cases’ design. The overview of LQFB below offers readers the notions needed to follow the two cases, using now-official terminology and quotes from Behrens et al. Major differences from LQFB version 2.2 – used in both cases – are explicitly noted. Figures are from the two websites’ “Liquid Help” sections.

### Deliberation spaces

The system organizes participants’ input into *units* and *areas* (Figure 1), created by the system administrator upon configuration. Units and areas may later be added or deactivated (partly hidden) but not deleted. Units are listed alphabetically. Areas sort by number of participants (member weight). Labels are a major design choice, to “be chosen wisely, keeping in mind it should be as clear as possible to determine which subject area a new topic should be assigned to.” (p. 124). Units may either be public or visible only to registered users. For in-house use, unit visibility is usually granted to registered users. For civic purposes, content is public, but actions require registration.

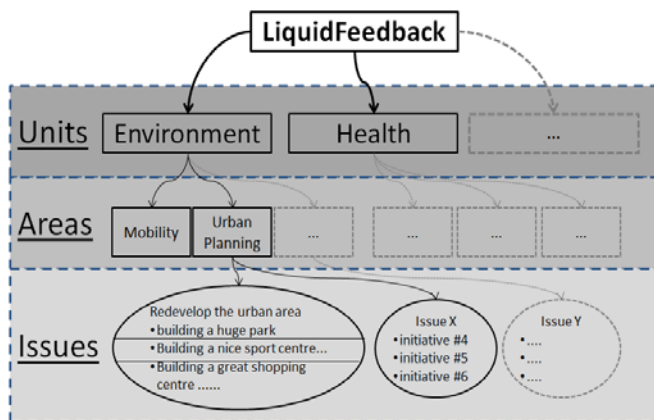


Figure 1. LiquidFeedback structure

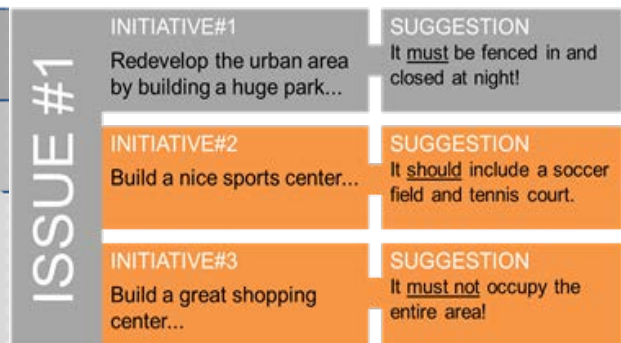


Figure 2. Issues, initiatives, and suggestions

### Main objects and actions on them

People participate in an area by clicking its button (actually a string). In an area, they can open an issue by proposing an *initiative* to deal with it. The issue gets a numerical identifier, e.g., #1234, while the initiative’s name is chosen freely upon creation. Any proposed initiative can be disputed by another user who proposes a different initiative (each denoted

by a different, freely chosen name) to solve the same issue, with alternative initiatives given different identifiers.<sup>2</sup> Initiatives may gain support or receive suggestions, prompting authors to reformulate their proposals. Users rank both their own and other people's suggestions as “must,” “should,” “should not” or “must not” be implemented (p. 61), making them either supporters or potential supporters of the initiative, thus influencing its authors. Authors may invite participants to co-edit the initiative. Figure 2 shows relations among issues, initiatives, and suggestions.

The issue – along with its initiatives, suggestions, and endorsements (“support” actions) – sets up what we call a ‘deliberative (sub)space’ within a given area. People declare interest in the issue directly, by clicking its button, or indirectly, by performing actions in its subspace. This community of interest and those participating in its area constitutes the “reference population” (p. 71-72) whose size – as we will see – influences the issue’s deliberation path.

### Deliberation path

Each issue follows a deliberation path (Figure 3) of successive states (or phases): admission (“new” in the English interface of the version used), discussion, verification, and voting. The whole path is termed “issue lifetime.” Transitions from one state to another depend on time and/or quorums – *policies* – set by the administrator. Timing parameters are set for each phase’s duration. Two quorums to be met in issue lifetime, one during admission and a second in verification, are calculated as number of initiative supporters per reference population. The administrator may set different policies, depending on the kind of decision. Policies match areas many-to-many; one policy in several areas, each area with its policies. On opening a new issue, the proponent chooses from among the policies assigned to the area. Sample policies from the two initiatives are noted below (see Table 1).

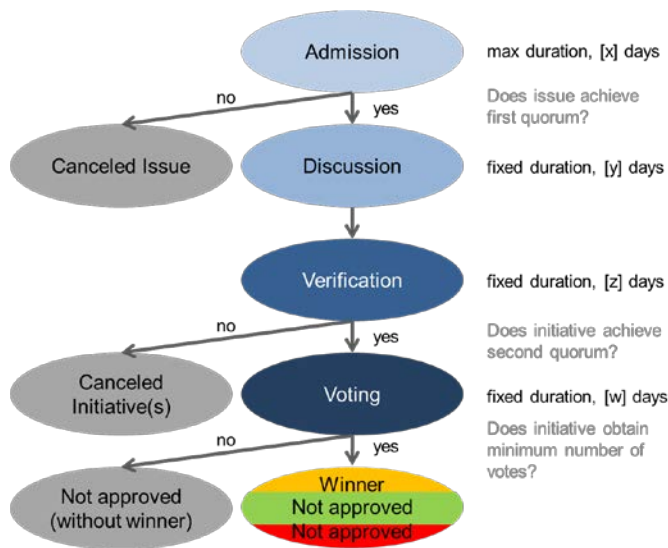
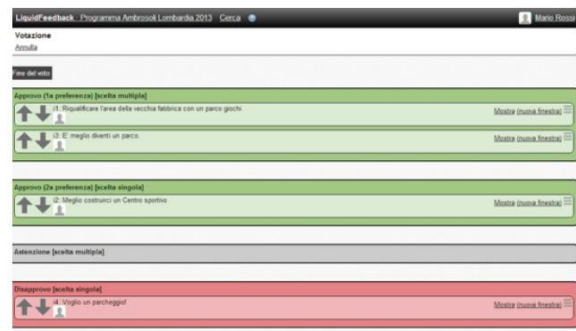


Figure 3. The deliberation path



Approval	1 <sup>st</sup> preference	A
	2 <sup>nd</sup> preference	B C
	3 <sup>rd</sup> preference	D
Abstention		E F
Disapproval	preferred to those below	G H I
	ranked worst	J K

Figure 4. Voting interface, generic example (A, ...K are initiatives)

<sup>2</sup> Only recently, on reading LQFB Principles, did it become clear that identifying the issue only by number was a deliberate design choice. Behrens et al. (2014) explain it as follows (p. 64): “To avoid influence through a title of subject, issues carry no ‘name’ or ‘description’ within the system but just an abstract number (i.e. “issue #1234”). Each initiative, however, has a name that may be freely chosen upon creation.” Despite understanding this argument, we still believe that submerging a problem (the issue) in its first solution (the opening initiative) may trouble users, especially potential proponents of alternative initiatives. Clearer distinction between the problem and its alternative solutions might also ease choosing which initiative to support.

During the admission phase, if one initiative on an issue reaches *first quorum*, the whole issue – with all its initiatives – goes to the *discussion phase*. Otherwise, it closes. During discussion, people still work on the issue (giving or revoking support, suggesting, editing or revoking extant initiatives, creating alternatives). A notification system enables people to follow the review activity and the events that interest them. Discussion lasts a set time, after which the issue enters verification, meaning initiatives are *frozen* and can no longer be updated, so people have the final version to support (or not). People can still add new alternative initiatives.

The verification phase also lasts for a set time. Initiatives that attain a *second quorum* go to the voting phase. LQFB adopts single-winner preferential voting, so voters sort all initiatives on a given issue and vote in favor (green) or neutral (gray) or against (red). Initiatives may tie preference rank (cf. Figure 4). The Schulze (2011) method determines results, e.g., using the example from Figure 2, if 35% of voters support the park, 20% the sports center and 45% the shopping center, the latter would not win as in usual single-choice voting, since a clear majority favors some form of public leisure). This voting system allows voters to rate several alternative initiatives by degree of agreement or disagreement.

### Delegating

LQFB implements liquid democracy principles by delegating, i.e. transitive proxy voting, a distinctive, innovative feature. Participants can delegate (and then revoke) other members to act (not only vote) on their behalf. These proxies may, in turn, choose other participants as proxies. LQFB enables three levels of delegation (p. 26):

- Delegation for all issues in all subject areas, within a single unit;
- Delegation for all issues in a given subject area;
- Delegation for a single issue.

Any finer delegation (e. g., for a particular issue) overrides a more general delegation (e. g., for the corresponding area). Any form of direct participation will suspend existing delegations.

### Authentication policy

Because the Pirate Party gave LQFB a strong role in making decisions, the software embeds a mechanism for fully trustworthy identification. The LQFB principles state: “it is not intended for pseudonymous use where participants within the system are hidden behind nicknames and only a special group of administrators know (or can guess) who really signed up” (p.121). In practice, after an official certifier has a face-to-face encounter with a participant, who gives an email address, the LQFB administrator creates the prospective user account, filling in the *identification name* with the user’s first and last names, and sends out an *invitation code* so the participant can access the account to complete the personal information. The identification name cannot be changed. But users freely choose *login* name, password, and *screen name* (a nickname), all of which they can change. However, the full set of screen names associated with each identification name is visible to any registered user. This strong authentication obviates the need for moderators, so LQFB can rely on so-called “collective moderation” (p. 63). Therefore, unlike on most other platforms, administrators have no dedicated user-management functions (though they still have direct access to and control over the database). In theory, nothing in the software prevents administrators from creating accounts with empty identification names to be chosen by the user who gets the invitation. Any guarantee of a strong tie between the account and a real identity would thus be lost.

After login, registered users operate in thematic areas through first-level activities (participating, declaring interest, delegating, creating new issues) and whatever second-level activities are enabled for a given issue, depending on its phase. For the purposes of this paper, we term support and voting “one-click actions,” as distinct from creating a new issue, initiative or suggestion, which are text-creation activities. Logged-in users can view the identity of proponents, subscribers, supporters, and voters, who remain anonymous to non-registered users.

## DESIGN CHOICES AND SOCIO-POLITICAL CONTEXT

ProposteAmbrosoli and TuParlamento, the two 2013 Italian projects (<http://proposte.ambrosolilombardia2013.it/> and <https://www.tuparlamento.it/>), are related in that both follow the guidelines for designing deliberative online environments presented in De Cindio (2012). TuParlamento was inspired by ProposteAmbrosoli. However, they differ



in many respects, especially socio-political context. Context needs to be borne in mind because it affects outcomes. But before looking at the socio-technical design of the two projects in their respective political contexts, let us briefly recall the design principles shared by both cases.

### **Design principles**

A principle adopted from De Cindio (2012) was that the primary design choice in developing online deliberation environments is defining the participation contract. This “pact” binds the social actors, i.e., the politicians who own the space and the citizens who make policy proposals. The contract has to be realistic and trusted by both sides to make the “game” attractive and functional. It then must be articulated in rules and mutual commitment, to be given high visibility on the home page. The terms of the participation contract shape how LQFB is configured, helping decide what deliberation areas to set up and what policies to apply to them. The contract also affects user identification and user authentication. The more significant the expected results, the stricter these policies may be. On the other hand, for a weak participation contract, easier authentication lowers entry barriers.

Drawing up the participation contract and implementing the concomitant design choices is the task of a joint design team that includes technical staff and “political” staff (i.e., representatives of the site’s owners). Naturally, some technical aspects, such as LQFB policies, may be hard for non-technical people to grasp. A close-knit design team helps overcome these difficulties.

For both ProposteAmbrosoli and TuParlamento, technical staff was drawn from RCM Foundation, a Milan-based participatory foundation founded in 1998 – whose members include public institutions and citizens – to promote online civic participation, which has managed several civic projects, including *partecipaMi*, [www.partecipami.it](http://www.partecipami.it), a grassroots civic network connecting more than 3000 local citizens. The foundation also acted as third-party guarantor (Blumler & Coleman, 2001; De Cindio, 2012) of contract fulfillment.

Authentication policy required tweaking. The strong identification mechanism embedded in LQFB could not be implemented in either case, since users were to register online, so RCM Foundation developed the following three-step procedure to bypass the problem without changing the source code:

1. Prospective participants fill in an online form on the website. On both sites, the form was very detailed, including taxpayer identification number. First name and last name are concatenated to automatically create the account “identification name.”
2. The user is sent email to confirm the enrollment request.
3. LQFB login takes place using credentials.

The main issue for the design team is organizing the participatory website. As noted, LQFB is strictly meant to foster online deliberation through a bare-bones, text-based user interface, without sharing facilities. So, in order to organize all content needed to present and manage initiatives, integrating it with social media, a more user-friendly container website embeds the LQFB tool. In these two cases, the site runs RCM Foundation’s open-source platform *openDCN* ([openDCN.org](http://openDCN.org)), allowing it to be organized into tabs for its various sections. One tab is for the *participation contract*, another for the *LQFB section*, actually on a different virtual host, and a third for the *Liquid Help* section, with interactive FAQs. Last, the *Diario della Partecipazione*, “Participation Log,” tab is where RCM staff blogs on the project, proponents publish winning proposals, and the owner accepts or rejects them. Its blog style allows participants to comment on feedback to their proposals.

### **The ProposteAmbrosoli case**

Our first field case, ProposteAmbrosoli, was a campaign project for a left-coalition candidate for the Region of Lombardy president, Umberto Ambrosoli. The Lombardy regional council resigned in October 2012 following massive corruption scandals affecting several leading politicians, including the regional president, a member of Prime Minister Berlusconi’s coalition on the right who had served 17 years. Relatively young at 40, Ambrosoli is a criminal lawyer and the son of noted Mafia fighter Giorgio Ambrosoli. Pushed to run for regional president by segments of Milanese civil society, he won the left-coalition primary in December to compete against right-coalition candidate Roberto Maroni, formerly interior minister under Berlusconi and much more widely known. Ambrosoli’s campaign relied heavily on physical

contact in Lombardy, backed by strong online strategy, with a website, a Facebook page, and Twitter, YouTube and Flickr channels. Keeping close touch with partly hired, partly volunteer staff managing his online presence, the candidate himself also posted, when possible, mainly via Twitter, thoughts and images from his campaign. A strong sense of commitment to political renewal inspired a very intense, two month campaign.

Because of earlier relationships, it was natural for Ambrosoli's campaign staff to turn to RCM Foundation when envisioning a participatory website to enhance communication strategy in a manner consistent with the candidate's image. However, this represented a break with precedent for RCM, whose previous campaign-season endeavors in 2006 and 2011 had striven to keep the foundation above the fray (see De Cindio et al., 2009 and De Cindio et al. 2012). The foundation was ready to try a change in strategy after seeing the limited impact of its earlier spaces once elections were over. The vision was that a stronger link to a candidate who declared independence from the political parties might create the conditions for continuing the participatory project after the campaign had run its course. Initial talks between RCM and Ambrosoli staffers about LQFB-based participation took place in mid-November 2013, but design work began only after Ambrosoli's success in the primary a month later. With election day set for February 23, time for designing the website, configuring the software, and launching the project on January 1, 2013 came down to just two busy, late-December weeks, plus a couple days of beta testing.

The participation contract, drafted by the joint design team and accepted by the candidate after in-depth discussion, invited citizens to fill out Ambrosoli's campaign platform with proposals that reflected their needs, visions, experience, and knowledge. After looking at the candidate's platform (and seeing how LQFB works), they were to formulate specific proposals, then refine these and add detail. The candidate, for his part, was to respond to proposals that had passed, either accepting or rejecting them for his political platform.

The joint design team structured deliberative spaces by mapping planks in the campaign platform onto LQFB units and areas. As noted above, this is a crucial step in configuring any instance of LQFB. The platform was broken down into six policy areas, such as mobility, sustainability, culture, and health, reflecting the administrative region's purview. Such topics have relevance not only across the regional district but also at the local level, where citizens' experience is rooted. Four additional areas concerned policy making only at the level of the Region of Lombardy: transparency, participation, and the digital agenda; women's roles; European federalism; and Expo 2015, the upcoming world's fair. To allow participants to weigh in on the platform both locally and district-wide, an early draft structured LQFB into units and areas, including one unit with 10 areas for regional policies, plus 12 units, one for each province, each with six areas (plus a sandbox unit). The resulting 94 areas were decidedly too many. There is a tendency to overdo it when setting up such rubrics. As in bottom-up development of discussion forums in online communities, it is preferable to miss an area than to fragment participation from the outset.

Reducing the number of areas into a manageable figure led to lively debate within the design team, ultimately leading to 20 areas divided into three units:

- A unit for regional policy was divided into 12 areas (the above 10 plus "Welfare," added by popular request, plus "Other" for miscellaneous issues.
- A unit for local policy was divided into seven areas (the six above plus "Other") to group "Local proposals." Participants were asked to tag proposals with a two-letter acronym for the province they referred to, i.e. [MI], [PV], [CO], etc. A couple people used MI+PV for an inter-province proposal;
- A sandbox unit.

The policy summarized in the second column of Table 1 was devised to manage the trade-off between participants' expectations that the candidate would consider their proposals and the risk of flooding him with too many. The two quorums were initially set at 15%, then lowered to 10%. The longest deliberation path for a proposal was set at 15 days. The minimum number of positive votes an initiative needed for approval was set at two.



**Table 1. Policies: timings and quorums**

POLICIES	ProposteAmbrosoli	TuParlamento	
	all units	"Parliament" unit	"Civic" units
<b>TIMING PARAMETERS</b>			
Maximum duration in the ADMISSION phase	3 days	1 month	3 months
Set duration of the DISCUSSION phase	7 days	3 weeks	3 weeks
Set duration of the VERIFICATION phase	1 day	1 week	1 week
Set duration of the VOTING phase	4 days	1 week	1 week
<b>Total duration</b>	<b>15 days</b>	<b>2 months</b>	<b>4 months</b>
<b>ACCEPTANCE PARAMETERS</b>			
First quorum for ADMISSION	15% → 10%	30% → 20%	30% → 20%
Second quorum for VERIFICATION	15% → 10%	30%	20%
Minimum votes to be APPROVED	> 2	> 40	> 100

After receiving the step-2 email for initial authentication, users had to go through standard LQFB procedure, filling out a second series of forms for login name, password, and screen name. Only then was the login page displayed. Lack of time made it impossible to avoid having forms filed twice.

After intense design work, roughly estimable at not less than two full-time people for 15 days, ProposteAmbrosoli went live on January 1. It continued collecting citizens' proposals for 53 days until the campaign ended on February 22 (which was extended briefly during April 2013 elections for president of the Italian Republic, when Umberto Ambrosoli served as one of three representatives from the Lombardy regional council, as discussed below). For those 7½ weeks, RCM Foundation constantly monitored online activity, helping people use LQFB through intense community management (at least one person, full time, throughout). The candidate publicized the project at the campaign-launch event and in a couple physical meetings. From time to time, his staff shared news or proposals from ProposteAmbrosoli on the candidate's social media channels. In Region of Lombardy elections held on February 23 and 24, Ambrosoli ran well, with 2,194,169 votes, 38% of the total. This was a significantly better showing than the 33% won by the previous left-coalition candidate in the 2010 elections. But it was not enough. Maroni got 2,456,921 votes to win with 42%.

### The TuParlamento case

TuParlamento opened a few months after ProposteAmbrosoli in a critical political scenario following the national elections held at the same time as the Lombardy polling. The financial crisis, coupled with unpopular, draconian policy measures taken by Mario Monti's emergency cabinet, supported by a broad, cross-party coalition, thrust the emerging M5S toward 25% of the vote. Overnight, M5S became the second-largest group in parliament and held the balance of power. It brought in 162 ordinary citizens, most of them young activists. This led to institutional deadlock, as they declared themselves unwilling to negotiate for the new cabinet, and paved the way to another cross-party coalition between the left wing and the right wing.

Amid this crisis, the Democratic Party's newly elected Senator Laura Puppato, the only woman who had run in the fall 2012 primary, offered herself as a "bridge" to the still isolated M5S. To set up a space for public dialogue between the Democratic Party (PD) and the M5S, Puppato proposed "opening a blog, building a virtual platform where PD and M5S can debate to share experiences and expertise."<sup>3</sup> She unveiled the TuParlamento logo in a March 18 interview, in which she also mentioned a "liquid online platform," despite the fact that contact between Puppato and RCM Foundation was still at a very early stage. Because exchange between M5S and PD never actually materialized, the idea was soon outdated. Puppato redid the project and launched a LQFB-based platform, inspired by the one for the Ambrosoli campaign, to "open up parliament," i.e., to gather and select citizens' ideas.

<sup>3</sup> [http://www.repubblica.it/politica/2013/03/10/news/contatto\\_pd\\_m5s\\_presidenze-54244556/](http://www.repubblica.it/politica/2013/03/10/news/contatto_pd_m5s_presidenze-54244556/)  
<http://www.publicpolicy.it/partiti-puppato-continuo-cammino-piattaforma-liquida-con-m5s-intervista-8443.html>  
<http://www.ilfattoquotidiano.it/2013/03/18/tuparlamento-pd-e-m5s-confrontiamoci-on-line-con-i-cittadini/533725/>

TuParlamento was designed in spring 2013. Drawing up the participation contract and designing the LQFB units and areas it mandated was much harder than for ProposteAmbrosoli, due to several factors:

- The political context was in flux. Interaction with the site's owners was hindered by the fact that Senator Puppato and the other MPs she wanted to involve were constantly overwhelmed by their duties as MPs.
- The senator's staff was scattered between Rome, where Puppato works in the senate, Veneto, where she returns on weekends, and Milan, where volunteers help with her web efforts. This made communicating and collaborating difficult, preventing effective teamwork between RCM staff and Puppato's staff.

Through TuParlamento, MPs were opening the doors of parliament to citizens, as it were, inviting them to contribute to policy making. The risk of receiving too many proposals on a wide variety of issues, most of them far from parliament's current business, had to be avoided. Therefore, one LQFB unit called "Inside Parliament" was divided into areas that corresponded to the parliamentary committees on which the MPs involved sat, thus upping the odds that citizens' winning proposals might actually be taken up during parliamentary business. So, five areas were opened by five MPs, related to their parliamentary committee (e.g., Senate Finance and Treasury Committee) and to their topics of interest (e.g., tax evasion). Each area's description explicitly mentioned the MPs on the committee. Following intense debate, technical staff and political staff agreed that such online space was too limited to meet citizens' expectations of open dialogue with their representatives. They therefore opted to add two "civic" units to collect citizens' proposals on "the economy, labor, development and sustainability, and welfare," and on "reforming government, and justice and rights." The resulting participation contract was inspired by the ProposteAmbrosoli contract, but the MPs' commitment was more vague: "By signing, MPs who register on the platform commit themselves to considering [winning proposals] in their parliamentary and legislative business [...], to informing people, on the Participation Log, of how they will do it, and to providing reasons for all proposals that are not accepted."

LQFB policies in the parliamentary unit differed from those in the two civic units. Both were stricter than ProposteAmbrosoli policies (cf. third and fourth columns in Table 1). Whereas the campaign site was deemed a tool to increase communication and interaction between citizens and the candidate, TuParlamento was conceived to foster institutional participation. The need for proposals to gain significant legitimacy and expected high citizen-participation rates prompted designers to raise the quorums and, therefore, the time for each phase to reach them. While the parliamentary unit was designed for more purposeful participation, the civic units were a sort of petitioning, with citizens asked to collect numerous (more than 100) supporters to advance their proposals.

TuParlamento had two more sections than ProposteAmbrosoli. Experience led designers to give each proponent a "Laboratory," i.e., free discussion space, which LQFB lacks, to gather documents and aid deliberation. Puppato's staff insisted on "MPs' Diary" for office holders to report activity, predictably unused since MPs already own blogs.

Three technical improvements were implemented to overcome difficulties that emerged while managing ProposteAmbrosoli.

- The three-step enrollment procedure was improved. All the required information was requested in step 1 and automatically filled in on the account. The email just contained a confirmation link. Unfortunately, after clicking on the confirmation link, participants saw the same LQFB home page that unregistered users access, rather than the login page. Therefore, signs of the new possibilities open to registered users were missed. This drawback was discovered and rectified in late September 2013, when TuParlamento's fate was already sealed.
- Single sign-on authentication between LQFB and openDCN was implemented. This allowed proponents of winning initiatives to publish them in the Participation Log without needing further registration.
- A third enhancement was giving the whole picture of ongoing LQFB activities in the Participation Log by listing open issues, their initiatives, their current state, and their date to move to the next state. All these items were links to the corresponding entities in LQFB.

Fully three months elapsed before TuParlamento went online June 19, summer vacation upon us, because Puppato had had trouble recruiting other MPs to join the project. Launched at a senate press conference, its 14 participating MPs included 11 from PD and three from the left coalition but not a single one from the opposition (see <https://tuparlamento.it/elections/people/1/2>). Only four of the 11 MPs had uploaded their profiles, a prerequisite for

participating. TuParlamento stayed open for about a year. For the purpose of this paper, we consider activity until October 22, 2013, when RCM Foundation realized activity had ceased. RCM Foundation staff repeatedly asked Senator Puppato to post a statement that the project was closed, but she never did. In May 2014, RCM Foundation published results of the questionnaire discussed below and declared the activity closed.

## **CROSS-CASE FINDINGS**

A key objective of this paper is to analyze how LQFB has been used in civic contexts, which differ significantly from organized parties like the Pirates or structured political movements like M5S. This section first investigates the distinctive socio-cultural traits of the communities that settled on the LQFB platform. We then discuss outcome both of participation and of deliberation, i.e., proposals and proponents, votes and voters, etc. In conclusion, we address how politicians' commitment materialized (as feedback given citizens) and participants' assessment of the two participation projects. Analysis is based on the enrollment database, on the LQFB database, which was queried to extract relevant information on the deliberation process and participants' activity, on answers to a questionnaire RCM Foundation administered online as the projects wound down, and on direct access to postings on the container website in the "Participation Log" section.

Queries of the LQFB database were conducted on February 22 and on October 22, 2013, respectively. Therefore, the ProposteAmbrosoli LQFB dataset covers its whole duration, from January 1 to February 22, 2013 (53 days), while the TuParlamento dataset – as explained above – covers its first four months (from June 19 to October 22, 2013). We made minor adjustments to the database. The only data excluded from analysis came from the sandbox. We deliberately decided to keep duplicate initiatives (due to people's mistakes or intentional choice, for example canceled initiatives that were resubmitted), since deleting an object would have introduced inconsistencies into the data and been highly discretionary. The adjustments do not affect analysis, in any case (with four co-authors in ProposteAmbrosoli and one in TuParlamento in the LQFB databases as if they had authored further initiatives and with six and nine identical initiatives, created by the same author, either in different areas or the same one).

Questionnaires gave us not only participants' impressions but also a demographic and cultural profile. This affords some analysis, despite limits of the response data, due to the questionnaires' original design not for research but as a Google Form poll RCM ran off (data at <http://tinyurl.com/ot8y8bl> for ProposteAmbrosoli and <http://tinyurl.com/own37rz> for TuParlamento). The shorter ProposteAmbrosoli questionnaire inspired the one on TuParlamento. Some differences stem from the two sites' distinct aims and contexts. Unfortunately, this makes comparing the answers less straightforward than might be wished. In both cases, email invitations went to everyone who had registered in step 1 of the enrollment procedure. The ProposteAmbrosoli questionnaire was administered right after the project's scheduled close at the end of the election campaign. In nine days (February 23 to March 3) it got 158 answers from 961 emails sent out (RCM sent a separate questionnaire to 154 people who registered in mid-February to support a single initiative, as seen in Figure 5, garnering 15 replies not considered here). The TuParlamento questionnaire, however, was run in May 2014, some ten months after launch. This allowed RCM Foundation the chance to declare the effort officially closed by at least giving citizens back their own evaluation of the experience. A still unexplained LQFB server malfunction led the invite to go out to only 2,869 of the 3,331 enrollees. The survey ran 18 days till May 30, getting 254 responses. The two response rates differ significantly, 16.4% (in half the time) versus 8.8%.

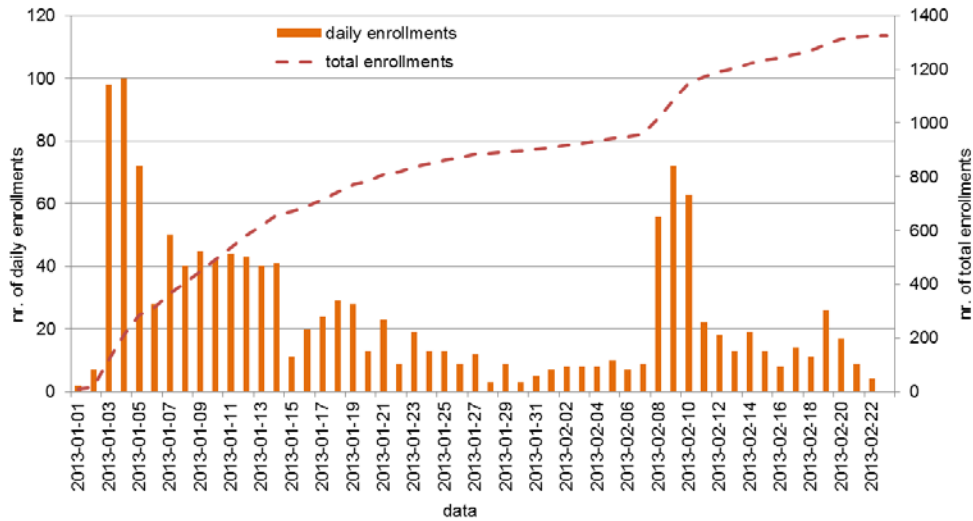
### **Enrollment and user characteristics**

Table 2 compares ProposteAmbrosoli and TuParlamento enrollments based on the three-step procedure described above to deal with LQFB authentication. Data shows the three steps inevitably led to lost users in both cases. Simplifying registration for TuParlamento succeeded in slashing losses during activation from 15.1% on ProposteAmbrosoli to 8.5% on TuParlamento, only to then fail over the confirmation-link glitch noted above (with activated users initially sent to the LQFB homepage instead of the login page, boosting login rate to 71.6% – after this was rectified – against 60.8% overall, so in 44.4% of losses the bad link factored). Finally, 80.6% of ProposteAmbrosoli registrants logged in at least once but on TuParlamento 44.4% never did.

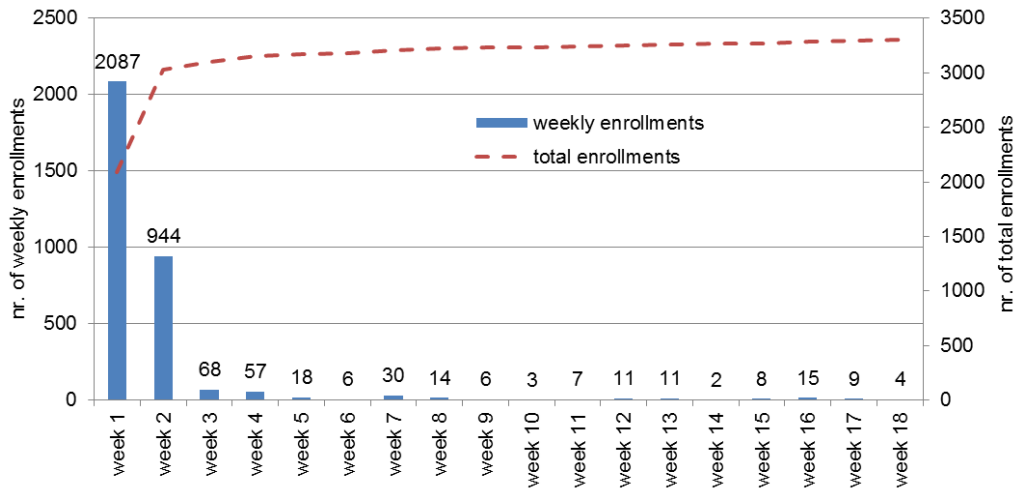
Besides raw values, enrollment trends also merit attention. Figure 5 has daily intervals; Figure 6, weekly. Both plots have a dotted line (whose scale is on the right) showing total enrollees at date.

**Table 2. Enrollment data**

ACTIONS	ProposteAmbrosoli		TuParlamento	
	Numbers	% (of subscribers)	Numbers	% (of subscribers)
subscribe	1320		3331	
activate	1120	84.85%	3048	91.50%
login	1065	80.68%	1852	55.60%



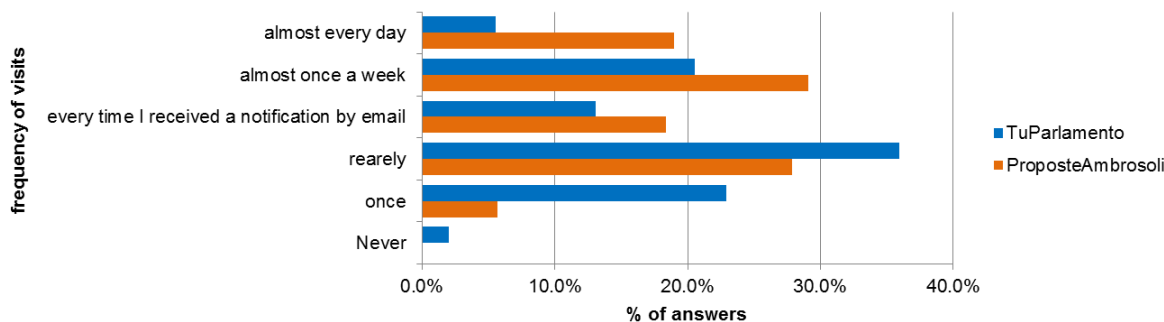
**Figure 5. Enrollment trends in ProposteAmbrosoli**



**Figure 6. Enrollment trends in TuParlamento**

Two thirds of the ProposteAmbrosoli community was settled in 39 days, whereas TuParlamento took only nine days to achieve this settlement rate. A few considerations about the above data and trends are called for. Favorable press coverage of TuParlamento’s launch, combined with Senator Puppato’s reputation, led many to enroll immediately (77% of responses tick one of these reasons for registering). However, the lack of further announcements and the nearing summer hiatus soon led to an inevitable drop in interest among the least motivated, who abandoned the platform (many logging in just once) but were not replaced by new enrollees. ProposteAmbrosoli, on the other hand, shows slower but more constant enrollment, with some peaks even well after the kick-off, the highest around mid-February, due to massive enrollment from a group promoting a single initiative in the healthcare system (to include anthroposophic medicine, <http://lf.proposte.ambrosolilombardia2013.it/lf/initiative/show/232.html>). This reflects effective integration of the participation website into the overall campaign. Ambrosoli’s staff periodically shared news from ProposteAmbrosoli on social channels (usually his Facebook page), harnessing cross-media communication. This facilitated contact with a core of engaged, concerned citizens, already regulars – i.e., with some traits of a community – who deemed the platform significant not only at launch but also in following weeks.

Survey data confirms this picture. Figure 7 shows replies to the single-choice, survey question: “How many times did you visit the website.” Some 66% of ProposteAmbrosoli respondents say they visited regularly, at least once a week or when notified in email. On TuParlamento, on the other hand, only 39% or so of users reported such rates. Similarly, about 6% said they never visited or did so only once, compared to 25% on TuParlamento. Interpretation of this data must take into account that both surveys refer to a self-selected sample that likely overrepresents those most highly motivated and engaged.



**Figure 7. Frequency of visits to ProposteAmbrosoli and TuParlamento (questionnaire data)**

***Lead users for online, civic participation***

Enrollment data gives us an accurate picture of subscribers’ socio-demographics. Both cases saw a prevalence of middle-aged men, whereas youth between 18 and 24 and women were underrepresented. On ProposteAmbrosoli, women made up 40% of enrollees, in line with other regional, online, civic projects, such as the case discussed in Bertone, De Cindio, and Krz̄at̄ala-Jaworska (2014). Fewer women participated in TuParlamento, only 21% of enrollees and only 16% of those who logged in at least once. People under 36 represented 25% of those involved in TuParlamento, against 18% in ProposteAmbrosoli. Nearly half of ProposteAmbrosoli enrollees, 47%, were from the City of Milan, whereas TuParlamento registrants were mostly from Lazio and Lombardy (the regions with Italy’s two largest Italian cities, Rome and Milan) and Veneto (the region Puppato is from). These three regions account for 44% of total enrollees.

The surveys help grasp additional sociocultural traits of those involved. Specifically, the platforms attracted homogeneous communities of the highly educated (in both cases, more than 90% of respondents are at least high school graduates and over half have bachelor’s degrees). Participants tend to be intensive internet users. For TuParlamento, 63% said they use the internet for more than four hours a day and 24% are always-on, constantly connected through mobile devices. For ProposteAmbrosoli, 61% of respondents claimed to use digital social environments other than Facebook or Google+. Internet is these users’ dominant medium, with 98% of TuParlamento respondents “often” or “very often” getting information on the internet, along with newspapers and magazines (64%) and television (62%).

They are also quite familiar with online civic participation. Nearly a third of TuParlamento respondents had taken part in other online, participatory projects. A clear majority, 70%, used platforms for online petitions (like Avaaz or Change.org) at least occasionally and 10% already knew of LQFB, whereas in ProposteAmbrosoli 17% of respondents had already used other software for online participation (LQFB, partecipaMi or IdealScale).

Educated, informed, and IT-skilled, these citizens follow politics. All TuParlamento respondents discuss politics with acquaintances, 88% often or very often. Engaged in civic initiatives, both groups count more than 70% who at least occasionally participate in events and who have signed petitions. Nearly 70% of the TuParlamento sample claims to “work with others to solve neighborhood or city problems.” Despite being very interested and engaged and sharing similar (left-oriented) political views, these people are not, for the most part, members of political parties or movements. Only 20% of ProposteAmbrosoli respondents belong to a party or movement, though the rate rises to 40% for TuParlamento. The difference might find an explanation in ProposteAmbrosoli’ owner coming from civil society, whereas TuParlamento owners were MPs who belong to national political parties.

All these elements hint that these people are lead users in civic participation. As von Hippel (1986) points out, lead users express “needs for innovation earlier than ordinary people.” Following studies that analyze community networks as incubators for breeding lead users in a public context (De Cindio, Ripamonti, & Peraboni, 2007), we believe these citizens are a sampling of the pioneers who are now calling for new, more inclusive government practice. As noted technological innovation in Italian politics has come about mainly with M5S and its early activists. Research carried out by Biorcio and Natale (2013) describes them as young, educated, and technologically skilled. Our study thus identifies an emerging group of lead users in civic participation, spurred somehow by M5S but more mature, still relatively confident in traditional politics and civic activism (in TuParlamento 39% still trust political parties).

Finally, the survey hints at a sense of community in ProposteAmbrosoli not found in TuParlamento. While 20% of the former respondents were informed by friends, this held true for only 5% of the latter respondents. Furthermore, in ProposteAmbrosoli, some 42% of respondents knew at least three other participants (and 18% knew at least 10), with about 35% from the already settled “partecipaMi” community (see above). Hereinafter, “participants” refers to users who completed enrollment procedure and logged in at least once.

### **Participation styles**

Table 3 gives an overview of the two cases studied, in terms of actions performed and the participants responsible. The upper two shaded lines in Table 3 show the number of initiatives voted on and the number that win. The lower shaded line breaks down votes into positive, neutral, and negative.

Data in the first three lines clearly shows how the main difference between the two cases lies in final deliberation outcome. Only 2.7% of TuParlamento initiatives (11/406) came to a vote, against 47.3% for ProposteAmbrosoli (113/239), where 45.6% of initiatives submitted were winners (109/239), compared to none on TuParlamento. Understanding this data, which bares huge differences between the two cases, requires investigating which practices the use of LQFB enabled. We analyze, in the two different contexts, how its functionalities were understood, actually used, and appropriated by citizens. Our research approach is framed on the large body of work that investigates the social shaping of technology, starting with MacKenzie and Wajcman (1985).

Actions possible on LQFB vary greatly in complexity and amount of commitment required. Creating proposals, commenting on them, supporting those made by others, and voting entail different degrees of involvement. Several studies break participation down into different engagement styles that differ both quantitatively – how much people participate in terms of time and frequency – and qualitatively – what kind of activity people commit time to. For example, analyzing communities of practice, Wenger, McDermott and Snyder (2002, p. 56) identify three different groups: i) a core that leads the activities, “people who actively participate in discussion, even debates, in the public forums,” ii) a smaller group of active participants who “attend meetings regularly and participate occasionally in the community forums, without the regularity or intensity of the core group,” and iii) peripheral people, who “rarely participate,” but “keep to the sidelines watching the interaction of the core and active members.” Similarly, Nielsen (2006) refers to heavy contributors, intermittent contributors, and lurkers, while Edwards (2006) distinguishes “strong” from “weak participation.”

**Table 3. Participatory actions in ProposteAmbrosoli and TuParlamento**

ACTION	ProposteAmbrosoli			TuParlamento		
	NUMBERS	PARTICIPANTS (out of population 1065)		NUMBERS	PARTICIPANTS (out of population 1852)	
propose	239	134	(12.6%)	406	219	(11.8%)
voted	113			11		
winner	109			0		
suggest	225	87	(8.2%)	625	213	(11.5%)
support	1099	517	(48.5%)	4029	767	(41.4%)
vote	1002	298	(27.0%)	314	87	(4.7%)
positive	876			263		
neutral	104			25		
negative	22			26		
delegate	4	3	3	26	10	
no action		455	(42.7%)		1078	(58.2%)

In their “Reader to Leader Framework,” Preece and Shneiderman (2009) offer a detailed analysis of different levels of technology-mediated social participation. They distinguish four types of users by increasing engagement. Initially, people are “readers,” only consuming content posted by others. Then, some become “contributors,” posting basic content, making minor edits or performing one-click actions like rating or voting. Later, some become “collaborators,” regular contributors who debate, cooperate, and regularly work with other members in community fashion. Only a few eventually become “leaders,” the most active and passionate members who make the most comments, set goals, and lead the community towards them, often summarizing what is happening for outsiders. Preece and Shneiderman identify several factors tied to environment usability and sociability that influence each stage of participation and users’ likelihood of moving from readers to leaders.

Since people generally have limited resources (Bruns, 2008), participation cannot be assumed to be a continuum (De Cindio, Di Loreto, & Peraboni, 2009). An effective, sustainable, democratic, online deliberation platform needs to foster different levels of engagement, giving not only its most active members (leaders and heavy contributors) but also those with less time or grasp of complexity the chance to take part and influence the process.

LQFB enables actions of varying complexity that people can perform on basic objects (cf. Table 3):

- *Proposing* new initiatives, a demanding activity, was characteristic of a small core group, about 13% of participants (134/1065 and 219/1852, respectively), who created and shared proposals.
- *Prompting* by making suggestions about other people’s initiatives, is a less demanding activity characteristic of between about 8% and 11.5% of participants (87/1065 and 213/1852, respectively), who used LQFB’s collaborative potential, as embedded in the “suggest” action, with its variety of qualifiers.
- *Supporting* and voting on proposals are simple one-click actions that allow participants to directly express agreement on initiatives. They enable forms of ‘weak’ and ‘peripheral’ engagement that are nevertheless essential for initiatives’ progress within the deliberative process. One-click actions were performed by 52.8% in ProposteAmbrosoli (562/1065) and 38.5% in TuParlamento (713/1852).

Analysis follows of how activities that bespeak different participation styles have found room in both cases studied.



### ***Proponents as leaders***

We call participants who created at least one initiative “proponents.” They fall into Wenger’s core group of the most active who “identify topics for the community to address” and “move the community along its agenda.” Preece and Shneiderman (2009) call them “leaders,” ones who promote participation and set and uphold the online community’s policies: “online leaders contribute the largest number of comments and are the most active” (p. 23).

Unlike these authors and others (Holtzblatt, Drury, Weiss, Damianos, & Cuomo, 2013), we did not take quantitative criteria (such as number of postings) into account in terming these members “leaders.” Although someone may have contributed only a single initiative, we deem her a “leader,” since proposing initiatives is LQFB’s most significant, demanding activity, one that heavily influences the whole participatory process. Proponents are thus leaders not because they contribute most often but because they create the proposals others members later debate and ultimately vote on. That is, they “identify topics for the community to address.”

In both field cases, those who created proposals were some 12%, roughly in line with the Wenger et al. estimate (10% to 15%). We note the two groups undertook similar creative strategies – we might call ‘distributed’ – with many proponents, each submitting few proposals. Average proposals per proponent numbered 1.8 in ProposteAmbrosoli (239/134) and 1.9 in TuParlamento (406/219). Nearly 67% of proponents submitted just one proposal in both cases, with some 90% of proponents making no more than three proposals that accounted for 69% and 66% of overall proposals in ProposteAmbrosoli and TuParlamento, respectively.

We recorded a minority of “frequent posters,” but their activity did not affect the overall climate of non-domination (Coleman & Blumler, 2009). Those with more than three proposals numbered 13 in ProposteAmbrosoli and 19 in TuParlamento, about 30% of proposals submitted in both cases. Non-domination is confirmed by initiatives voted on, mostly penned by submitters of up-to-three proposals: 70% in ProposteAmbrosoli, 90% in TuParlamento.

Proponents were not self-referential, focusing only on their own initiatives. Many also interacted by making suggestions for others’ proposals through suggestions (32% of ProposteAmbrosoli proponents made suggestions, as did 39% in TuParlamento), by expressing support, and by voting (55% and 72%, respectively), thus contributing to the collective drafting of proposals.

### ***Prompters as collaborators***

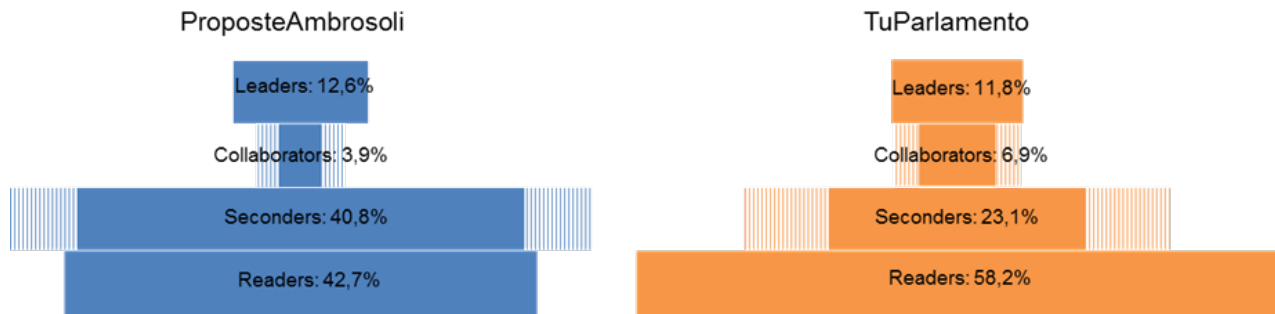
Aside from proponents, another small group of participants emerged who performed the “suggest” action at least once, without submitting new initiatives. We can consider these people “collaborators,” since they used LQFB’s functionalities collaboratively by making suggestions for others’ proposals and, usually, by supporting and voting for them. Preece and Shneiderman (2009) describe collaborators as committed, regular contributors “discussing, cooperating and working together to create something or share information.” Again, we have not counted their posting frequency or number of suggestions. Rather, we have deemed a “collaborator” anyone who made at least one suggestion but did not create an initiative. Collaborators are participants who only made suggestions and, at most, voted for or supported other’s initiatives. Neither able nor motivated to make their own proposals, in LQFB, these citizens found a chance to contribute their own content to the deliberation process.

As solid portions of Figure 8 show, collaborators represented 3.9% of ProposteAmbrosoli (42) and 6.95% of TuParlamento (127). That few joined just to collaborate might support analyses like Bosio’s et al. (2014), in which such online deliberation environments are viewed as mainly characterized by users’ individualistic practice, typical of a liberal consumer model (Dahlberg, 2011), a poor fit for the designers’ pure deliberative model. According to this analysis, “purely deliberative dynamics were not taking place” in ProposteAmbrosoli, since fragmented, individualized actions (like “propose” and “vote” or “support” actions) prevailed over community-oriented, collective, cooperative practice, which ought to be at the core of the deliberative process. Other LQFB features, such as co-authoring, that might have fostered collaboration saw only marginal use (three times in ProposteAmbrosoli and once in TuParlamento), which might also support such interpretation.

Other data and factors must be taken in account, however, to understand whether these experiments show an absence of collective dynamics. They yield a more complex picture of participants’ activities on the platform.

First, as noted, proponents’ attitude does not seem isolated or individualist. They helped a climate of collaboration

emerge, improving, as it were, others' initiatives with their own suggestions. Adding in leaders who also made suggestions (dashed portions of Figure 8) brings total collaborators to 8.2% in ProposteAmbrosoli (87) and to 11.5% in TuParlamento (213), where collaboration rate now ties the portion of proponents.



**Figure 8. Distribution of four participation styles**

Second, the number of suggestions equals (225 vs 239 in ProposteAmbrosoli) or exceeds (625 vs 406 in TuParlamento) the number of proposals. Consider, too, that 47% of ProposteAmbrosoli and 55% of TuParlamento proposals garnered at least one comment, averaging 0.94 and 1.54 suggestions per initiative, respectively. Proposals with more than three suggestions represented 4.4% in ProposteAmbrosoli and almost twice that, 8.5%, in TuParlamento. Sani's (2014) preliminary content analysis of ProposteAmbrosoli finds a relation between proposal quality (clarity, argumentation, documentation and support, and length) and number of comments. It shows that all 23 proposals with three or more comments can be also deemed "good proposals," averaging higher quality than the rest. Specifically, on a scale of one to 15, average quality index for "commented" proposals is 7.2, against 6.0, overall. And, of the 23 proposals, the "very good proposal" (quality index  $\geq 10$ ) rate is double the overall rate, 34.8% against 17.3%.

Let us also bear in mind that collaborative behavior, such as joint editing, requires a few key factors to emerge: time, first of all (definitely in short supply for ProposteAmbrosoli), the mutual trust relationships that make participants a community (Rheingold, 1993), and "development of common ground, that is mutual understanding, shared beliefs and assumptions (Convertino et al., 2008)" (Preece & Shneiderman, 2009). Time constraints are certainly to be considered when looking at collaborative dynamics. In TuParlamento, where participants had more time to collaborate than in ProposteAmbrosoli, the number of collaborators equals the number of proponents.

Finally, the data can be assessed by recalling that making LQFB suggestions and comments is still quite demanding. It requires time, attention, and high commitment. Engaging someone else's proposal, thinking how it might be improved, thus proves to be as demanding as submitting a new one.

### ***(One-)clickers as seconders***

Participants who volunteered agreement, supporting an initiative or voting, make up 52.8% of ProposteAmbrosoli (562) and 38.5% of TuParlamento (713). They are the "seconders", dashed portion of Figure 8 (LQFB assigns proponents "supporter" status by default, but in our analysis we include only volunteer supporters, not supporters of their own initiatives). Most seconders (77% and 60% respectively) made no proposals or suggestions but simply supported or voted for others' initiatives, using the two features that require just one click of the mouse. These (one-)clickers represent a significant share of total participants, the 40.8% for ProposteAmbrosoli (434) and 23.1% for TuParlamento (428) shown in the solid portions of Figure 8 (with fewer initiatives coming to a vote in TuParlamento). Citizens who took part just to support or to vote are largely those Wenger et al. (2002) identify as "peripheral participants," whom it is crucial to involve for as inclusive a public sphere as possible.

Preece and Shneiderman (2009, p. 19) state that actions like rating and voting are the first to be performed by new users or by participants at the start of their engagement process. These light contributors approach the community with “modest first steps” and “start by making a correction on a wiki, tagging a photograph, or rating a film,” helping them move slightly from much more peripheral lurking toward deeper engagement. Involving such participants is therefore all the more important considering they may increasingly engage as time goes by, developing collaborative behavior or starting to contribute their own content or proposals.

Results show LQFB enables more than the intense participation typical of proponents or collaborators. However, ‘clicking’ in LQFB is not ‘liking’ on Facebook or other social media. It implies much stronger commitment. Supports and votes are public to all participants, link to personal profiles, and attest to one’s political position.

These clickers, or seconders, are people who often support without voting. Of those who supported at least one proposal (344 in ProposteAmbrosoli and 423 in TuParlamento), 62.5% in ProposteAmbrosoli (215/344) and fully 94.1% in TuParlamento (398/423) did not ultimately vote. This defection of supporters is also seen among participants generally. Including proponents and prompters, supporters who did not vote totaled 48.3% of ProposteAmbrosoli (185/383) and 87.3% of TuParlamento (510/584).

Emerging disengagement among supporters can be understood in light of three factors. First, those who supported proposals not voted on may have abandoned the process. This is more prevalent in TuParlamento, where few proposals came to a vote. Second, the difference between the actions of supporting and voting may have not been fully understood.

About 60% of supporters on ProposteAmbrosoli did not vote. And a third of proponents did not even vote for their own initiatives. Third, we suppose the ‘challenge’ outlined in the two participatory contracts was not rewarding enough to motivate supporters to follow the deliberative path till the end. This also lends significance to the low number who voted without taking part in earlier stages of the process. Those who merely voted (performing no other action) represented only 8.5% of the population in ProposteAmbrosoli (90) and 0.5% in TuParlamento (five). Finally, in TuParlamento, proposals came to a vote in the summer. Due to combined factors, 89% of TuParlamento’s supporters failed to vote, with fully half of proponents not voting on their own initiatives.

### ***Lurkers as active readers***

On both sites, about half the participants who logged in did not carry out any action (455/1065 in ProposteAmbrosoli and 1078/1852 in TuParlamento). Such lurkers’ behavior is, by its very nature, hard to track, but studies emphasize the active role they play. Wenger et al. (2002) observe that “the people on the sidelines often are not as passive as they seem.” Antin and Cheshire (2010) use the notion of legitimate peripheral participation (Lave & Wenger 1991) to argue that reading is a gateway activity to Wikipedia.

Survey data gives us an idea of their actions, indicating that more than half of TuParlamento respondents (56.7%) read content posted by others without doing any other actions. Wenger et al. (2002, p. 56) describe the essential role these peripheral participants play in communities of practice: “Like people sitting at a café watching the activity on the street, they gain their own insights from the discussion and put them to good use. They may have private conversations about the issues being discussed in the public forum. In their own way, they are learning a lot.” In civic contexts, these active readers who “learn a lot” can be considered the informed citizens Coleman and Blumler (2009) refer to as the basis of democratic citizenship.

Our number of lurkers was lower than in other studies of online communities. While Wenger et al. (2002) estimate lurkers at 65% to 70% and Nielsen (2006) at 90%, in the two cases analyzed here they amounted only to 42.7% (in ProposteAmbrosoli) and 58.2% (in TuParlamento). This confirms the two groups were more active and engaged than other communities. But we also reckon that, just as Nielsen suggests, LQFB’s one-click actions – continuing, as it were, chances given on social media, now familiar to many – help reduce participation disparity and draw people who otherwise would have remained passive into the deliberation process.

## The deliberation process

The interplay between design choices (about how to structure the deliberative space and establish corresponding policies) and people's actual behavior in the deliberation process (as described above) yielded different outcomes in the two cases studied (cf. the first three lines in Table 2).

In the ProposteAmbrosoli deliberation process, 109 initiatives proved to be winners out of 239 submitted. Roughly half of the proposals were filtered out through the two quorums. Voting did not lead to any significant selection because of the very low number (> 2) of votes needed to win (cf. Table 1). However four of the 113 "finalist" initiatives failed to garner the votes needed to win. Votes per proposal averaged 8.09, not counting the 113 votes collected by the group interested in anthroposophic medicine (see above).

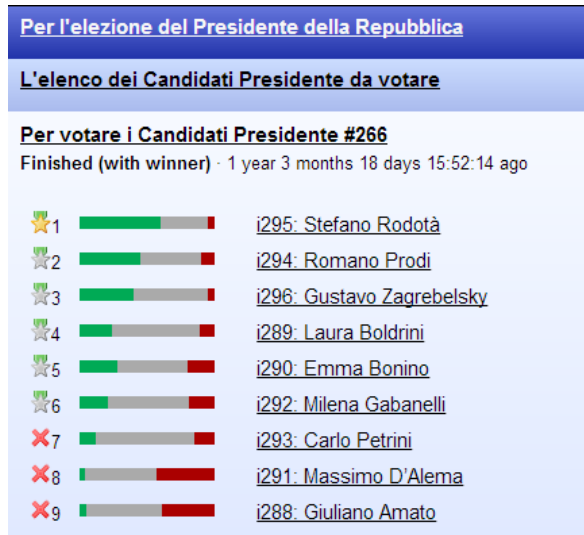
In TuParlamento, none of the 406 initiatives submitted was successful. Again, the two quorums did most of the filtering, much more thoroughly since only 11 of 406 proposals submitted (2.7%) came to a vote. However, in this case, voting did introduce further, fatal selection, due to higher barriers. In the "Inside the Parliament" unit, 40 votes were needed to win. The two civic units required 100. The closest initiative to the threshold was in the "Inside the Parliament" unit and obtained 34 votes. The most popular initiative was in one of the civic units and got 56 votes, a little more than half of what was needed to win. The smaller number of initiatives, along with the longer voting, raised average votes per initiative to 28.5.

It is slightly surprising that, despite all these differences, voters in both cases (298 in ProposteAmbrosoli, 87 in TuParlamento) cast about 3.5 votes on average. This is probably coincidence, but might nevertheless point to a possible follow-up on Bruns' already mentioned warning about people's limited resources. In ProposteAmbrosoli, the large number of finalist proposals, lumped together in a short voting phase, fragmented the vote, but the very low threshold was nevertheless suited to the purpose and the design context, leading half of the proposals to win. In TuParlamento, many fewer proposals came to a vote in a longer window, yielding significantly more votes per initiative on average. However, the more demanding barrier prevented any proposal from winning.

This concretely shows the critical interplay between design choices and people's behavior. LQFB administrators can only use policies to limit the number of initiatives for concurrent voting. One of LQFB's forks, Parlamento Elettronico (parelon.com), tackles this problem by placing further constraints on the deliberation process (a daily ceiling on initiative submission). Developed by activists in M5S Lazio and now being beta-tested as a tool for M5S representatives elected to regional councils, its sustainability and effectiveness have yet to be vetted in real life.

Similar interplay, this time between software and people's behavior, also affected voting itself. There was less voting than one might expect and negative voting went almost unused. There were 2.2.% negative (unfavorable) votes in ProposteAmbrosoli (22/1002) and 8.3% in TuParlamento (26/314). These low rates can be reasonably ascribed to the dearth of alternative initiatives competing within the issues (two in ProposteAmbrosoli and none in TuParlamento). Nevertheless, a slight difference between the two cases is perceptible, since the negative vote was used even less in the former case than in the latter. On the one hand, the context of ProposteAmbrosoli naturally discouraged its use. During a campaign, participants are willing to submit ideas and work out differences rather than opposing those of others. On the other hand, we believe the different nature of the two groups played a role. As noted, ProposteAmbrosoli participants can be considered a more homogeneous group, with greater sense of community around the issues addressed, and evidently felt little need to express dissenting opinions.

A context with greater competition was needed to test the use of negative votes. The occasion presented itself in April 2013, when Ambrosoli was one of three representatives from the Lombardy Regional Council to the electoral college for president of the Republic of Italy. He reused the platform to ask supporters whom they wanted him to vote for president, opening a new unit "Electing the President of the Republic," of just one area where enrolled users, invited by email, could propose their own candidates as new "issues" and gather support for the names. The names that garnered greatest support in two days (April 13 to 15) became competing initiatives in a new "List of Candidates to Vote for" issue, under a policy that skips preparatory phases to put initiatives to an immediate vote. Consultation lasted just one day, involving 236 voters. Results are shown in Figure 9. Participants expressed 385 negative votes, 18% of the 2124 cast, with each voter ranking nine alternatives. Three of the nine names were thus rejected. The two most disapproved of names clearly did not suit Ambrosoli's constituency and got most negative votes. We believe this shows that, in the right context,



people can easily use LQFB’s single-winner preferential voting to express either agreement or disagreement on competing alternatives.

**Figure 9. Screenshot of “Electing the President of the Republic” consultation results**

Finally, another noteworthy, key LQFB action manages deliberation complexity: *delegation*. Again, this was basically never used (see Table 3). The ProposteAmbrosoli survey investigated the reasons for such behavior, with the following results: 25% of respondents simply did not know of this action; 20% did not know what it meant, 13% found it useful but did not know to whom to delegate, 26% simply preferred to vote personally, and 14% did not answer. Only three respondents (2%) used the delegation action. For TuParlamento, 102 of 254 respondents, 40%, did not answer the question on delegation. The 60% who answered confirmed the feature was unclear. Delegation proves to be the least understood feature of all those examined by the questionnaire. We believe this is due to the fact that delegation is an innovative, unexpected action, unusual in web 2.0 where people are used to voting on everything they ‘like.’ Our early study of ProposteAmbrosoli (De Cindio & Stortone, 2013) surmised that more time and explicit efforts to employ it might have overcome such hindrances to encourage delegation. However, the TuParlamento case shows it is not a question only of time but also takes effort. But we believe mutual acquaintance and trust among participants (as a community) are also needed to make delegation effective.

### Feedback from politicians

The two participatory contracts stated that all winning proposals, i.e. initiatives selected through the deliberative LQFB process, would be published by their proponents in the container website’s “Participation Log” section. The politicians who own the platform had committed to reply to them there. The public nature of tracked actions on the platform factors into politicians’ accountability. Discussion of the extent to which they kept their promise – and of their online presence in general – follows.

Proponents published 92 of 109 winning ProposteAmbrosoli proposals in the “Participation Log”. The lack of a single-sign-on mechanism for the two servers may be a reason behind the loss. Ambrosoli commented on three of them separately and discussed another 22 somewhat related proposals in four postings. Overall, 25 of 92 winners (27%) got feedback from the Ambrosoli account, whose activity tracks<sup>4</sup> 41 posts in 38 threads. We know they were drafted by his staff in collaboration with RCM Foundation. But we also know Ambrosoli checked answers to citizens’ proposals himself. In a few cases, participants further commented on feedback the candidate posted. Sometimes the proponent

<sup>4</sup> Visible to registered users at <http://proposte.ambrosolilombardia2013.it/users/viewprofile/13/feeds>

thanked him for the answer,<sup>5</sup> perhaps with wishes for the upcoming election. In other cases,<sup>6</sup> citizens engaged the topic. One post, published a couple days before elections,<sup>7</sup> confirmed Ambrosoli's commitment to consider all winning proposals upon election. He wrote: "This platform will not be archived on February 25 but will stay active and help establish the plans presented the Regional Council and the government of the Region. After the elections, I intend to meet face-to-face with [...] those who made proposals and suggestions on this platform [...] to build together a participatory government for the Region of Lombardy."

Ambrosoli lost the elections but still carries weight in the regional council as a former candidate for regional president. Some topics from winning proposals have been discussed in the council, for instance "transferring the cancer institute from its current Milan location to new facilities in the City of Sesto San Giovanni."<sup>8</sup> Ambrosoli might have used the proposals as input, as he promised, by meeting the proponent and some supporters, which he did with other citizens concerned with the topic. But he did not.

As discussed (see Table 2), no TuParlamento proposal was a winner. Politicians thus had no 'chance' (or obligation) to give citizens feedback. Nevertheless, after summer 2013, RCM Foundation asked MPs repeatedly to revive the platform.

None did. In the end, MP activity tracks eight posts by 14 MPs, three by promoter Puppato (two on launch day, one a week later) and five by a few others (two by Civati and one each by Gozi, Mineo, and Capua). Nothing was posted by the other nine MPs, including the two who joined Puppato at launch.

### **Citizens' assessment**

Having discussed citizens' participation, the results of the deliberative process, and politicians' accountability, let us now complete the picture by considering people's assessment of the two participation projects.

Both surveys designed and administered by RCM Foundation inquired into participants' feeling about their experience. Because Foundation staff sensed ProposteAmbrosoli participants were satisfied, overall, the inquiry there aimed mainly to explore the reasons behind expected positive impressions. In TuParlamento, however, given the outcome of the process, the staff feared general mistrust and criticism. The inquiry was therefore reversed, looking more into negative than into positive opinions. (ProposteAmbrosoli respondents were given seven sentences to glean their feelings, two negative and five positive, versus 10 sentences in TuParlamento, seven negative and three positive.) Hardly comparable, the two surveys still offer useful insight.

Not many ProposteAmbrosoli answers expressed negative feelings, such as "I found the experience uninteresting," 3%, or "It's just a campaign ad and Ambrosoli will soon forget these proposals," 7%. Positive impressions prevail, both in political terms – 36% checked "It is an important initiative that will lead Ambrosoli to take winning proposals into account," 32% flagged "It led me to fully grasp Ambrosoli's campaign platform" – and in civic terms – 34% ticked "It let me know about interesting proposals," 26% marked "It enabled me to promote an issue I care about."

As expected, in TuParlamento, negative feelings prevailed. Respondents, 28%, would have liked "more interaction with politicians" – which also emerged in interviews by Bosio et al. (2014) about ProposteAmbrosoli – or, 17%, "more active citizen participation" or, 17%, "for the project to have greater effect on national politics." Furthermore, most respondents, 52%, deemed the participatory contract useless, whereas its ProposteAmbrosoli evaluation was far better, 72% finding it useful. Despite such criticism, the overall TuParlamento rating was positive, with 56% of respondents giving it between six and ten on a one-to-ten scale.

The surveys also queried participants' assessment of the software, having them grade each feature's "usefulness" in ProposteAmbrosoli and how "clear" TuParlamento features were (survey items that both had much lower response rates than did other questions). ProposteAmbrosoli respondents deemed "useful" LQFB actions to "create" (81%), "suggest" (82%), "support" (79%), and "vote on" (82%) proposals, averring they could "generate valid, reasonable, shared proposals" (64%). Over half of the TuParlamento respondents gave negative views on whether LQFB features are "clear," especially underused features ("counter-initiative" was judged unclear by 65%, "delegation" by 69%) or those

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<sup>5</sup> See, for example, [http://proposte.ambrosolilombardia2013.it/infodiscs/view/124#body\\_265](http://proposte.ambrosolilombardia2013.it/infodiscs/view/124#body_265)

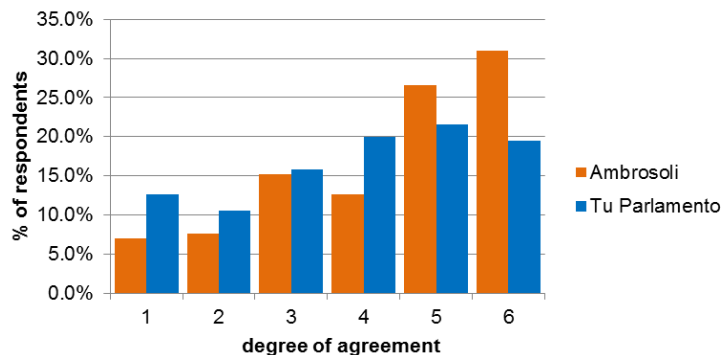
<sup>6</sup> See, for example, <http://proposte.ambrosolilombardia2013.it/infodiscs/view/258>

<sup>7</sup> Visible to registered users at <http://www.proposte.ambrosolilombardia2013.it/infodiscs/view/268>

<sup>8</sup> This issue is discussed in the winning proposal <http://lf.proposte.ambrosolilombardia2013.it/lf/initiative/show/200.html>

hindering participation (63% found LQFB’s policies unclear). The software had similar assessment. The deliberative path was hard to grasp for 73% and “complexity affected overall participation” for 25%.

Despite agreeing on LQFB’s complexity and unfriendly interface, often singled out in open answers, both groups rated LQFB positively overall. To wit, Figure 10 shows most think LQFB useful, on a one-to-six scale, as a tool for effective, regional (70% in ProposteAmbrosoli) and national (61% in TuParlamento) participatory government.



**Figure 10. Assessment of LQFB’s usefulness for participatory government.**

## CONCLUSION

This paper’s contribution lies in its analysis of two real-life trials of the LQFB platform. We seek to describe how the features that gained LQFB attention – its deliberation process that collects, improves, and selects proposals, its delegation of proxies – were actually used to empower public deliberation in civic contexts. This is a step in envisioning forms of democratic participation that rely on digital technologies. Not unexpectedly, we found the two populations still unrepresentative of the public at large. These educated, mature, engaged, digitally skilled citizens, a gender-skewed group, are lead users of innovative civic participation. Observing their behavior and opinions thus offers insight into the prospective habits that citizens on the whole may exhibit in the not-too-distant future.

Two very different environments took in these ‘pioneers’. ProposteAmbrosoli was deliberately set up by a trustworthy politician in a tough campaign whose communication staff cooperated well with technical staff. TuParlamento was much more ephemeral. A single MP promoted it to involve colleagues. They proved uninterested. Although design principles and software were essentially the same, such differences influenced the two sites’ development.

Effective collaboration between the two staffs on ProposteAmbrosoli allowed coherent design. The participation contract suited the campaign context, where it was believable. The candidate did not say: “let’s develop the party platform together.” Instead, he asked citizens for proposals to refine the platform he had already outlined. A well-drafted participation contract guided the division of deliberation space into units and areas and the setting of LQFB policies to fulfill it. Because the project was ultimately a call for ideas, proposals did not require massive support but filtering was needed to make the ‘game’ sustainable, i.e., to enable the candidate to give feedback on winning proposals. As noted, the deliberative process screened out half the submissions and Ambrosoli responded to 27% of winning proposals. Citizens’ overall positive evaluation of the project suggests this feedback was deemed fair, given the constraints of a demanding campaign. The candidate, too, expressed satisfaction with the project, both online and at public events, as having helped reinforce his image of openness to people’s input.

TuParlamento had no such collaborative environment for coherent design to occur in. Its participation contract was less straightforward, MPs’ commitment was vaguer, and its policies were set by technical staff with no outside coordination. Postponing launch from March to the solstice was the final straw, yielding awkward outcome: despite heavy enrollment (3331), these factors combined to keep all 406 initiatives from approval and thus publication in the “Participation Log.” Once aware of the trouble, technical staff also had to admit MPs were no longer committed to the project. This ruled out



their taking corrective action to resuscitate it. In spite of all this, however, when RCM Foundation ran questionnaires in May 2014, respondents' feedback was less negative than expected.

The two cases tell us a great deal about how LQFB fosters a rich, complex deliberative process with full-fledged functionality and about its potential for empowering public deliberation in civic contexts.

First, poor usability is often the main reason for not trying LQFB out, given its old-school graphical user interface (GUI). Indeed, users make fervent requests to improve it. LQFB developers, whose recent version 3.0 significantly improves the GUI, are dealing with this problem. It is also the driving force behind most LQFB forks. Airesis (airesis.it), Parlamento Elettronico (parelon.com), and Loomio (loomio.org) all start by improving GUI. However, focus on interface ought not become a call for simplicity as happens in the above-mentioned forks, which simplify deliberative process and remove functionalities like delegation. As Donald Norman states in *Living with Complexity*: "Simplicity by itself is not necessary virtuous. Complexity is an inescapable part of the world we live in [that] can be tamed through proper design [of technology...], unavoidable, when it mirrors the complexity of the world or of the tasks that are being done [...] Living with complexity is a partnership between the designers and us. [...] we may be required to master the intricacies of a complex system. But that is the way things work in the world. [...] the technologies we use must match the complexity of the world [...] we must do our part to learn the structure and underlying conceptual model of the technologies we use" (Norman, 2010, pp. 50-51, 10, 265).

Hence, let LQFB be assessed with the complexity of large-scale, online deliberation in mind. Our two cases help gauge how LQFB and its 'deliberation engine' meet Norman's requisites, or at least steer toward fruitful research.

Does LQFB help us, ordinary citizens, do our part? Despite GUI woes, the two experiments show LQFB empowers not only citizens ready to push their own projects and requests, "leaders," but also those willing to participate more weakly, a few by suggesting, and a majority of (one-)clickers who just support and vote. Bringing (one-)clickers into deliberative process makes LQFB more inclusive and may hook them on richer forms of civic engagement.

Does LQFB tame deliberation-process complexity? Our analysis confirms that online deliberation environments are situated, socio-technical systems (Dourish, 2004), where software functionalities shape context and vice-versa. These two cases' lessons on the LQFB deliberation engine should therefore be taken with a grain of salt:

1. *Structuring the platform into suitable units and areas.* We saw a tendency to err in overdoing their number, fragmenting participation. Setting policies – i.e., assigning timing values and acceptance parameters – was tricky due to the need to balance proposals' reasonable chance at success, on the one hand, and overall process quality, on the other. Guaranteeing quality means selecting an affordable number of good proposals, which gives rise to nontrivial debate on what "affordable" and "good" mean. Such choices are up to the design team. Comparing the two cases reveals the importance of close collaboration between technical staff (who know LQFB) and the platform owner. A well-defined participation contract – one that rewards people's efforts to master the software with trustworthy feedback from the project owner – is essential to drive design work toward suitable configuration of the platform.
2. *LQFB's Schulze-method voting.* A likely reason for the limited use of negative votes in both cases was, as noted, lack of competing initiatives on an issue. However, the presidential election trial (cf. Figure 9) hints that when actually competing initiatives exist, people are quick to disagree on some, a crucial feature in order for a system to be democratic.
3. *Delegation.* Further real-world trials are needed to test proxy delegation, a fundamental feature designed to manage complexity and innovate citizenship. How does delegation fit with the participation styles we have identified? Is it a more radical style? The most radical? Does someone who delegates actually abdicate active participation, even though LQFB delegation is meant to be partial (only for a subset of deliberation areas) and temporary (revocable)? We need to study how people use delegation from scratch in civic contexts, mindful that "a substrate online environment of sharing and mutual trust is a sine qua non for deliberation" (De Cindio, 2012). Embedding LQFB in a richer software environment designed for multiple interaction types, including community relationships, heads this direction. But time is a critical for people to develop trust relationships; yet both cases studied were limited in time.

This brings us to a final, critical remark. Once again – this was also the closing remark in analysis of 10 case studies from 2006 to 2008 (De Cindio & Peraboni, 2009) – experience confirms what Coleman (2007, p. 375) states: “the key question for research is not whether new media are capable of capturing, moderating and summarizing the voice of the public, but whether political institutions are able and willing to enter into a dialogical relationship with the public.” These cases both reveal substantial inadequacy on the part of the participatory platform’s owner, more clearly for TuParlamento but also significant, we believe, with Ambrosoli. In the first couple months after polling, he expressed intent to pursue the project somehow, posting “It does not end here...”<sup>9</sup> but then, being no longer a candidate for election but a representative in office, was drawn by the changed context to question what role idea gathering could play. In the former role, he more than once publicly claimed that citizens’ ideas are helpful, are welcome to flesh out a campaign platform. In the latter, he found that need to take their proposals into account may interfere with complex, public policy decisions, which require negotiation to solve conflicts. This was shown by the small, presidential election test. Ambrosoli neither voted for the candidate who won the consultation nor explained why. He felt a conflict between his online constituency’s suggestions and the positions he was taking in his official capacity. Therefore he did not extend his campaign experience into a further, potentially significant, test. A chance to try out inclusive government practices widely hailed as innovative was thus lost.

## ACKNOWLEDGEMENTS

We wish to thank Davide Mezzera, who helped trial LQFB on ProposteAmbrosoli. Thanks are also due to RCM Foundation staff, Leonardo Sonnante in particular, for performing the database queries and retrieving the design choices and events related to both field cases. We are grateful to the anonymous referees and to the editors whose comments were enormously useful in improving the paper, and to Philip Grew, whose contribution was much more than that of an English proofreader.

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<sup>9</sup> <http://proposte.ambrosolilombardia2013.it/infodiscs/view/284>

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**Giulia Bertone**, post-doc researcher with Ahref Foundation on the EU-funded Wikirate project, earned her PhD in cultural heritage (sociology of communication and cultures) in 2012 at the Politecnico di Torino, following a degree in communication studies. Her dissertation, *Connecting places. Il coinvolgimento delle comunità locali nella valorizzazione partecipata del territorio: le prospettive aperte dai locative media*, “Connecting Places: Involving Local Communities in Participatory Areal Development and Prospects Opened up by Locative Media,” and subsequent research explore the relationships of digital media, places, and communities. She investigates the role ICT can play in engaging people in participatory processes. Her recent work studies how location-aware and mobile technologies are changing the concept of place and the use of public spaces, opening new opportunities for place-based engagement.

**Fiorella De Cindio**, associate professor in the Department of Computer Science at the Università di Milano, taught programming languages, distributed systems foundations, and software engineering for several years. Since 2002, she has taught a class on virtual communities, now called “Internet-based Social Interaction.” Since 2011, she has co-taught a class on “Digital Citizenship and Civic Hackerism” with Andrea Trentini. Early research areas were Petri nets as concurrency theory, concurrent programming languages, participatory design, work groups, and computer-supported cooperative work. In 1994, she founded the Civic Informatics Laboratory, and for twenty years her research has focused on social interactive systems, their design, their implementation, and their deployment in real-life settings. While promoting civic participation and deliberation at the urban level, she has guided the development of software tools for the

purpose. RCM, the Milan Community Network, was her first such real-world project. An independent Participatory Foundation since 1998, it is chaired by De Cindio. Her activity in the community earned De Cindio the City of Milan's Ambrogino d'Oro award in December 2001.

*Stefano Stortone*, post-doc researcher at the Università di Milano Civic Informatics Laboratory, holds a PhD in politics from the Università Cattolica del Sacro Cuore in Milan, where he also did his undergraduate work, and an MA in democratic studies from the University of Leeds. His research focuses on democratic theory, civil society, and political participation that aims to overcome the crisis of political representation and representative democracy. He is currently studying the use of ICT for public deliberation and democratic decision-making processes. He heads the Center for the Study of Participatory Democracy, a non-profit association that promotes participatory practices and develops participatory budgeting projects for local government throughout Italy (e.g.: the municipalities of Monza, Canegrate, Cernusco Lombardone, Cascina, and the Province of Pesaro-Urbino), as a step toward experimenting with new, ICT-driven forms of democracy and democratic institutions.

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