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Culture, Motivation and Advocacy: Relevance of Psycho Social Aspects in Public Data Disclosure **Francesco Molinari, Grazia Concilio**

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Abstract: This single-case study reports about the early lessons learnt from an ongoing exercise of public data disclosure and utilization in the City of Milan, run under the umbrella of a EU funded project. An urban living lab is being conceived of and activated by the initiative of Politecnico di Milano and with the involvement of both local government and civil society actors on a peer level. The global aim of the lab is to identify and promote meaningful value chains for the opening of Municipality datasets, keeping an eye on both economic and societal value creation, thus addressing some of the known limitations of the first wave of data disclosure policies worldwide. Instrumentally, the organization of challenge driven Hackathon events - with a pre-hack and a post-hack phase added to each - helps finalize actions and mobilize resources. However, beneath the surface of an apparently non-controversial initiative, several currents and eddies are observed and worth noting, which we suspect are recurrent in similar cases. In this paper, we particularly focus on three of them, using the theoretical lens of psycho social and behavioural analysis: the influence of political culture on the management of public goods; the aims and motivations of involved stakeholders guided by different interests and competencies; and the role of third party advocacy groups (or policy entrepreneurs), some of them driven by enduring visions and principles in procuring sustainable innovation of City open data policies.

Keywords: hackathon, political culture, stakeholder motivation, advocacy groups, urban living labs

1. Introduction

Local government is one of the key actors of public sector information disclosure worldwide. Approximately one third (or 800+) of the 2700+ open data portals from all over the world listed in the OpenDataSoft dataset (2017) belong to local government bodies - either city or county or district level, thus without considering the regional or state level portals, which very often also host datasets of local origin (e.g. from smaller sized public agencies or municipalities).

The rationale of this phenomenon is straightforward, as historically, in the most developed countries, but also instrumentally, as a commonly practised institution building approach in the emerging countries (World Bank, 2017), political and administrative decentralisation is established as the key form of governance, implying a division and distribution of power, authority, responsibility and financial resources between the centre and the periphery, so that public functions are managed and public services are delivered in the closest possible site to the ultimate beneficiaries of government action – the citizens.

Therefore, local government organisations handle massive amounts of data and information on a daily basis, in the context of their institutional duties, and the discourse on whether and how this huge wealth of knowledge should and could be opened up to a broader audience is extremely relevant for them. Notably, such discourse becomes even more relevant if we consider that a growing share of local government functions and services is actually co-produced with and by the citizens (Verschuerre et al., 2012), who are thus even more entitled to feel and act as the real owners, not just the passive, one time users, of the data produced or augmented in the course of the process.

However, like in many other known examples of participatory policy making and public service collaborative design (Holmes, 2011), citizen involvement in Open Data has been debated or attempted, but too infrequently realised, even at local government level.

For instance, the closed EU-funded “Citadel... On the move” project (Marsh et al., 2015) successfully extended the scope of Open Data from city portals to all the actors in a (Smart City) community. A shared and collective space, the Open Data Commons, designed as a mixed socio-technical platform showing eco-systemic features, acted as an open and public collection of tools and services that users could navigate, acquire/adopt, and populate as they wished. The specific expression used to name the platform, “Commons”, reflected the idea that Open Data should be considered as a common good, in a public sphere whose stewardship is to the benefit of both public and private stakeholders, as well as individual citizens. Another notable component of the “Citadel...on the move” project vision was the requirement that Open Data based applications should be unbundled from the datasets, with each app accessing the required information source only when needed, for example via a remote server located somewhere on the Internet. By so doing, and thanks to the provision, in

the context of the project, of a number of freely reusable application templates and particularly of an “app generator” service, every citizen could be empowered to become an app developer, even without special IT knowledge or immediate business purposes, but simply using the development facilities and the city datasets available on the Open Data Commons.

Another EU funded project, “Open4Citizens” (henceforth O4C; see also Open4Citizens, 2017), which is now in its second year, aims to reduce the gap between the opportunities offered by Open Data and the citizens’ capacities to imagine new ways of exploiting them. To that purpose, O4C involves citizens in activities of public policy and service co-design (or re-design) using Open Data within hackathon-like processes, where the hackathon concept has been reframed to become more comfortable and inclusive for non-IT experts. One of the main goals of the project is to make the idea of Open Data as Commons an operational truth in the five city pilots of Barcelona, Copenhagen, Karlstad, Milan and Rotterdam. To do this, the project, among other things, has developed a more elaborated concept of hackathon, which is structured in three main phases: a pre-hack, a hack event and a post-hack phase. Another key expected outcome of O4C will be the permanent establishment, in each pilot city, of an Urban Living Lab (Concilio and Molinari, 2015), named OpenDataLab, which will operate in two fundamental ways:

- As a public-private-people partnership, being formed for the first time on the occasion of the hack event, or already existing as a precondition for a successful hackathon, the OpenDataLab will pursue and achieve the goal of shaping the community of participants in the most harmonious way, including all organisational entities, as well as natural persons, holding a vested interest in the realisation of the local initiative;
- As a physical and virtual hub of resources, located at the premises of the organisation in charge of the O4C pilot as well as on an online platform currently under development, it will facilitate and support the hackathon preparation and follow-up actions, the results of which will feed back to the OpenDataLab as part of the local “Commons”.

Thus, the global aim of O4C is to identify and promote meaningful value chains for the opening up of local government datasets, keeping an eye on both economic and societal value creation, and addressing some of the known limitations of disclosure policies worldwide. Instrumentally, the organization of challenge driven hackathon events - with a pre-hack and a post-hack phase added to each - helps finalize actions and mobilize resources to the required extent, particularly involving the organisations in charge of public data disclosure or management, as well as service delivery to the benefit of all citizens.

This paper reports about the early lessons learnt from the pilot run in the City of Milan during the year 2016, under the umbrella of the O4C project. After a brief description of the case, done in Section 3, which may give the impression to the reader an apparently non-controversial initiative, Section 4 describes some currents and eddies that have been observed beneath the surface of the relationships activated for the preparation of the hackathon, and which we suspect are recurrent in many initiatives of public data disclosure. In particular, we focus on three of them, using the theoretical lens of psycho social and behavioural analysis: the influence of political culture on the management of public goods; the aims and motivations of involved stakeholders guided by different interests and competencies; and the role of third party advocacy groups (sometimes also called “policy entrepreneurs”), driven by enduring visions and principles, in procuring sustainable innovation of Open Data policies.

Our interpretation of the subject of this analysis is that it addresses a similar research problem to the literature on barriers to public data disclosure, an overview of which is presented in the following Section 2, together with other inspiring sources. The value of our contribution lies in the fact that, as our literature search will document below, little attention has been paid so far to the less technical or organisational, and more cultural and psycho social, factors that impede or slow down a really inclusive process of data opening, particularly at local community level. Section 5 concludes the paper with some fresh ideas and propositions for future work.

2. Related literature

This section provides a quick overview of four research strands that we consider relevant to frame our study. These respectively concern:

- The barriers to open data in public organisations,
- Stakeholder analysis and its instantiation within the context of public data disclosure,
- The relationship between political culture and institutions, and
- The concept of “policy entrepreneurship”.

For the sake of brevity, we will consider the above sources in a unitary manner, also because our research lies at the intersection of those strands.

There is now a wide consensus on the fact that like any other government transformation process, public data disclosure is easier said than done. A common conclusion to many authors discussing the various problems and especially the barriers associated with it (such as Barry & Bannister, 2014; Conradie and Choenni, 2012 & 2014; Janssen et al., 2012; Van Veenstra and Van den Broek, 2013; Zuiderwijk et al., 2012 & 2014) is that a stepwise approach to opening up data is recommended, comprising feasibility analysis, actual publication, and the maintenance of published datasets.

The need of a feasibility analysis arises from the evidence that simply disclosing previously inaccessible public sector information is irrelevant per se, unless joined by a clear understanding of why this is to be done, both in relation to the potential uses of released data, and the limits within which they can materialize. Additionally, many of the non-technical, yet often very relevant barriers to publication can emerge right at this stage (e.g. concerns for privacy, security threats, licencing issues etc.).

The publication stage usually, but not inevitably, leads to the creation of an open data portal, which is often, but not always, managed by the same entity that disclosed its contents. In fact, alongside the 2700+ examples of the OpenDataSoft (2017) census, mentioned in the Introduction, a growing number of portals are active as a sort of “aggregators” of multiple datasets from different original sources, trying at the same time to solve the issue of heterogeneity (i.e. different formats, metadata, search facilities, classification rules, etc.) and the lack of machine readable interfaces (typically by the use of APIs that allow to include the datasets directly into the applications built with them). At this stage, some of the non-technical problems and barriers that emerge may be related to the fact that unless data release is a priority for the local government body or agency, creating and maintaining a portal of this kind is an expensive activity, exceeding the normal routine, and the resulting value (or incentive to act) for data owners may not be high enough to justify a deep engagement. Also, what happens quite regularly is that the portal managers, not knowing much about the potential uses of published datasets, do not share their agendas with the public, but simply keep their own timing and set of priorities in a non-disputable manner.

However, the third stage is where most data disclosure projects actually fall behind the expectations raised. In many cases, because of resource constraints, the quality of datasets is poor from the beginning (incomplete, in non-machine readable form, no longer updated, etc.) and does not improve over time. Therefore, while it can be safely stated that a certain dataset has been made public, technically speaking it is not open yet, because the use and reuse of data is extremely difficult, if possible at all. This situation may be due, at least in part, to a latent tension between the elected officials pushing to have more and more information published at any rate, and the appointed managers who are more reluctant, for a variety of reasons, to follow them proactively.

For instance, a 2009 report to the Australian Government of an Expert Taskforce (Hardy, 2015) mentioned among the key barriers to public data disclosure: a preference of the elderly age classes (holding middle to top management positions in government) for maintaining secrecy of information; concerns about the lack of accuracy of what was being released; and fear that mistakes or misconduct of government employees might be exposed.

In the case of Milan, we witnessed this tension (and the resulting need for a compromise) even more deeply rooted in the very same government of the Municipality, with an Alderwoman, in charge of innovation and digital transformation, affirming to be satisfied of the huge number of datasets already public on the City's transparency portal, and an Alderman, member of the same Council, in charge of Open Data and Participation, who personally endorsed and officially supported the hackathon initiative launched under the O4C project, in the context of which a new set of data was made available – on the building permits released to the biggest construction sites now active in the centre of the City. On the other hand, the attitude of the City managers we involved in the process was unequivocally, and sincerely, aligned to the Alderman's vision, showing once more how difficult it can be to interpret, or predict, the internal dynamics to a big and complex public administration body such as the one considered here.

The difference in those views – both holding some element of truth – on the maturity of Milan government's public data disclosure policy was not due to a limited understanding of the expected gains from Open Data (as the Alderwoman was formerly a manager at one of the biggest IT multinational companies in the world), but probably to an underestimation of the requirements of the value chain actors this policy is supposed to look at, and a corresponding overestimation of the complexities of embarking the Municipality and its staff in other incremental improvements of the same policy's effectiveness towards the local economy and society.

This attitude is not new.

In fact, as the practitioners of Stakeholder Analysis in relation to eGovernment in general (e.g. Flak and Rose, 2005; Harrison et al., 2012) and to public data disclosure in particular (e.g. Martin et al., 2011; Gonzalez-Zapata and Heeks, 2015) may have experienced multiple times, a problem of lack of representation in co-determining the direction of public policy arises with usually two categories: the local private sector, thus restricting the

potential options to derive economic value from Open Data, and the citizens, thus the restricting options to achieve societal value from the process implementation.

Within the O4C project pilots, the creation of a public-private-people partnership akin to an Urban Living Lab (Concilio and Molinari, 2015) is preliminary and probably decisive in filling in the “missing middle” (Gonzalez-Zapata and Heeks, 2015) or bridging the connection between “a reality of data provision and an aspiration of developmental results”.

Taken from this perspective, we see the successful implementation of an Open Data policy, particularly at the local level where a stakeholder ecosystem can be more easily identified (and formed if lacking) as an eminently cultural issue. Cultural, first and foremost, in a political sense, i.e. having in mind “the sum of the collectively held but not formally institutionalized norms and beliefs which steer political actors in their public views and actions” (Rauschenbach, 2012). But in light of our previous reference to the tensions inside the government’s “black box”, also in a broader sense, i.e. politico-administrative, including “the modal pattern of values, beliefs, attitudes, and predispositions that characterize and identify any given administrative system” (Dwivedi, 2005). And finally cultural as a diffused perception of the Common Good by involved stakeholders, including business and societal actors, enabling to acknowledge the direction of a policy change as both legitimate and required (Kohlberg, 1984; Jones et al., 2007).

What is important to keep in mind as main tenets of the literature on political culture is its conception as the outcome of a learning process, taking place both at individual and collective level, and being reinforced by the connection with existing or emerging institutions, for instance an enlightened (i.e. open and inclusive) school system or the experimentation of participatory decision making trials (Rauschenbach, 2012).

It is therefore our vision, supported by previous research results (Concilio and Celino, 2012), that by adopting an experimental mode in the promotion of meaningful applications of Open Data at City level, engaging all the relevant stakeholders in a shared organization of ideas and actions, a more subtle and advanced practice of advocacy can be established, which transcends the individual goals and interests of the respective categories and is driven by the intent of procuring sustainable innovations in the current policy stance.

This vision looks pretty similar to the definition of “policy entrepreneurship” introduced a few years ago by the American political scientist John Kingdon (1984), and later expanded by Mintrom and Norman (2009) with a more direct reference to policy change. According to this definition, an individual or more rarely a stakeholder organisation adopt innovative approaches and invest time, energy and reputation in influencing the behaviour of politicians and other stakeholders in a desirable new direction. The main difference here from the scholarly concept comes from the fact that altruistic motives – related to the promotion of the Common Good – prevail over the self-interests of the “classical” policy entrepreneurs.

3. The case of Milan: a focus on transparency in urban transformations

3.1 The pre-hack phase

The rationale of the O4C pilot was the presence of recurrent conflicts between the Municipality and the citizens on various issues related to urban transformation. These were turned into three challenges, being the outcome of the repeated interactions between the Politecnico di Milano’s “policy entrepreneurs” and some of the most active citizen groups. These were also used to feed the hackathon event (see Fig. 1 for an example):

- **avvisaMI** (“I want to be warned!”) – or, how can the timeliness and completeness of the information disseminated by the Municipality and the companies in charge to the residents in the areas affected by the public works be improved by an appropriate use of open data?
- **cantieri che disastro!** (“What a messy construction site!”) – or, how can the citizens living nearby be reassured and better informed/documentated about the (low level of) impact of the existing construction sites on urban environment (air pollution, noise, etc.) as well as on the same people’s lifestyles (cycling lanes, green areas, traffic diversions etc.)?
- **parliamo di Milano** (“Let’s speak about Milan!”) – or, how can the quality and effectiveness of civic participation in decision making on urban transformations be improved thanks to the use of open data and the development of new applications?

Discussing about these challenges with the elected officials and appointed managers of the City led soon to the realisation that disclosing public data (e.g. on building permits) to facilitate the emergence of new mobile/web apps was only a minimal part of the required innovation in local government practice. In fact, a more general, and more strategic, simplification of internal decision making and coordination processes was to be achieved (reducing their current level fragmentation) before being able of delivering the required level of transparency to the community. This “challenge in the challenges” showed all its relevance also for the administration, who

was not able to get a complete vision of the ongoing urban transformations, even from the data in its sole possession.

IL PROBLEMA
Milano è una città in cui i cantieri spuntano all'improvviso, frequentemente, numerosi, di dimensioni ampie o ridotte. Alcuni durano poco altri restano aperti per anni. Tutti creano numerosi disagi ai cittadini e in molti casi il disagio è legato alle pessime condizioni ambientali conseguenti alle opere eseguite nei cantieri.
Enormi quantità di polveri, rumori insopportabili dovuti alle manovre di mezzi e alle lavorazioni, inquinamento luminoso se nei cantieri si lavora anche di notte... Tutto questo riduce enormemente la qualità della vita dei cittadini che vivono o lavorano in prossimità dei cantieri.

Una storia da esempio
Giorgio lavora come guardiano notturno e rientra a casa al mattino verso le 9,00 quando tutti i suoi famigliari sono usciti per andare a lavorare o a scuola. Suo figlio Riccardo rientra da scuola alle 13,30 e Giorgio deve preparargli da mangiare: ha solo 4 h per dormire, ma, da quando hanno aperto il cantiere su Viale Argonne, Giorgio proprio non ci riesce perché i rumori delle scavatrici e dei martelli pneumatici sono incessanti e fortissimi. Da qualche settimana Giorgio sta mostrando segni di un severo affaticamento nervoso.

SOGGETTI INTERESSATI DIRETTAMENTE

- Cittadini le cui vite si svolge in prossimità di cantieri estremamente "fastidiosi"
- Cittadini affetti da malattie respiratorie per i quali la presenza del cantiere può alterare significativamente la qualità della vita e la sicurezza
- ...

DOMANDE/OPPORTUNITA'

- Come possono essere certi i cittadini che le condizioni ambientali conseguenti all'esistenza di cantieri non superino i limiti di rischio per la salute?
- Come possono usare i cittadini i dati aperti per confrontare le condizioni ambientali dei cantieri vicini alle loro case con quelle di altri cantieri?
- Quali strumenti possiamo fornire ai cittadini per monitorare le condizioni ambientali conseguenti alla presenza dei cantieri?
- ...

ALTRI SOGGETTI INTERESSATI

- Amministrazione Pubblica a quale è molto complessa e onerosa la gestione delle proteste dei cittadini
- Imprese costruttrici che avranno costi maggiorati dalle complicità derivate dai conflitti urbani
- ...

Figure 1: The “cantieri che disastrol!” challenge

3.2 The hackathon event

The O4C coding marathon took place on December 17-18, 2016. The event was organized at the premises of Politecnico di Milano and endorsed by the City Alderman for participation and Open Data. Advertising started about 15 days earlier on Eventbrite with tickets made available for three different categories of participants: 1) creative designers, ICT developers, communication professionals; 2) public officials, and 3) ordinary citizens. Two days before the event, registered participants received the three challenges resulting from the pre-hack phase and a package containing the new data made available “ad hoc” by the Municipality in addition to what is already published on its open data portal.

The event was attended by more than 70 people divided into 11 teams, mostly belonging to the first category of participants; citizens (about 10) and public officials (3 of them) played the role of “on demand advisors” to the working teams. Some participants registered with a clear intention to be a team; others had to create or join a team before starting to work. Of 11 teams, 2 were set up in this way. During the initial brainstorming, the teams were supplied with lists of needs associated to each challenge (see Fig. 2 for an example) identified and specified during the pre-hack phase.

Cittadini	Funzionari comunali	Imprese che gestiscono i lavori
Monitorare con frequenza gli impatti che i cantieri aperti hanno sullo spazio circostante: PM10, CO2, rumore, inquinamento luminoso	Allestire centrali di rilevazione e monitoraggio degli impatti ambientali dei cantieri e ricevere / elaborare i dati di osservazione con notevole frequenza	Prevenire, controllare e ridurre al minimo gli impatti ambientali derivanti dalle operazioni di cantieri, minimizzando il rischio di conflittualità
Conoscere il tipo di cautele e misure di prevenzione che sono state messe in campo per attenuare tali effetti	Verificare l'appropriatezza delle cautele e misure messe in campo per il contenimento degli impatti ambientali	Rispondere con chiarezza alle numerose domande poste dai cittadini
Ricevere informazione in tempo reale ogni volta che i limiti di legge vengono superati	Ridurre il più possibile il ritardo fra la produzione del dato e la sua analisi ed interpretazione	Gestire i picchi di emissioni evitando la creazione di inutili allarmismi e riducendo i rischi giuridici
Poter comunicare agli organi competenti eventuali superamenti dei limiti di emissioni nell'area cantiere	Favorire una comunicazione efficiente con i cittadini creando forme e modalità semi-automatiche di ricevimento dei reclami	Controllare e ridurre al minimo gli impatti ambientali
Poter contribuire alla misurazione degli impatti ambientali con proprie rilevazioni	Creare un sistema che integri i dati rilevati oggettivamente con quelli segnalati dai cittadini	
Essere informati in modo chiaro sui possibili risarcimenti per compensazione dei danni subiti	Disporre di evidenze analitiche sugli impatti ambientali provocati dalle operazioni di cantiere	Gestire la comunicazione con i cittadini in modo aperto e trasparente
Poter dire la propria sulle opere di compensazione eventualmente in carico alle imprese incaricate dei lavori o ai promotori delle opere		

Figure 2: Needs associated to the challenge “cantieri che disastro”

A group of 15 open data experts have been working as mentors along the whole event duration to:

- assist the development teams in addressing whatever need was arising
- discuss emerging ideas and assess the resulting scenarios

- explain the functioning of the tools for data visualisation made available by the O4C project
- facilitate a profitable use of the location (many classrooms to be rearranged for the plenary sessions, to host the team work, for food provision, to enable rest and nightly work)

At the end of the two days the results were presented in a pitch mode: 6 apps and 5 mock-ups of applications were developed (one per team).

A jury composed of the Milan Alderman, a City manager, two open data practitioners and one representative of Politecnico di Milano, selected the best output for each of the two categories.

3.3 The post-hack phase

As of January 2017, the winning team for the app is working in cooperation with the competent municipal office to turn the prototyped solution into one of the online services supplied by the Municipality. In addition to that, the Alderman responsible for Open Data asked the O4C team of Politecnico di Milano to lend support in writing up the new Plan for Transparency of the Municipality, with special respect to a “roadmap for data governance”, which was notably missing at the time. By so doing, the idea of “Open Data as Common Good” is starting to become operational.

4. Mapping politically relevant behaviours for data disclosure policy

4.1 The influence of political culture

The experience of the O4C pilot in Milan allowed us to identify at least two components of the political culture affecting the propensity to adopt effective data disclosure policies.

The first element was related to the organizational structure of the City, being strongly affected by a relevant political competition inside the same organization. Large sized municipalities, in fact, are normally “siloe” structures; and each silos works under the guidance of an elected official, willing to show her/his own political ability and efficiency. This may establish a sort of private interest in the management of the acts, procedures or processes depending on them, or which they are politically responsible for.

In this sense, even the data produced or stored by that silos are considered as a sort of exclusive property, which is not shared with other silos, even if that may bring benefit the Municipality as a whole.

Impossible tracing of public decision making

The O4C pilot in Milan is aimed to support transparency in urban transformations. The latter may have different origins (e.g. by a private or public initiative complying with the City’s master plan; driven by the investment plan of the Municipality; to tackle an emergency; etc.). Usually transformations start materializing after a decision is taken in one of the Municipal offices in charge of the specific procedure relevant to the case. In addition, some decisions may need several steps, each managed by a different office. Evidence of each decision may be found in one or more datasets of the City and it is quite hard to trace the whole process starting from the data unless you already know the underlying story. No clue is given to identify the transition from a procedure to the following one within the same decision making process and this implies that data (even if available in open form) does not allow to spot any possible link or relation among them.

Box 1. Siloe organizational status is reproduced in data production and management

The second relevant element of the political culture affecting the management of data is related to the role played by data in the Municipality procedures. Data is rarely, almost never, considered as a public resource per se; it is rather seen as a functional component of bureaucratic procedures and, as such, not considered as a relevant output of any process. This reduces the attention to data production and management and does not include any scenario of data re-use or utilization in other activities or processes. In a sense, data produced by public administration procedures (or considered as such) may not even be looked at as a public good, which strongly limits the range of opportunities (in the small story in box 2 the questions posed by the public official of the municipality show that data is conceived within a precise aim of single use).

What is data needed for?

The City of Milan has made data on “permits to occupy public soil” available on the Municipal web portal since long. However, the dataset is published incomplete with respect to the data generated by the process: only 4 fields are made available out of the 15 composing the full dataset. The cuts are guided by the norms on privacy protection, enforced against a “minimum” standard responding to transparency needs. The dataset is adjourned every 6th month. When the O4C team started discussing the opportunity to make this dataset available with a higher time frequency and including many more information fields than those already published, the manager in charge of the permit procedure asked: “what is that dataset needed for?” and in particular, “why do you also need to know the exact aim of the occupation?”

Box 2. Drivers of data disclosure

In both cases, it is clear that failure in considering data as public good (or even better, as Commons) finds its origin in the (merely) bureaucratic approach to public service production and supply; one could even say that public services themselves are not considered or managed as common goods.

4.2 Aims and motivations of local government stakeholders

Data production and management are carried out outside a predefined strategy or plan by the Municipality. In addition, and as a consequence of this, approaches to data production and management are strictly driven by the requirements of the procedure directly producing the data; the eventual needs recognized as relevant for additional use of the data; any interest or idea entering public administration and producing requests on data use.

Considering public data as a common good would make data production and management free from any limitation related to possible uses. Opening data would be equivalent to the creation of an “opportunity field” for any actor to make valuable use of the data. While this is widely recognized in both the scientific and the business domain, it is yet no more than a slogan for public administration, and work within the O4C pilot has confirmed this.

Such orientation of data production and disclosure to precise use makes data production and management exposed to a large variety of interests and requests that reduce data quality and, even worse, its accessibility. Considering our experience with the Milan Municipality, three categories of stakeholder are relevant in these “usage oriented” dynamics of data disclosure:

- Public officials
- External subcontractors (ICT producers/suppliers)
- Central government policy makers

Distinctively, each of these actors affects the data disclosure mechanisms and/or associated behaviours.

Public officials play two different roles: they can either be directly responsible for a data set or managing a procedure whose implementation requires data produced elsewhere within the administration. In the latter case, the official influences data production and management depending on the role she/he assigns to data in the implementation of the procedure she/he is responsible for. The result also depends on the extent to which she/he recognizes public data as common goods so affecting the availability to disclose data. A special figure of public official is the internal ICT manager who, sometimes, can develop a sort of private property management approach to the data and reduce her/his availability to cooperate in the data disclosure.

The database of the local taxation office

Driven by a clear intention to increase the effectiveness of tax collection in Milan, the responsible manager has created one of the richest and most effective databases of the whole Municipality. The manager was fully aware of the importance of her activity and implemented two main strategies: the first was aimed at connecting the procedures of tax collection to other bureaucratic procedures handled by different municipal offices; the second at increasing the level of interoperability between her own database and those of other public institutions that are external to the City, but still working on/for the same procedure.

Box 3. Effective use of data for fiscal good practice in Milan

ICT producers/suppliers can play a key role in the process for several reasons. Often they are responsible for some platforms supporting specific procedures: this makes their cultural approach to data production deeply affect the process of disclosure, especially when the guidelines supplied by the public administration for the creation of such platforms are not clearly oriented to the production of data as common goods.

In addition to this, their role is shaped by a business interest, as they are obviously willing to stay necessary to the public administration: in this respect their propensity is to manage the whole system in a proprietary manner. Finally, they rarely (or never, as it was in Milan) have clear obligations to prepare data for being publicly accessible.

Ask the platform manager!

While working on transparency in urban transformations, the O4C team tried to make the rich information produced by the *Sportello unico dell'edilizia* (“Building Authorizations Portal”) fully disclosed in open form. The portal does not work with a database, rather it is a document management system and is run by a private company. When the responsible managers were asked to disclose the information, they answered they had to ask for the

availability of that company to provide the additional work required for the disclosure. The result: a dataset has been made available but the operation cannot be repeated frequently!

Box 4. Data extracted from the “Sportello dell’edilizia”

Central or regional government often deploys norms which strongly affect the disclosure of data and constrain the opportunity to make data become public good. This influence is not a critical issue per se, as higher level institutions often anticipate strategic changes by issuing norms. Rather, norms are produced not considering in its wider and richer perspective their potentials as creators of opportunities to achieve more systemic changes than those related to the specific aims of the norms themselves. This is also true when important opportunities for data disclosure can be envisaged.

Norms on transparency

Transparency is a challenge for every urban government and is a critical dimension for institutional reputation in Italy, where national norms exist establishing procedures for public sector information disclosure. These norms define the minimum level of information to be published but do not identify any specific format for publication. As a result: 1) several data sets are disclosed in a format that makes data hardly accessible, and 2) additional work is required to extract individual data from larger sets whose richness would be an enormous opportunity with respect to any open data principle.

Box 5. Missed opportunities by national norms

4.3 The role of third party advocacy groups

Many stakeholders surround public administration. They interact with it by playing several roles: consultants, representatives of interests, professionals, ...; they act in many different manners and often request to use public data and information in accordance with their own plans. This creates a sort of contingent approach to data disclosure which can distort the way data is made open and accessible. Most critical is the situation when the third party requires and obtains data sets on the basis of a private agreement, so that data is made accessible within an exclusive use: the public good concept is, in this case, completely denied.

Milano che Cambia! (Milan is changing)

Urban transformations are strongly related to policy decisions that are deeply influenced by the local political atmosphere and dynamics. This is one of the main causes for the related procedures to be highly deliberative but lightly formalized into structured and ICT supported systems. The Italian Association of Architects since many years has been trying to collect (into the ‘Milano che Cambia!’ platform) the data necessary to monitor the urban transformations related to the strategic planning of City governments. These attempts have mostly failed when the decision-making procedures (as often happened) were not electronically supported. After the Milan Municipality has recently committed to adopt a clear and general open data strategy, a representative of the Association of Architects is trying to push a transfer of data towards the ‘Milano che Cambia!’ platform, presenting it as the right space for data disclosure but showing a complete indifference to the idea that disclosed data may raise other new, different, more innovative ways to use the same data – which goes against the open data concept itself.

Box 6. External services distorting the data disclosure dynamics

These external actors may act in a less contingent approach. They can be leaders of advocacy groups and able to build bridges between the administration and the citizens. They can be situated in the peripheries and work in/for the city since a long time. As insiders of the urban ecosystem, they play a stable role in the dialogue with the administration, whatever political side it be. They are sort of informal consultants to the City and this gives a particular strength to their action as they keep a behavioral coherence quite independently of the political atmosphere. These actors work as sensors of the urban fabric and often support the administration in keeping the coherence among many shared visions. These dynamics may also influence data disclosure behaviors and the O4C team working in the Milan pilot tried to engage some of these actors to help drive the Municipality towards a vision on Open Data as Common Good throughout the project duration, also enabled by the very recent (contemporary to the project start) creation in the municipality of an Alderman position for Open Data.

5. Conclusions and future work

Although data is conceived, and often referred to as a new Commons, this interpretation is still far from being fully implemented from an operational point of view. One problem is surely related to the inability of most of

citizens to use such Commons, which makes existing and available open data far from being considered as such. Still this is not the only obstacle to make open data become real Commons in our societies.

The O4C project allowed us to better articulate some of the psycho social dimensions explaining the resistance to data disclosure, specifically by public administration: the influence of political culture on the management of public goods; the aims and motivations of involved stakeholders guided by different interests and competencies; and the role of third party advocacy groups.

Project work will continue along the Municipality guidelines on transparency and data governance and act towards the final establishment of an OpenDataLab; we see this as a relevant step forward in the creation of a really open and inclusive government ecosystem to the benefit of the whole City of Milan.

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References

- Barry, E. & Bannister, F. (2014) Barriers to open data release: A view from the top, *Information Polity* Vol. 19, pp. 129-152.
- Concilio, G. & Celino, A. (2012) "Learning and innovation in living lab environments". In: Schiuma, G., Spender, J.C. & Yigitcanlar, T. (eds.) *Knowledge, innovation and sustainability. Integrating micro & macro perspectives*, Proceedings of the IFKAD 2012 Conference.
- Concilio, G. & Molinari, F. (2015) "Living Labs and Urban Smartness: The Experimental Nature of Emerging Governance Models", in Vesco, A. & Ferrero, G. (eds.) *Social, Economic, and Environmental Sustainability in the Development of Smart Cities*, 519 pp., IGI Global Publishing Co.
- Conradie, P. & Choenni, S. (2012) "Exploring process barriers to release public sector information in local government", *Proceedings of the 6th International Conference on Theory and Practice of Electronic Governance*, pp. 5-13.
- Conradie, P. & Choenni, S. (2014) "On the barriers for local government releasing open data", *Government Information Quarterly*, vol. 31, pp. S10-S17.
- Dwivedi, O.P. (2005) "Administrative culture and values: Approaches", Online (accessed January 2017): http://www.desitterpublications.com/books/images/admin_intro.pdf
- Flak, L.S., & Rose, J. (2005) "Stakeholder Governance: Adapting Stakeholder Theory to E-Government", *Communications of the Association for Information Systems*, vol. 16, pp. 642-664.
- Gonzalez-Zapata, F. & Heeks, R. (2015) "The multiple meanings of open government data: understanding different stakeholders and their perspectives", *Government Information Quarterly*, Vol. 32, No. 4, pp. 441-452.
- Hardy, K. (2015) "Opening Up Government Data for Public Benefit". Online (accessed August 2016): <https://auspublaw.org/2015/12/opening-up-government-data/>
- Harrison, T.M., Pardo, T.A. & Cook, M. (2012) "Creating Open Government Ecosystems: A Research and Development Agenda". *Future Internet*, Vol. 4, No. 4, pp. 900-928.
- Holmes, B. (2011) "Citizens' engagement in policymaking and the design of public services", *Research Paper No. 1 2011-12*, Parliament of Australia, Politics and Public Administration Section, 22 July 2011.
- Hossain, M.A., Dwivedi, Y.K. & Rana, N.P. (2016) "State-of-the-art in open data research: Insights from existing literature and a research agenda", *Journal of Organizational Computing and Electronic Commerce*, Vol. 26, No. 1-2, pp. 14-40.
- Janssen, M., Charalabidis, Y. & Zuiderwijk, A. (2012) "Benefits, adoption barriers and myths of open data and open government," *Information Systems Management*, Vol. 29, pp. 258-268.
- Jones, T.M., Felps, W. & Bigley, G.A. (2007) "Ethical theory and stakeholder-related decisions: The role of stakeholder culture", *Academy of Management Review*, Vol. 32, No. 1, pp. 137-155.
- Kingdon, J.W. (1984) *Agendas, alternatives, and public policies*, New York: Harper Collins.
- Kohlberg, L. (1984) *The psychology of moral development. The nature and validity of moral stages. Essays on moral development. Volume II*, San Francisco, Harper & Row, ISBN-13: 978-0060647612.
- Marsh, J., Molinari, F. & Stocco, R. (2015) *The Citadel Open Data Commons*, 128 pp., ISBN-13: 9788891091499.
- OpenDataSoft (2017) "OpenDataInception dataset". Online (accessed January 2017): https://data.opendatasoft.com/explore/dataset/open-data-sources%40public/export/?sort=code_en&location=2,37.57941,0&basemap=mapbox.streets

- Martin, M., Kaltenböck, M., Nagy, H. & Auer, S. (2011) "The Open Government Data Stakeholder Survey", Proceedings of the Open Knowledge Conference, Open Knowledge Foundation, June 2011.
- Mintrom, M. & Norman, P. (2009) "Policy Entrepreneurship and Policy Change". *Policy Studies Journal*, Vol. 37, pp. 649-667.
- Open4Citizens (2017). "Official project website". Online (accessed January 2017): <http://open4citizens.eu/>
- Rauschenbach, R. (2012) "Post-conventional Political Cultures via Processes of Direct Democracy: Theoretical Considerations Based on Jürgen Habermas and Lawrence Kohlberg", *Swiss Political Science Review*, Vol. 18, pp. 477-497.
- Van Veenstra, A.F. & Van den Broek, T.A. (2013) "Opening moves – drivers, enablers and barriers of open data in a semi-public organization", Proceedings of the 12th IFIP WG 8.5 International Conference on Electronic Government (EGOV 2013), Koblenz, Germany, Springer, ISBN: 978-3-642-40357-6, pp. 50-61.
- World Bank (2017) Administrative decentralisation. Online (accessed January 2017): <http://www1.worldbank.org/publicsector/decentralization/admin.htm>
- Zuiderwijk, A., Janssen, M., Choenni, S., Meijer, R., Alibaks, R.S. & Sheikh_Alibaks, R. (2012) "Socio-technical impediments of open data", *Electronic Journal of eGovernment*, vol. 10, pp. 156-172.
- Zuiderwijk, A. & Janssen, M. (2014) "Barriers and development directions for the publication and usage of open data: A socio-technical view," in Gascó-Hernández, Mila (Ed.), *Open Government*, Springer, ISBN 978-1-4614-9563-5, pp. 115-135.