Innovating Public Service Delivery Through Crowdsourcing: What Role for The Third Sector and Civil Society?

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Abstract

The purpose of this paper is to study the involvement of the "crowd" in designing innovative public policies, and the possibility for the Third Sector to play a role in this process. To do so, we want to answer the following research question: what is the extent to which crowdsourcing is adopted in financing and delivering public services within New Public Governance arenas? In order to answer it, we employ the following approach. First of all, we will set public innovation into the context of New Public Governance; secondly, we will analyse definitions for crowdsourcing, and thirdly, we will provide an overview and crisis of crowdsourcing examples to demonstrate their significance as novel forms of public service finance and delivery. This approach evidences the potential and the outcomes of applying crowdsourcing in the public sector, and indicates the role of the actors involved: the adoption of a leadership role by the Third Sector could facilitate crowdsourcing processes. The outcome of the application of crowdsourcing in the public sector is a greater involvement of the civil society in its relationship with the State.

Keywords: Public Innovation, New Public Governance, Public Value, Crowdsourcing, Open Governance.

1. INTRODUCTION

In the face of an accelerated pace of global uncertainty, increased performance requirements, rising citizen demands, and the need to engage with a broader cocktail of stakeholders, many public agencies are using innovation to underpin novel ways of financing and enhancing public service delivery [1]. There are no longer "one size fits all" universal solutions to complex social problems, nor can any public or private agency satisfy all citizen demands for tailoring services to personal needs. Citizens are no longer passive consumers but empowered individuals who expect state agencies to provide more personalised services and choice, either those more akin to private provision, or increasingly through a wider range of civic providers [2]. An "iPod generation" that expects personalised service delivery and rapid responses to problems needs to be set against a backdrop of "finite resources and infinite demands" meaning that innovation in public service finance and delivery will become even more crucial in future [3].

Nowadays a plurality of inter-relationships between state, market and civic institutions have become the focal point for co-production and co-responsibility of public service delivery and production of public value [4; 5; 6]. These new relational forms of governance are not only a

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challenge to the role of government in advanced democracies in the 21st Century, but they raise questions on what type of institutions, organizational and capacities are needed in future to integrate the state's own resources, capacities and knowledge with those of the market and civic institutions. Clearly this calls for less hierarchical, top down, bureaucratic forms of financing and delivery, and more horizontal, bottom up, facilitative or innovative mechanisms, such as crowdsourcing.

Governments across the globe are experimenting with new forms of citizen engagement and with the use of digital or other forms of technology to facilitate it The use of ICT by governments and public administrations is not novel as several countries have adopted e-government and open government strategies, in order to increase transparency towards their citizens, reduce waste and improve their accountability. These phenomena are, however, one-sided: the government takes action (for example by putting up relevant data on a website for citizens to consult them) and citizens are simply the recipients of such policies. Crowdsourcing, on the other hand, allows communities of engaged individuals to perform certain tasks, which may be in solving a problem, suggesting ideas, etc., but importantly it creates a two-way relationship between the crowd and the crowdsourcer [7; 8]. It is in line with the quadruple helix model, recognising civil society as one of the crucial actors in the innovation process [9], even with the aim to foster the shift from technical to social innovations [10, 11; 12]. Public administrations have been adopting crowdsourcing to tackle specific issues, by asking citizens for feedback, ideas and suggestions: this allows public administrations to go beyond the concepts of e-government and open government, by closing the gap between themselves and citizens and collaborating to create public value. In fact, citizens are no longer the passive recipient of public policies: with crowdsourcing, they can actively contribute and influence public policies [13; 14; 15].

Several attempts have been registered in this direction: the European Commission (through the programme Horizon 2020) [16] and some governments, such as Australia, Latin America, and India have fostered public involvement in science [17; 18; 19]. In this sense, Horizon 2020 aims to establish participatory multi-actor dialogues and exchanges all over the Union to foster mutual understanding, co-realize research and innovation outcomes within society and provide new inputs to policy agenda.

Also developing countries have started to look at crowdsourcing as an effective tool to facilitate sustainable urban development planning process [20]. It has been adopted in several ways, always with the aim to address complex and global challenges such as climate change, poverty, armed conflicts and every type of conflicts [1].

In this paper we will investigate what happens in the public sector in terms of the adoption and implementation of crowdsourcing, and what is the role of the Third Sector and civil society in this process. The aim is to answer to the following research question: what is the extent to which crowdsourcing is adopted in financing and delivering public services within New Public Governance arenas? And to do this, we will provide an overview of selected experiences of crowdsourcing in the public sector, analysing them on the basis of variables identified in the literature review. However, the literature begins by setting the overall context of New Public Governance and need for public innovation, to examine crowdsourcing as novel forms of public service finance and delivery. Data were collected from existing contributions and from public policy reports on the basis of the convenience sampling [21], then classified on the basis of specific parameters, individuated through the previous analysis and analysed with the aim to make general considerations on the role played by the Third Sector. Findings show that the majority of the crowd-based experiences were implemented inside English-speaking countries, with citizens who are exclusively engaged in a consultative way by the public sector. In terms of future perspectives, crowdsourcing processes could be fostered by attributing a leadership role to the Third Sector, ensuring a privileged communication channel between citizens and public administration and, consequently, a greater involvement of the civil society in its relationship with the State.

Limitations of the analysis regard the representativeness and the objectivity since researchers could influence results with their personal opinions, describing the phenomenon without deepening the reasons why and related impacts.

2. LITERATURE REVIEW

The theoretical framework of the paper is based on two main pillars. First, we analyse the New Public Governance paradigm pointing out its main characteristics and the need of a greater engagement of civil society in order to ensure an innovative way to deliver public services. Then, we focus our attention on crowd-based practices.

2.1 The Evolution of New Public Governance and Public Innovation

The findings are set within literature on New Public Governance (NPG) and Public Innovation, the former having emerged from a long standing debate regarding the role and size of government, and whilst earlier New Public Management (NPM) theory partly addressed concerns with an emphasis on efficiency, it has been argued that it did not address larger challenges such as declining government resources, the growing size of government agencies, and the complex, developing linkages between state, non-state and civic institutions to deliver public goods and services. NPG is a set of doctrines and approaches aimed at promoting the larger common good and incorporating public values across the political system [22]. NPG is distinguishable from traditional 'Public Governance', to which many studies have been devoted. All have found broad convergence towards a public management style dominated by co-operation among government levels and between public and non- state actors [23; 24]. Governance as a particular style of government refers to "sustaining co-ordination and coherence among a wide variety of actors with different purposes and objectives such as political actors and institutions, corporate interests, civil society and transnational governments" [25]. Past scholars attempted to theorise the "decision making" spaces and enlarged "gaps" that have appeared between formalised, hierarchical "tiers" of regulatory government jurisdictions and those increasingly informal, unregulated connections, linkages and inter-relationships and "spheres" of influencing decisions between plural actors who collaborate in co-designing, co-producing, co-delivering and even, co-evaluating policies [2]. For some these "spaces" are "assemblages of power", "multiple polities", or even the exemplification of a "relational state", but what they all have in common is a way of theorising complex state, market and civic society interactions, in particular as spheres of influence, rather than tiers of regulation and control.

Pollitt [26] urged scholars to look beyond existing orthodoxies to find new multi-disciplinary, explanatory frameworks, to explain innovation, creativity and enterprise practices in public services; those integrated and embedded characteristics of daily routines and rituals of public service life. Public entrepreneurs continually seek innovative ways of adapting structures, processes, and operations, but we need clarity on how and why innovation, creativity, enterprise and risk-taking occur. This paper argues that crowdsourcing is an important way of innovative delivery of public services. Indeed, a wide variety of research and projects around the world is based on the more active, inclusive, and broader participation of different stakeholders [27; 28], in line with the development of the quadruple helix model of innovation, that recognizes society as one of the crucial actors in the innovation system [9], together with science, policy, and industry. The fourth helix has been defined as civil society, consisting of groups representing demand-side perspectives, such as innovation users and consumers, as well as non-profit organizations representing citizens and workers [29; 30]. Similarly, Vincente-Saez and Martinez-Fuentes [31] explained the concept of "open science" as "transparent and accessible knowledge that is shared and developed through collaborative networks" and it is in this sense that the European Commission program Horizon 2020 [16] and other governments, such as Australia [17], Latin America [18], and India [19] have fostered public involvement in science. Furthermore, we need to identify where there might be opportunities for transformation, who are the key actors, what are the rules of the game, how constrained are public entrepreneurs, what types of novel approaches to use resources creatively are evident, and do linkages between public entrepreneurship and other forms of entrepreneurship achieve greater added value? Other fundamental questions are about how people come together collectively to engage in entrepreneurial processes, the

differences between our traditional notion of entrepreneurship and what is happening in a variety of "public" and partnership settings, such as crowdsourcing to stimulate enterprising behaviour. Also what might be learnt from the public realm or those "grey areas"; spaces between formal, statutory and regulatory agencies and informal, fluid spaces where the public, private and civic worlds interact, and in which enterprise can flourish? How are different communities of interest assembled to occupy the spaces that government traditionally occupied? What are the opportunities and barriers for enterprise in the public realm? Furthermore, a key question is "do entrepreneurship and innovation really apply, or not, in a public sector context?" The answers to such questions depends rather a lot on how we define the public realm, or seek to examine the enlarged action spaces from which the state is retreating from traditional service delivery. This process has opened up possibilities for wider constellations of entrepreneurial and innovative endeavour to plug perceived gaps in coverage.

2.2 Crowdsourcing as a New Frontier for Public Service Delivery
Much recent literature has focused on the need for more innovation and enterprise in the public sector [32; 33], based on the view that innovation can contribute to enhanced quality of performance, and an improvement in governmental problem solving in dealing with "wicked" societal issues [34]. A systematic review of literature on innovation in the public sector led researchers to examine the antecedents and outcomes of public as well as ascertaining definitions, types and goals of public innovation [35]. However, their comprehensive research was published with a cautionary note because it was only a first step in looking beyond the rhetoric of numerous public innovations and reform programmes. Public innovation is often considered to be a magic concept, but the reality is that little is known about this novel field of enquiry. The findings that follow on crowdsourcing offer tremendous scope for understanding levels of innovation and enterprise, though it remains to be seen whether or not they can replace over two hundred years of state intervention and policy making. The findings are a response to the call for more empirical and theoretical knowledge and research in the field of innovative public service financing and delivery.

The employment of crowd-based practices in the public sector, as new forms of governance and innovation need be aligned with the concepts of co-creation and co-production, which appear to be used interchangeably in the existing literature in terms of how they are defined [4]: in both cases, citizens are considered valuable partners in developing and designing public services [36; 2]. The idea of co-creation is based on the active involvement of end-users in the production process [5; 6; 4]:when this active involvement is present, it's common to also find the term "co-production" in the literature [4]. The main distinction appearing between the two concepts is that in co-creation citizens are involved as initiators or co-designers of services, while in co-production they are only engaged in the co-implementation phase.

But in order to ensure sustainable innovations and growth within society, it becomes necessary to implement the quadruple helix, fostering the shift from technical to social innovations [10; 11; 12]. Nevertheless, recent studies have indicated that civil society participation continues to be low [37; 38; 39; 40].

For what concerns crowdsourcing, since the term's introduction in 2006 by Jeff Howe [15], a variety of definitions have emerged. Of course, according to Bott and Young [1], it can be seen as a core mechanism of new systemic approaches to governance addressing the highly complex, global, and dynamic challenges of climate change, poverty, armed conflict, and other crisis. Howe [7] identifies three conditions that define crowdsourcing: (i) the outsourcing of a specific task (ii) to a generic crowd (iii) based on an open call. The peculiarity of crowdsourcing is the employment of the "crowd" as a partner [41], with the aim of exploiting the wisdom of the crowd of people not working for the company which outsources the task, based on the assumption that groups of people working together can achieve better results than individuals would [8]. We gathered 28 definitions of crowdsourcing by several authors, and we analysed them on the basis of the following variables: the object of the action of crowdsourcing; the recipient of the action; the medium used to perform crowdsourcing; the technique used; the goal of crowdsourcing and the

issue to compensation for participants. 11 definitions take into account the object of the action of crowdsourcing: most of them define it as "the outsourcing of a task" [42; 43; 7; 13; 44; 14; 45; 46], while others focus on the aspect of "interactive value creation" and on the "intentional mobilization of creative ideas" [47]. The recipient of the action is mentioned in 18 definitions: in most cases, the task is outsourced to what is defined as a large, generic and possibly dispersed community or group of people, which represents "the crowd". Others describe it as " a motivated, interested crowd of individuals" [48] and take into account the fact that the task might be outsourced to specific people because of their personal or group skills [19]. Several definitions describe members of the crowd as "workers" [49; 50; 7], which brings up another important variable: the possibility that these crowds are paid for their work. Only 7 definitions mention the aspect of remuneration, which is seen as optional [50; 13; 51] and quantified as "micropayments, social recognition or entertainment value" [15]. Another significant aspect is that the payment is normally much lower than the actual value of the contribution to the firm that outsources the task [13]. For what concerns the tools employed to perform crowdsourcing, the 12 definitions that take this aspect into account all state that the Internet and web-based tools are essential in gathering a large crowd of individuals. The use of the Internet thus appears to be a key pillar of crowdsourcing [49]. Crowdsourcing is usually carried out in the form of "an open call for contributions" directed at the "crowd" [7; 13; 14; 15]. Finally, the goal of crowdsourcing appears to be, according to the majority of authors that mention it, problem solving. Others see the objective as accessing a large pool of external knowledge [52; 43; 44].

Considering all these definitions, the four key pillars of crowdsourcing emerge: the crowd, the crowdsourcer, the task to be performed and the crowdsourcing platform. Based on these, Hosseini et al. [53] provide a taxonomy of crowdsourcing, and define it as "a new business model, which enables business owners to rely on the power of crowd to get jobs done".

What emerges from the literature so far is that crowdsourcing was born, and is mostly used, in the private sector; we also mentioned, however, the co-creation and co-production processes that take place in the public sector, where citizens are somehow involved in the design and production of public services. The employment of crowdsourcing in the public sector is defined as citizensourcing [54; 55], which represents "a new relationship between a government and its people, based on a set of emerging practices and principles applied from the private sector" [54]. Citizensourcing is "the act of taking a task that is traditionally performed by a designated public agent and outsourcing it to an undefined, generally large group of people in the form of an open call" [54]: it is based on the same four key pillars as traditional crowdsourcing, with the additional feature that the crowdsourcer must be a "public agent". According to the authors, citizensourcing includes three dimensions: (i) citizen ideation and innovation, (ii) collaborative administration and (iii) collaborative democracy.

Nam [56] analyzes the dimensions of citizensourcing from a different perspective, considering its purpose, the strategy that is employed and the type of collective intelligence that is collected. For what concerns the purpose, there are two main groups: the first one regards the actions that public agents take to "look cool" (i.e. image making) without really modifying their behavior; the second regards the actions they take to make actual changes to their strategy, by requesting information (information creation), co-producing services with citizens, involving them in solving problems and in policy making. The strategy can consist of holding a contest among citizens on a specific issue, on creating a wiki to collect and improve information, on adopting social networking techniques and on asking citizens to submit ideas and vote others' ones (social voting). Finally, the collective intelligence employed can be either professional knowledge, i.e. the opinions of citizens who are experts on a given topic, or innovative ideas, coming from the general public.

Crowdsourcing is not only for industrialized countries, since also developing countries need to implement appropriate tools to efficiently manage growth and changes, looking at crowdsourcing as a useful instrument able to facilitate sustainable urban development planning process [20]. Indeed, in spite of common belief, in developing countries crowdsourcing has quietly assumed a leadership role in the space, registering records if compared with developed countries [57]. In

such contexts crowdsourcing is mainly applicable in the framework of popular consultation, election monitoring, constitution drafting processes, or in order to ensure that voices of diverse ethnic and minority groups are heard. More in-depth, in Pakistan crowdsourcing has been applied to manage natural disasters, while in Libya in order to solve civil wars and in Kenya it has been useful to track human rights abuses and violence. Furthermore, while the rise of crowdsourcing in Asia is not widely discussed, the reality is that Asia has welcomed crowdsourcing like no other region, hosting many if the world's largest or leading crowdsourcing sites, benefiting from it more than any other country in the world. And it is going to quadruple in the next five years. For several years, India has been seen as the "King of Crowdsourcing" [57], with the government that crowdsourced the design of the currency symbol.

Given these experiences, crowdsourcing can be seen as a new approach to governance, able to address the highly complex, global, and dynamic challenges of climate change, poverty, armed conflict and other crisis [1]. Crowdsourcing requires significant contributions by volunteers, but they are less predictable and less controllable than formal processes and fragile states could lack the power and resources to institutionalize it – the main obstacle to the development of such phenomenon. If developed states tend to regulated and institutionalize crowdfunding, in developing ones there are not government regulations and actions able to support it: they are characterized by a greater crowd and bottom-up practices, aimed to ensure the same rights for all.

3. METHODOLOGY

As introduced before, our research question is: what is the extent to which crowdsourcing is adopted in financing and delivering public services within New Public Governance arenas? Consequently, our intention is to understand what is the possible role of Third Sector and civil society and we try to do this by providing a descriptive overview of citizensourcing practices in the public sector. The descriptive approach generally describe the crowdsourcing phenomenon, looking at *what, where, when,* and *how* it occurs, without investigating the *reasons why* of it [58]. Descriptive research is usually used to achieve several scopes, such as identification of object characteristics, measurement of data trends, comparisons between phenomena, validation of existing conditions: we chose it in order to observe how certain variables change within different contexts [59]. After a literature review on New Public Governance, underlining a strong need for public innovation, several experiences of crowdsourcing have been investigated with the aim to understand whether and how it can be considered as novel forms of public service finance and delivery.

Experiences of crowd-based practices have been selected on the basis of the convenience sampling [21], since the units of our target result easy to access. Some of them can be seen as "accidental samples" as they have been included in the analysis just because near to researchers. In this sense, we collected secondary data, that we obtained through the analysis of existing contributions and public policy reports.

Once individuated, experiences have been classified according to the following parameters:

- their country or geographical area of origin;

- the dimension, which refers to the phase where citizens are engaged, so what is their contribution within the initiative i.e. citizen ideation, collaborative administration and collaborative democracy [54], and the sub-dimensions, which indicates the specific object of the initiative (e.g. feedback provision, improvement of public services, contests promoted by public institutions, etc.);

- their purpose [56], which regards the potential outcome of the initiative in society, it can be image-making, information creation, service co-production, problem solving or policy making;

- the strategy or instrument that was employed [56], more deeply, how social media are used in the experience, i.e. social voting, social networking, contest and wiki. Social voting refers to platforms that allow citizens to share ideas, opinions, feedbacks, but also to report malfunctions about specific aspects of their civic life, while social networking regards the use of social networks (i.e. Facebook, Twitter, etc.) to achieve the scope of the initiative. Contests are calls launched to collect innovative solutions to common problems, associated with monetary prizes and, finally, through wiki the public sector is able to collect the experts' contribution on specific topics.

- a brief description of the content of the initiative.

Then we analyzed data in a qualitative way, making general considerations on the role played by the Third Sector.

By doing this, we will gain a better understanding of how citizensourcing is actually implemented in the public sector and what actors are involved in the process. Of course, potential disadvantages could affect our approach: first of all, convenience sampling could not be representative of the entire phenomenon, then we have to take into account the risk to influence the results with our personal opinion and, as anticipated, the limit of our scope, that is to the *what* of research, without providing information on *why.*

4. RESULTS

This section is dedicated to results: first of all we will provide an overview of collected experiences of crowd-based practices in the public sector all over the world, then data will be analised qualitatively.

As anticipated, 30 experiences have been selected because easy to access and consult for researchers, Table 1 summarizes them on the basis of established criteria.

Initiative	Country /area	Dimension	Sub-dimension	Purpose	Strategy	Description
FixMystreet.Com	UK	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Social voting	Website available for citizens to report malfunctions in the streets.
Twitter profile of the municipality of San Francisco	US	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Social Networking	Citizens communicate via Twitter with the municipal office in charge of street maintenance.
Patient Opinion	UK, Ireland, Australia	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Social Voting	Platform to share feedbacks and experiences with the national health system.
ExpertNet	US	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Wiki	Wiki allowing public institutions to reach out to the public asking questions on the topics they are working on, in order to reach the most experts citizens on each topic.
Citizen's Briefing Book	US	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Social Voting	Call for ideas to be presented to the President of the US
Initiative by the General Services Administration (GSA)	US	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Social Voting	GSA asked citizens to submit short videos detailing how the website USA.gov had helped in

						making their lives easier.
Open for Questions	US	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Social Voting	Call for 100.000 questions to be presented to the President of the US.
CitizenLab.org	Europe	Citizen ideation and innovation	Feedback and advice given by citizens	Information creation	Social Voting	Website created to improve civic engagement, allowing to collect feedback from citizens as well as their ideas.
Hunchbuzz.com	New Zealand	Citizen ideation and innovation	Feedback and advice given by citizens/Innovation contest	Information creation/Problem solving	Social Voting/Contest	Cloud-based software that allows private and public agents to create challenges and start discussions that lead the community to cooperate to find solutions.
USAID Development 2.0 Challenge	US	Citizen ideation and innovation	Contest created by public institutions	Information creation/Problem solving	Contest	Call for ideas to help solve development problems in areas such as healthcare, agriculture and education.
Prizes and incentives by National Science Foundation	US	Citizen ideation and innovation	Contest created by public institutions	Information creation/Problem solving	Contest	NSF implemented a program offering cash prizes to those who submit innovative ideas in various research fields to strengthen the country's infrastructure.
Citizensourcing initiatives by NASA	US	Citizen ideation and innovation	Contest created by public institutions	Problem solving	Contest	NASA offered 30.000$ to anyone who could provide a formula to estimate the solar flare.
Bright Tomorrow Lighting Prize	US	Citizen ideation and innovation	Contest created by public institutions	Problem solving	Contest	The Department of Energy launched a contest offering cash prizes to those who could create and develop solid lighting products to substitute traditional fluorescent lamps.
Initiative by the US Department of Health and Human Services vs. H1N1 Flue	US	Citizen ideation and innovation	Contest created by public institutions	Problem solving	Contest	The Department of Health and Human Services called for citizens to create video to support prevention against the H1N1 virus.
Showusabetterway.co.uk	UK	Citizen ideation and innovation	Improvements of public services	Information creation/Problem solving	Contest	The UK government set a 20.000£ prize for those who could suggest innovative ways to use the big amount of data it routinely collects.
IdeaFactory by Transportation Security Administration (TSA)	US	Citizen ideation and innovation	Improvements of public services	Problem solving	Social Voting	The TSA allows its workers to submit innovative ideas to improve the national transportation system.
Mimedellin.org	Colombia	Citizen ideation and innovation	Improvements of public services	Information creation/Problem solving	Social Voting	The city of Medellin uses its citizens' collective wisdom to find innovative solutions to its issues.
FutureMelboune.com.au	Australia	Collaborative administration	Urban planning	Policy making	Social Voting	The city of Melbourne asked its citizens to give their input and feedback on urban planning policies for the city centre.

IdeasForSeattle.org and The Unified New Orleans Plan	US	Collaborative administration	Urban planning	Information creation/Problem solving	Social Voting	The websites allow the citizens of Seattle and New Orleans to discuss the issues affecting their cities, to share their ideas, suggest solutions and comment on others' suggestions.
Peer-to-patent	US, Australia	Collaborative administration	Public examinations of patents	Service coproduction	Social Voting	Website opening the patent evaluation process to the public, where citizens can check patents waiting for approval and suggest feedbacks.
Community Patent Review	Japan	Collaborative administration	Public examinations of patents	Service coproduction	Social Voting	Application of Peer-to-Patent in Japan.
Peoplefinder	US	Collaborative administration	Public security	Information creation/Problem solving	Social Voting	Website allowing to locate friends and family in the event of natural disasters.
Texas Virtual Border Watch	US	Collaborative administration	Public security	Information creation/Problem solving	Social Voting	Program created by the State of Texas allowing citizens to control the Mexican border and signal problems.
Twitter Earthquake Detector	US	Collaborative administration	Public security	Information creation/Problem solving	Social Networking	Software that allows to trace and map citizens' account of earthquakes on Twitter.
AMBER Alert Europe	Europe	Collaborative administration	Public security	Information creation/Problem solving	Social Networking	National alarm system, connected to Facebook, used in cases of missing children, allowing citizens and police to cooperate.
Google Person Finder	All over the world	Collaborative administration	Public security	Information creation	Social Networking	Web application allowing individuals to ask for information about their friends and family living in areas hit by natural disasters.
Americaspeaks.org	US	Collaborative democracy	21st century public assembly	Policy making/Problem solving	Social Voting	Website allowing citizens to be engaged in public policies that have an impact on their lives, and providing a space where they can meet to solve public problems.
European citizens consultations	Europe	Collaborative democracy	21st century public assembly	Information creation	Social Voting	Project that involved a limited amount of citizens who were asked to provide their opinion and discuss specific topics.
New Zealand Wiki Policing Act 2008	New Zealand	Collaborative democracy	Collaborative legal coding	Policy making	Wiki	Modification of the law concerning the police, made by using a wiki system to which all citizens could contribute.
Regulations.gov	US	Collaborative democracy	Collaborative legal coding	Information creation	Social Voting	Website allowing citizens to view and comment laws, regulations and documents published by the US government.

TABLE 1: Overview of the main experiences. Our elaboration.

4.1 Data Analysis

As we see from the table, out of 30 experiences 19, so more than 63% of the total, were implemented in the United States, and only very few of them occurred outside English-speaking countries; only one experience is applied all over the world and only another one in Japan. This aspect could represent a consequence of the convenience sampling, according to which experiences from developing countries have not taken into account (representing a limitation of our work). Furthermore, all European initiatives came from the Union level, not from individual member countries.

For what concerns the dimension investigated, the most, almost 57%, is about citizen ideation and innovation, the other 30% is about collaborative administration and only 13% is about collaborative democracy, confirming a low rate for civil society participation. While for what concerns the sub-dimension, 30% is about feedback and advice given by citizens, about 16% represents contests created by public institution and another 16% regards public security. Only 10% is dedicated to improvements of public services, while lower percentages are about urban planning, public examinations of patents, 21st century public assembly, and collaborative legal coding.

Looking at the specific purpose pursued, 37% of the investigated experiences is classified for information creation, the 13% for problem solving and the 33% combines information creation with problem solving. Rates about 7% are for policy making and service co-production, while only one experience is for both policy making and problem solving.

Finally, the instrument used is social voting for almost 57%, social networking for 13% and contest for 20%. Only 7% of the experiences uses wiki to collect the experts' contribution on specific topics and only one experience is based on social voting and contest.

5. DISCUSSION

The most interesting finding is that "information creation" and "problem solving" are the main purposes for which crowdsourcing is applied in the public sector: citizens are consulted on selected matters by the public administration, but they rarely cooperate in policy-making activities [37; 38]. This occurs mainly by asking citizens to share opinions, ideas and feedbacks through a dedicated platform. In this sense, we can state that even if governments have started to involve citizens, their engagement still results in a preliminary phase, requiring further efforts in order to become a common and institutionalized practice [39; 40]. Moreover, public administrations tend to address citizens (or groups of citizens) for very specific issues, rather than including non profit organisations and associations. So far, it appears that the Third Sector itself (i.e. non profit organisations) only plays a limited role in crowdsourcing/citizensourcing initiatives, presumably because its involvement would require a broader perspective in managing the co-production of public services. At the same time, however, Third Sector organisations often have a strong grasp and perception of social issues, and they could improve crowdsourcing processes by taking a leading role in transmitting information from the civil society to the public sector and vice versa. The suggestion of such possible role for Third Sector organisations as "transmission belts" between public administrations and citizens can be seen as the practical implication of the work, a new contribution in a context that is not completely understood.

Crowdsourcing represents a valid way to improve the provision for developing countries too [20], but it is especially there that an active involvement of the Third Sector is needed in order to support the crowd ensuring the right to share opinions and participate to the public activity for all [1].

Given the descriptive approach that characterizes the study performed in a specific time, researchers are not able to retrace outcomes related to crowdsourcing experiences and benefits for citizens, that require more time to be verified: they will be investigated in a future perspective.

6. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

Within the realm of New Public Governance and in response to the inadequacies of New Public Management, new relational forms of governance are a challenge to the role of government in advanced democracies in the 21st Century because they raise questions on what type of institutions, organizations and capacities are needed in future to integrate the state's own resources, capacities and knowledge with those of the market and civic institutions. The fourth helix model has been developed and the plurality of inter-relationships between state, market and civic institutions have become the focal point for co-production and co-responsibility of public service delivery and production of public value [9], fostering the shift from technical to social innovations [10; 11; 12]. As Governments experiment with new forms of citizen engagement and the use of digital or other forms of technology to facilitate this, crowdsourcing is a good example of the movement away from hierarchical, top down, bureaucratic forms of financing and delivery services, towards more horizontal, bottom up, facilitative or innovative mechanisms for achieving public value by co-producing services. Properly, it can be seen as a new way to governance addressing the highly complex, global, and dynamic challenges of climate change, poverty, armed conflict, and other crisis [1]. Several definitions have been provided, presenting the "crowd" as the true main pillar of crowdsourcing, requiring a huge contribution from volunteers, that remains less predictable and less controllable than formalized processes.

Existing literature on public sector reform and innovation is limited mainly because much of it is aspirational and lacking a clear empirical or theoretical foundation. Globally governments continue to seek novel solutions to a myriad of social and economic problems, and in doing so they are easily persuaded by quick fixes and innovative ways of addressing some key issues.

In this sense, crowdsourcing is not only for industrialized countries, but is has been adopted also in developing regions to facilitate sustainable urban development processes [20]. However, despite the need for new ways of financing and delivering public services, limited data exists on how new approaches are working in practice: even if we are able to retrace experiences, describing *what*, *where*, *when*, and *how* they occur, we just can hypothesize the *reasons why* they occur, without point out which are the related outcomes within society. There is no magic wand to be used for bringing about novel ways of working, and we need greater understanding on how social and public innovation can be stimulated and operationalised. The findings on crowdsourcing in this paper offer useful and timely empirical data in the field and as such provide a starting point to examine this significant field of enquiry.

Given the public sector's attitude towards openness and cooperation with citizens, crowdsourcing is being employed by public administrations as an important form of public service delivery and innovation; it is focused on citizensourcing (requiring that the crowdsourcer is a public agent), mainly asking for feedback and innovative ideas on public issues. At the same time, we found that public administrations mainly consult citizens on selected issues, rather than involving them in broader policy-making strategies. Moreover, non profit organisations do not seem to be included in this consulting process, so thus far the role of the Third Sector appears to be marginal. However, for what concerns practical implications related to this paper, we believe that its role could be strengthened and improved if the public sector assigned non profit organisations a leading role in crowdsourcing processes. For example, they could act as transmission belts between the citizens and public administration, and they could leverage their deep understanding of social issues and needs to bring them forward to the public administration. Consequently, the adoption of a leadership role by the Third Sector could enhance crowdsourcing processes by making them more than mere consultation and actually creating a privileged communication channel between citizens and public administration. And, in a context where there are no universal solutions to complex problems, unified understanding to effectively plan and implement crowdsourcing, this suggestion represents the practical implication of our work.

Limitations regard the selected sample since selected experiences could not be representative of the entire phenomenon over the world. Furthermore, other limitations regard the lack of

objectivity, since results could be influenced by researchers' opinions and the scope of the analysis that could be restricted to the *what*, without investigating the *why* of the research.

We believe that future research, including further empirical developments, should start by focusing on Third Sector organisations in order to get their opinion on such processes, with the objective of crafting a strategy for a broader engagement of all actors in crowdsourcing processes.

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