



## Informative architectures and citizen participation: a comparative study between the digital platforms Decidim and Rousseau

*Arquiteturas informativas e participação cidadã: um estudo comparativo entre as plataformas digitais Decidim e Rousseau*

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**ABSTRACT:** To what extent does the way in which digital platforms are organized favor citizen participation? This article looks at this question using a comparative study between two digital informative architectures: the Five Star Movement's (originally in Italian "Movimento 5 Stelle") Rousseau platform in Italy, and the Decidim platform, developed after the 15M movement in Spain by a collaboration of entities from different countries. From a qualitative analysis of its architectures – in accordance with an approach based mainly on communication theory – we sought to investigate and describe the ways in which information circulates and operates, and the possibilities they offer for democratic actions. This was accomplished by analyzing two aspects of the platform: 1) the conception and development of codes; 2) the functions that the platform offers and its interaction with users. In this paper, we start from the central hypothesis that the communication conditions act as a base for the quality and levels of participation. Just as more verticalized communicative structures (such as those of traditional mass media) tend to concentrate decision-making processes and power, more horizontalized structures end up favoring more collaborative and democratic actions: thus, we aimed to verify the extent to which the modes of elaboration and organization of information on these platforms, operating in digital network contexts, enable broad and effective modalities of citizen action.

**Palavras-chave:** Digital Platforms; Digital Citizenship; Participatory Democracy; Digital Activism; Interface Design.

**RESUMO:** Em que medida a forma de organização das plataformas digitais pode favorecer a participação cidadã? Este artigo pretende abordar essa questão a partir de um estudo comparativo entre duas arquiteturas informativas digitais: a plataforma Rousseau, do Movimento 5 Estrelas (originalmente em italiano "Movimento 5 Stelle"), da Itália, e a plataforma Decidim, desenvolvida após o movimento 15M, na Espanha, a partir de uma colaboração entre entidades de diversos países. Por meio de uma análise qualitativa de suas arquiteturas – de acordo com uma abordagem fundamentada sobretudo no campo teórico da comunicação –, buscamos investigar e descrever os modos pelos quais a informação circula e opera e as possibilidades que oferece com vistas à participação democrática. Nesse sentido, dois aspectos da plataforma foram examinados: 1) a concepção e o desenvolvimento de códigos; 2) as funções oferecidas pela plataforma e suas interações com os usuários. Neste artigo, partimos da hipótese central de que as condições de comunicação atuam como uma espécie de fundamento para a qualidade e os níveis de participação: assim como estruturas comunicativas mais verticalizadas (como as dos meios de comunicação de massa tradicionais) tendem a concentrar processos decisórios e poder, estruturas mais horizontalizadas acabariam por favorecer ações mais colaborativas e democráticas. Assim, buscamos verificar em que medida os modos de elaboração e organização da informação nessas plataformas, operando em contextos de redes digitais, possibilitariam modalidades mais amplas e efetivas de ação cidadã.


**Keywords:** Plataformas Digitais; Cidadania Digital; Democracia Participativa; Ativismo Digital; Design de Interface.

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## INTRODUCTION AND STATE OF THE ART

### Informative architectures and participation

The way a space is organized informs those who would use it the specific conditions to indwell it. This means that organizing a space is also "informing it" or to generate "information", an operation that involves eliminating part of its originally chaotic or "entropic" condition (Flusser, 2007; Flusser, 1985). It is in this sense that the relationship between how a space is organized, its architecture, may have more or less of an influence on how we use it, how we integrate it, and how we participate in it.

The importance of this relationship between information, space and architecture can be found in the work of J. Meyrowitz (1986), who first analyzes the changes that occur when new media is inserted in social environments in order to then understand the effects that these changes have on people. The author suggests that social situations, historically bounded to and by the environment, are altered when new media is introduced as it implies a change in that space's existing information flow.

This reappears to some extent in reflections from authors such as E. Pariser (2011), L. Floridi (2014), B. Bratton (2016), C. O'Neil (2016), C. Accoto (2018), and J. Van Dijck, T. Poell and M. De Waal (2018) when they suggest how algorithms, data and a wide range of devices are now part of our daily lives and have an increasing influence on our choices, our ways of being, and how we relate to one another. In fact, managing the complex informational ecosystems that make up the new spaces which we inhabit is perhaps the key to a new type of sociability that has been emerging recently, and in which we are more than a network of people; we constitute a true network of information flow networks (Di Felice, 2019).

While recognizing this continuous relationship between information, space and sociality, M. Di Felice (2016) underlines the correlation between developing ways of inhabiting the world and the appearance of new communication technologies. From the classic urban model to smart cities, this is how different ways of feeling, perceiving and, most of all, acting in the world were tested. Characterized by the idea of "place" as being something "fluid and mobile" (Di Felice, 2016), the creation of spatialities connected by digital networks, based on their informative architectures, generated a new type of communication (Di Felice, 2017; Di Felice, 2014) in which traditional poles of power (associations, unions, political parties etc.) were destabilized, and as Di Felice (2017) claims, changed the very idea of modern politics and society.

All of this leads us to the premise that communication (or the way in which information circulates and operates) is a fundamental element in changing the nature of social action and, consequently, the possibilities of "participation". Communication therefore acts as a kind of starting point and foundation for citizen participation, understood here as the equivalent to citizen power or the effective redistribution of power that enables the have-not citizens, excluded from the political and economic processes, to be deliberately included in the future, being able to determine how

information is shared, goals and policies are set, tax resources are allocated, political programs are operated and so on (Arnstein, 1969).

With this in mind, it may not then be possible or advisable to reflect on participation without considering the dynamic field of communication that surrounds it. This means investigating the extent to which they not only produce dialogue, but mobilize individuals in such a way that they recognize themselves as belonging to the same collective which, based on this common bond (Arendt, 2018; Esposito, 2006), they can then make decisions to change reality.

It seems undeniable that in a context which presents a more verticalized communication - one in which the nuclei that emit information are concentrated in a few individuals or groups (a collective, for instance) - tends to have a greater concentration of power. On the other hand, this level of concentration tends to be lower in settings where more people or groups have the right to speak. It is clear that this is not a compulsory or inescapable relationship but, in fact, it might account for a considerable number of the changes in the public sphere and of its power relations over the last decades, with the development of new technologies and their own communicative dynamics.

One can think about the relationship between the so called "mass media" and digital networks. Although the history of these mass media may represent a certain complexity in communicative processes, what is evident between their different moments is an information emitter; a figure that appears to assume no other function than that of "deciding" what and/or how something will be discussed. Whether H. Lasswell's model (1948), the communication research of P. Lazarsfeld and RK Merton (1948), or the broader perspectives of newsmaking (Tuchman, 1978) or agenda setting hypothesis (McCombs, 1981), the figure of an emitter is still a constant. Even though feedback was permitted in all of these configurations, it was limited and always reviewed by issuing bodies.

This, however, seems to reach a crisis point with digital networks, a context in which the one who "decides" or "allows" what will be broadcast loses space to a dynamic that no longer focuses on defined individuals or groups, thus changing not only the articulation between existing discourses in the public sphere, but favoring a certain "multiplicity of worldviews" (Vattimo, 2004) and the emergence of a less univocal and more horizontal condition in power relations - and an ever growing demand for it (Castells, 2007).

To a certain extent, these changes combine new communicative dynamics with political disorder, which have forced analyses to look at the possibility of rearranging the current notions of democracy and citizen representation. This leads to different perspectives such as those from D. Pittèri (2007), with the idea of an "electronic democracy", or from P. Gerbaudo (2019) and the reshaping of party models in digital contexts (Romancini, 2020). In terms of more critical perspectives, there is the most recent reflection by N. García Canclini (2019), who questions the real possibility of replacing the individual exercise of citizenship with the generalized presence of

algorithms. There is also a point of view that envisions how to escape the current political crisis, as Di Felice (2019) does. It supports the idea of a "digital citizenship" which is capable of extending "participation" to non-human entities such as forests, animals, things and territories.

In any case, these authors seem to suggest a somewhat common idea: the relationship between sociality, the possibilities of collective participation, and the way information flows are organized and circulate. That is why these communicative technologies, mostly articulated on "digital platforms", should not be seen as merely instrumental or "technical" gadgets, but as omnipresent and impactful interdependent layers on a global infrastructure that has been developing since the turn of the last century (Van Dijck, Poell & De Waal, 2018).

B. Bratton (2016) states that the platforms have an interrelation between architecture, computing and politics, and that they offer a "framework"; a practical and abstract system that shapes the way of being for human beings. Architecture and urbanism were once responsible for the systematic organization of connections and disconnections of populations in space and time, but now these new informative architectures have also assumed this responsibility.

Therefore, platforms are not built as a parallel structure to just reflect or mimic the social arrangement; they mostly produce the new social structures in which we live (Van Dijck, Poell & De Waal, 2018; Van Dijck, 2020). The dynamics of the relationship between infrastructural platforms - the so-called big techs (Webb, 2019), whose power is growing increasingly similar to those of nation-states by governing the choices of millions of people (without having been elected for this, by the way) and between sector platforms (which operate in sectors and connect producers and consumers of specific values, establishing a new dynamic of intermediation) create new configurations of economic and technological power in a process that T. Poell, DB Nieborg and J. Van Dijck (2019) call "platformization", which reconfigures all social sectors, creating new forms of organization that challenge the classic definitions of each one.

Despite the complex differences between these platforms, a key point from which we can distinguish them might lie in the communicative aspect. This means asking about the way in which information flows are distributed, the way in which discussions are organized, and above all, how their fundamental themes are proposed and the extent to which they result in effective citizen participation.

### **Hypothesis and objectives**

It is important to note that the way information dynamics are organized (what we refer to here as "informative architectures") does not maintain a deterministic or necessary relationship with certain types of political participation, but can "precipitate" or bring about (along with other elements) new possibilities for action. Likewise, "informative architectures" can also appear as "symptoms" or "expressions" of possible citizen

actions. Based on an in-depth and critical examination of its dynamics, one can identify the possibilities or impossibilities of effective political participation.

Taking this into account, this article aims to analyze the informative architectures of two digital platforms of "citizen participation": the "Rousseau" platform, designed and operated by the Italian Five Star Movement (Movimento 5 Stelle – M5S, in Italian); and the "Decidim" platform, which came about after the 15-M protests and was developed by a collaboration of non-governmental organizations, collectives and universities, especially in the city of Barcelona.

## **MATERIAL AND METHODS**

To what extent do these architectures benefit (or not) political participation? Do they express effective possibilities for citizen action? To answer these questions, we conducted a qualitative (Flick, 2002; Becker, 2009) and comparative (Bartlett & Vavrus, 2017) study to analyze, from an analytical-descriptive perspective, approximations, and distances between the informative architectures of the Rousseau and Decidim platforms.

The choice to put these two platforms under scrutiny was due to the fact that, first, in the civic participation ladder (Arnstein, 1969) and in the Online Political Participation Evaluation Model (Santini & Carvalho, 2019), they can be allocated in the last stages, in which there is an attempt to effectively exercise citizen power and a collaborative governance model. Second, they present equivalences that, in our view, makes them comparable candidates for a descriptive analysis: both originate from movements that could be called net-activists (Di Felice, 2017), both have a multifaceted architecture, with multiple functions that offer different forms of participation, and both are concrete experiences, used in real political systems, and obtaining a certain relevance in the contexts in which they were applied.

This analysis is the result of work completed at the end of 2020 and is based on observations carried out in different periods from 2017 to 2020, followed by updates made in 2021 and 2022. The study was conducted based on two levels of analysis:

- Micro level: the focus is on the source code of the platforms. This level did not consider specific technical issues such as programming languages or electronic systems; it took into account what was needed to conduct an analysis with a communicative focus, that being: 1) origin, design and construction of the platform, focusing on its source code; 2) forms, means and possibilities of accessing its source code; 3) possibilities and limitations of altering the platform architecture through collective deliberation; characteristics of the decision-making process in relation to propositions that aim to change the informative architecture of the platforms; 4) transparency when presenting procedures for improving the architectures, as well as disclosing the changes made. All of these aspects were explored from the descriptive analysis of the platforms' publicly available information.

- Macro level: refers to the platform's user experience and how it interacts as an informative architecture with users and the territory. In this sense, we described the functionalities and the information flow constituted in these architectures. To achieve this level of analysis, we observed the extent to which the design of the platform (the organization of digital spatiality which the user has access to) encourages, or not, citizen participation and expression. The following aspects were considered when carrying out this observation: 1) Functionalities (What are they? What actions do they allow users to perform? Do they relate to each other? What relationships do they establish? What is their degree of modularity?); 2) User participation (What are the types of participation on offer?); 3) The relationship with the territory (Are there complementary informative architectures which are not restricted to the specific environments of the platforms? If so, what are they? How do they relate to the platform in terms of building a participatory ecosystem?).

We would like to point out that we chose not to adopt a socio-political approach to these technologies and the movements that coordinate them since the following authors have already adopted this approach: M. Deseriis (2017; 2020a; 2020b); E. De Blasio and L. Viviani (2020); L. Mosca (2020); C. Stockman and V. Scalia (2020); P. Gerbaudo (2019); I. Cozzaglio (2020); and others. Our focus here is of a communicative nature; we aim to explore the extent to which architectures and information flows benefit (or not) specific possibilities and modes of citizen participation.

Given the qualitative nature of this study, we considered any possible problems that could be attributed to the study's heuristic nature, whenever necessary. As Becker (2009) reminds us, qualitative research opens up space for us to improve our own methods during the investigation process. In addition, the aspects we considered in the "conclusions" of this study point to only one of the many possible alternatives for carrying out a study such as this. This is because we must recognize the impossibility of a fully objective approach when working with subjective issues (such as political participation or action).

Likewise, none of our conclusions can be perceived as being the result of a cause-effect relationship between how platforms are organized and the possibility of greater or lesser citizen participation. There is no direct and necessary connection between these two aspects. We are not trying to provide an in-depth analysis of our research object, but rather perceive the possible relationships within the complexity of perspectives in which that same object can be examined. Thus, this study seeks to identify the "trails" (Latour, 2005, p. 43) left by these communicative relations, much more than trying to describe a causal relationship that would necessarily link them together.

## ANALYSES AND RESULTS

### The Rousseau Platform

The Rousseau platform was developed in 2016 by the Associazione Rousseau<sup>1</sup> to work as the operating system of the Movimento 5 Stelle (M5S), an anti-establishment political party in Italy that emerged primarily because of the country's economic and political crisis in 2008<sup>2</sup>. The platform offered an ecosystem aimed towards democratic participation and the active exercise of citizenship. This ecosystem was not only composed of the platform itself (with multiple functionalities designed for direct democracy, collective intelligence, and active participation) but also of external initiatives aimed at members, activists and spokespersons involved with the movement for the training and immersion in the principles of so-called "digital citizenship" (Musso & Maccaferri, 2018). From a functional point of view, the platform was divided into the following three areas of operation:

- "Direct Democracy" contained the *Lex Eletti*<sup>3</sup> (Parliament, Region, and Europe), *Voto* and *Lex Iscritti* functions. These allowed members of the movement to present, change and vote on proposed legislation, in addition to choosing candidates and priorities in the M5S government program.
- "Collective Intelligence", which contained the *Sharing*, *E-learning*, *Scudo Della Rete*, *Segnalazioni* and *Fundraising* functions, granted members the possibility to exchange information, share political-administrative practices or report activities that conflicted with the principles of the movement. It also provided political and citizenship information for all its constituents (members, activists or spokespersons). These functions were also a form of collective financing to support political activities as the movement claimed it does not accept money from lobbyists. The functions also provided the community with legal protection for its members and the movement itself.
- "Active Participation" contained functions that had more of a direct impact on the territory, such as *Portale Eventi*, *Portale Talenti*, *Open Comuni*, *Open Candidature* and *Open Progetto*. Platform members would take part in these collaborative projects, locate official movement initiatives, and make themselves available to the M5S community. Outside of these three areas listed here there were resources such as *Blog delle Stelle*<sup>4</sup>, a portal for the dissemination of M5S-related information and news; the *Trasparenza* portal<sup>5</sup>, where the Associazione Rousseau published the Rousseau platform's financial

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<sup>1</sup> Available at: <https://www.ilblogdellestelle.it/trasparenza-rousseau>. Access on: July 28, 2022.

<sup>2</sup> After political differences, in 2021 the M5S and the association parted ways. Although the Rousseau platform and model of participation still exists, managed by the Associazione Rousseau under the custody of a new project called Camelot, our scope of analysis refers to the period from 2016 to 2020, during the period of the partnership, thus we refer to the platform in the past tense.

<sup>3</sup> Available at: <https://prezi.com/p/lvfjrdocyke3/bilancio-2019/>. Access on: July 28, 2022.

<sup>4</sup> Available at: <https://www.ilblogdellestelle.it/>. Access on: July 28, 2022.

<sup>5</sup> Available at: <https://www.ilblogdellestelle.it/trasparenza-rousseau>. Access on: July 28, 2022.

statements and activities; and the *Tirendicono* portal, a space where elected spokespersons were able to divulge the financial returns promised in the movement's guidelines to M5S members.

In addition to these functions, the Rousseau ecosystem also provided training and immersion for its members in and with the territory to promote integration between physical space and web space<sup>6</sup>. The *Villaggio Rousseau*, an M5S “political convention”, had held face-to-face seasonal meetings in order to bring the various members of the movement together (technical team, spokespersons, registered members etc.) and discuss projects, political training initiatives, government programs, and applications and features of the platform. Another event, the Open Day Rousseau, was a conference which presented the history and features of the Rousseau platform, but it mostly focused on providing training for M5S community councilors and activists, on topics such as contract codes, civic access, waste management, financial statements of local entities etc. The Tour City Lab, on the other hand, acted as a kind of breeding ground for ideas, traversing the Italian territory encouraging the exchange and active participation of citizens in proposing solutions aimed at public administration and management.

The Rousseau Open Academy<sup>7</sup> was also part of the Rousseau ecosystem. The Academy relies on the help of intellectuals and thinkers in the field to create an open network for reflection, understanding, and developing principles and instruments of digital citizenship. The *Scuola di Formazione*, a center for political and administrative training aimed at citizens, activists, and current and future spokespersons for the movement, was also part of the same ecosystem.

Two other features were added to the Rousseau platform. The first was *Ricerca Iscritti* (released in 2019), a database of all members of the movement who were registered on the platform. Their profiles were made available through a database that consisted of general data (biography, curriculum vitae, activist curriculum, political experience, participation in M5S events and activities), social network functionalities, such as likes and gamification processes such as badges. The other feature was IDEA (released in 2021), that sought to set up a forum where M5S activists could discuss their ideas with their leaders.

There were other participation initiatives that had more to do with developing the Rousseau platform. One of these was Level UP, an initiative that sought to include platform subscribers in their development process, offering periodic consulting sessions on features that needed to be developed, providing registered members with “beta tester” access so they could assess the quality of the functions in development. Registered members were not given open source access, meaning they do not had access to the platform's programming code and, consequently, couldn't modify it. They could only offer their feedback and suggest new functions.

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<sup>6</sup> Available at: <https://prezi.com/p/lvfjrdocyke3/bilancio-2019/>. Access on: July 28, 2022.

<sup>7</sup> Available at: <https://www.rousseauopenacademy.com/il>. Access on: July 28, 2022.



Rousseau was a proprietary platform belonging to the Associazione Rousseau. As a result, its code was closed and could not be used freely. Recently, an attempt at rethinking this logic was put into practice with the development of its mobile online voting application, "Rousseau X". This was done on an experimental basis and followed the open source model. Under the name Rousseau Open Engineering, the project used a collaborative approach with programmers, digital security specialists, graphic and UX/UI (User Experience/User Interface) designers to build the Android and iOS versions of its application.

Even though the initiative was open to several contributions (which included some of M5S's most influential members) it was built by software engineer Emanuel Mazzilli, who was directly linked to the movement. Discussions were held on a Slack channel and the GitLab repository and were organized by M5S based on previous registrations. Ultimately, the code was not made widely accessible, but a call for developers was put out, which was coordinated by Mazzilli. Only the participants selected by Mazzilli were granted access to the Slack channel and the GitLab repository.

### **The Digidim Platform**

Digidim describes itself as a "technopolitical" platform. It is based on the CONSUL system<sup>8</sup> and was developed by the Barcelona city council to help coordinate the participatory process of elaborating the city's Municipal Action Plan (PAM), among other processes. The initiative has been highly successful due to the technological advantages it offers, and the fact that it is open and free, garnering interest from several other municipalities. In operation in the Catalan capital since February 1st, 2016, it is currently used by around 80 local and regional governments and 40 social organizations in Spain and other countries such as Finland, France, Italy, Canada and Mexico. The interest it has generated has led to a number of changes and adaptations to the platform in order to adapt to and handle the wide range of local authorities, to be independent and to be remotely sustainable. A scalable and modular development strategy was established to accomplish this, one that offers a flexible and expandable structure over time, maintained at the municipal and intermunicipal level with functional design and a support community.

An analysis of the documents<sup>9</sup> made available by the platform shows that it was developed on principles of elaborating and continually improving citizen participation policies and democratic forms of government. These principles are as follows:

- The "technopolitical hybridization", which considers not only the digital aspects and infrastructures of new participatory forms, but also the innovations, processes and culture that result from the hybridization of digital and "in-person";

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<sup>8</sup> Available at: <https://consulproject.org/en/>. Access on: July 28, 2022.

<sup>9</sup> Available at: [https://docs.digidim.org/en/understand/about/#\\_principles](https://docs.digidim.org/en/understand/about/#_principles). Access on: July 28, 2022.

- Establishing an "enhanced and multimodal participation", creating hybrid participatory processes with enriched forms of interaction (between people, the platform and the territory) that go beyond the simple click (such as voting, "like" etc.);
- The "transparency and traceability" of all activities in regards to the participation processes, making them accessible and monitorable, with the exception of privacy-protected user data;
- "Opening and releasing" the platform's codes, functions, content and processes, making it a free software that anyone can view, modify and reuse, participating and re-appropriating its processes and content at multiple levels;
- Promoting "cross-cutting participation" with the aim of reaching as many social and political groups as possible, and thereby legitimizing its participation model;
- Attaching importance to "knowledge, technoscience and collective intelligence", emphasizing participatory processes that establish forms of popular, specialized knowledge and of data science;
- "Collective and network participation", functions that encourage user interaction (digital and/or in-person) in collective processes;
- "Public-commons orientation, reappropriation and recursive participation", steering the platform towards a democratic bias at all levels which belong to, are built by and aimed at the public;
- "Accessibility and technopolitical training" which allows people to take advantage of the platform's full potential, ensuring that it remains a public service;
- "Independence, empowerment and affiliation", valuing bottom-up processes that benefit social independence, collective self-organization and association with public institutions.

These principles make up the three layers of the platform's performance and participation ecosystem: the first layer is "politics". It focuses on the application of the democratic model that the platform proposes and the impacts on public policies and organizations; the second is "technopolitics" and focuses on the design of the platform, the mechanisms it incorporates, and the way it is democratically developed; and the third "technical" layer focuses on the production, operation and success of the project: what they call "digital factory", the licenses it uses, the collaborative mechanisms, etc. These layers are interrelated and have their own mode of collaboration developed through specific platforms and scales, as shown in Table 1.

**Table 1.** Organization of different aspects of the Decidim Project.

Level	Relation	Platform	Mode	Scale
Political	Superstructure	Decidim.barcelona	Co-decision	City
Technopolitical	Structure	Metadecidim	Co-design	Community
Technical	Infrastructure	Github	Co-production	Laboratory

Source: Decidim Docs. Available at: <https://docs.decidim.org/en/whitepaper/decidim-a-brief-overview/>. Access on: July 28, 2022.

Looking at the "political" and "technopolitical" layers (the "technical" layer uses an external platform, GitHub), the communicative and participatory architecture consists of a web environment that uses the Ruby on Rails framework<sup>10</sup> and is divided into two essential structures, with spaces and mechanisms for communication and participation that allow any organization to create democratic processes such as strategic planning, participatory budgeting, elections, live meetings, drafting collaborative regulations, etc.

The platform refers to these two essential structures as "Participatory spaces" and "Participatory components"<sup>11</sup>. "Participatory spaces" are divided into four categories: "initiatives", "processes", "meetings" and "consultations", and act as a framework for shaping the participation model; it defines how citizens and members of an organization can meet demands, coordinate proposals, and make decisions. The "Participatory components" are mechanisms that allow for user interaction and for operating spaces, they are: comments, proposals, amendments, votes, results, debates, questionnaires, contests, pages, blogs, newsletters, meetings, participatory texts, conferences and accountability. The adjustment and reshaping of spaces and components provides a wide range of options on the platform (browse, create, vote, support, sign, comment, follow, share, incorporate etc.).

Decidim users, in turn, are separated into three groups, each with different participation advantages. The first group is for visiting users, they are granted access to all the content on the platform and do not have to log in or provide any personal information. However, they are only authorized to view, share and incorporate this content on other platforms. If they create a login and password, provide a valid email address and accept the terms of use, these users become registered (which is the second group of users) and are then able to create content, comment, register in meetings, support content, follow proposals and other users, among other actions. However, users can only effectively participate in decision-making (vote, subscribe or support the platform's activities and content) if their records are verified by Decidim mechanisms (the third group of users). They can also register both individually and collectively (as associations or working groups within a main organization).

Lastly, another important point to consider is the platform's administrative management, which allows users to be divided into "administrators" (of the entire platform or of specific spaces and components), "moderators" (to mediate proposals, comments and debates) and "collaborators" (to respond to proposals, and to view and create notes on unpublished content).

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<sup>10</sup> Available at: <https://rubyonrails.org/>. Access on: July 28, 2022.

<sup>11</sup> Available at: <https://docs.decidim.org/en/features/general-description/>. Access on: July 28, 2022.

## DISCUSSION AND CONCLUSIONS

It is important to state that this analysis focused primarily on the communicative issue of the analyzed platforms. Despite these two architectures being instruments of "citizen participation", they seem to express quite different communicative logics which, as pointed out in the introduction of this article, distinguish somewhat between more centralizing communicative models, tributaries of mass media (Wolf, 1985), and more collaborative and decentralized networks (Di Felice, 2016; Castells, 2007).

This becomes quite apparent when we investigate the construction modes for the platforms and the degree and possibilities of opening these architectures to collaborative contributions. On one hand, the Rousseau platform didn't seem to offer a detailed framework for understanding its code and the guidelines for writing it. On the other, as a "public" and open source platform, Decidim clearly provides a wide and varied range of information about the platform from more technical information such as installation, configuration and development of its architecture, to information of a socio-political nature such as the principles that govern it and the participation resources it offers.

Both Rousseau and Decidim seek to generate effects beyond the specific boundaries of digital networks, and rely on not only online communicative initiatives but also offline ones, especially in-person events. They elicit concepts such as "onlife" by L. Floridi (2014) or "atopy", by M. Di Felice (2016), which state that we can no longer define clear limits between a life "within" and a life "outside" of digital networks. As per B. Bratton (2016) and Van Dijck, Poell and De Waal (2018), these platforms do not simply mimic existing social processes and dynamics; they establish new formats and complexities in the relationships between humans and those with the territory.

What separates them, however, is the concept of "participation" that they express, not only in their self-descriptions but by what can be seen when analyzing their functions. If we focus on the communicative aspect, we can see that Rousseau flirts with the centralization of information (and the final decision making), while Decidim follows a less linear and more horizontal dynamic discussion (and proposing ideas).

Even though the Rousseau platform seemed to have a more integrated and cohesive architecture that articulated a greater number of features to provide a more varied participation, it revealed a certain "democratic weakness".

When looking at the communicative processes of this architecture, even within the M5S itself, it appeared to be a much more top-down than bottom-up dynamic - which M. Goulart and G. Adinolfi (2018) and P. Gerbaudo (2019) also suggest - and had a certain objective to act in a network, but one which is strongly connected to a linear mentality of a sender-receiver logic. In this way, the platform followed a kind of interconnected logic, but instead of offering autonomy to its marginal nodes it tended to direct the way in which these roots were developed. It ultimately limited the dissemination and dynamism of the movement itself, which was perhaps the great communicative paradox of the M5S.

The analysis of how some of its functions were organized and articulated also leads to a certain disparity between the two platforms. We found mechanisms on Decidim which measure the transparency of processes and the effectiveness of participation by registered members. On the Rousseau platform, as Pianini & Omicini (2019) remind us, these mechanisms were opaque, confused, or non-existent. The platform did not offer (apart from the IDEA function) mechanisms for a wide and deep discussion among movement members, making large contradictions unviable such as those that would eventually push them away from the M5S founding leaders. The ultimate authority and prerogative of communication resided in a limited summit of power. For all intents and purposes, it must not be forgotten that Associazione Rousseau held the primary key to the platform's architecture (being its source code) which ultimately defines what can and cannot be done.

Unlike Decidim, whose main principle is having an "open" and "public" informative architecture (thus used in different social situations and countries), the Rousseau platform did not seem to share this idea and focused more on the political movement that inspired it, even though the M5S itself had considered offering its architecture to political groups from other countries, such as the Gilets Jaunes of France (Morosini, 2019; Cotta, 2020).

This brings us to the criticisms of M. Deseriis (2020a), when he warned of the effects that the technopolitical culture of the movement, its statutory regulations, intra-party differences and the wide socio-political and socio-cultural differences may have on the platform design and the effective participation it proposed. We can also look at D. Vittori (2020), who questions the capacity of these platforms to maintain a civic engagement that justifies the idea of direct democracy they propose.

In turn, the Decidim platform's code seems to express a broader participation, working with the main sharing protocols. By organizing its ecosystem into "subplatforms", it is more open to different layers of different types of participation: joint creation of codes, features and resources; co-creation of decision-making processes and public policies.

Thus, the question of broad and open participation seems to be the "backbone" of the platform, as if this foundation crosses the various dimensions of its architecture: from developing the code to passing a law, for example. This horizontality, on the other hand, challenges or impedes a more integrated expansion of the platform and even the convergence of interests in order to meet more immediate demands. There is always the risk of producing fragmented experiences, dispersed in different contexts.

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