Open Data: European Ambitions and Local Efforts. Experiences from Austria

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1   Introduction

> Europe's public administrations are sitting on a goldmine of unrealized economic potential: the large volumes of information collected by numerous public authorities and services.[1]

Never before have public authorities been equipped with such an abundant supply of data, which is not only caused by, e.g., technical capabilities and social developments, but also by managerially induced public sector reforms. The stock of (digital) information is becoming even vaster and is rising exponentially, leading to the result that we are witnessing the age of "big data" (McKinsey 2011). More and more diverse groups are interested in the growing stock of data, among them both providers (i.e., states) and reusers (i.e., companies and the interested public)—may it be in the form of skeptics who worry about data privacy, or advocates who hype the potential of well-managed data. The latter move on to search for "goldmines" of unrealized possibilities, driven by the spirit of discovery and decoyed by the prospect of doing things that could not be done before. Thus, considering the variety of interest groups and their "territories", the question arises as to how activities within the European Union (EU), at both supranational and national levels, are coordinated in order to unlock the (hidden) potential of public sector data.

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[1] European Commission 2011d, p. 1.

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At supranational level, the European Commission is considered to be a strong advocate of the potential of public sector information (PSI)[2] and the "guiding light-house" of European data reuse: Already in 1998, the Commission identified PSI as a key resource for Europe (European Commission 1998). Most recently, its extensive ambitions to set free the potential of PSI resulted in the launch of the "open data strategy for Europe" because to date—and despite intensive efforts at the European level—"open data is largely undeveloped in Europe" (European Commission 2011d, p. 1). Hence, the European Commission argues from a very economic position—not least because this is its designated area of competency—and sees open data as a vehicle for innovation, growth, and transparency. Major benefits are identified in the reuse of public data, among others the creation of new products and services, and hence, according to the Europe 2020 strategy, the generation of jobs and growth (European Commission 2011a). The Commission presents itself in the role of the "good practitioner" and pursues a spirited and dedicated strategy for the reuse of PSI, while at national level, the topic is dealt with at quite different speeds and intensities. With a view to fueling more enthusiasm and thus more homogeneity among national ambitions, recent strategic efforts at European level and the proposal for a revised Directive on the reuse of public sector data (PSI Directive) have been geared towards more harmonization.

Given that the success of efforts at European level strongly depends on national ambitions, the quality of local implementation, and a certain degree of consistency, we pick up this pilloried incoherence between European and national ambitions in this chapter and examine whether, and to what extent, national open data ambitions are coherent with European strategies and measures and, if not, which other factors have a more determining effect. Fully aware that there is a variety of relevant lenses the topic can be discussed through (e.g., strengthening of transparency, accountability, privacy, public value, etc.), this chapter centers exclusively on the coherence of European PSI strategies and the corresponding national implementation activities, and conceives the open data topic from a "translation" perspective. In doing so, we draw on Austrian experiences to illustrate our points.

The chapter is based on an analysis of strategy papers and other relevant documents, direct contact to European Commission staff, and several interviews conducted with experts at Austrian federal level, within Vienna's city administration and reuser side.[3] The remainder of this chapter is structured as follows: In Sect. 2, we examine the strategic and legalistic measures and ambitions at European level and also sketch the European Commission's expectations towards the member

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[2] Public sector information is defined as "publicly funded information produced or collected by the public sector" (European Commission 2011b, p. 9).

[3] Overall, six people were interviewed. Our interview guidelines drew on interesting aspects from the literature analysis but also emerging topics and local organizational specifics were considered. The interview partners came from different organizations: City of Vienna: CIO; Federal Chancellery: manager responsible for open data in the e-government department; Austrian subsidiary of a large ICT company: business developer; OPEN3 Association: board member; app programmers: two interviews. Each interview lasted between 30 min and 2 h and was tape-recorded when the interviewee agreed to this.

states and their role as "operators of goldmines". Next, taking a national perspective (Sect. 3), we illustrate the ambitions on open data in Austria and give an overview of the status quo. Subsequently, in Sect. 4, we provide a deeper insight and focus on the open data strategy of the City of Vienna. Here, we seek an answer to the question of whether and to what extent developments at European level influence Austrian practices, and which other factors have an effect on efforts in Vienna towards open data. Sect. 5? concludes with a discussion of implications for a stronger strategic coherence with regard to PSI reuse.

2   Open Data Ambitions at EU Level: An Overview

The current strategic orientation of the EU is targeted at overcoming the financial and economic crisis with the ambition of creating conditions for a more competitive economy with higher employment. The underlying "Europe 2020 strategy" was conceptualized in order to "turn the EU into a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion" (European Commission 2010a, p. 5). In this context, smart growth also means making "full use of information and communication technologies and ensure that innovative ideas can be turned into new products and services" (ibid. 11). The benefits of a digital society should be exploited by policies which are committed to regional, national, and EU levels (ibid, see also European Commission 2010c). This priority was also adopted by the EU's "Digital Agenda Initiative," launched in 2010, which is the first of seven flagship initiatives of the Europe 2020 strategy. In this context, the digital agenda stresses the role of public authorities and mentions "governments can stimulate content markets by making PSI available in transparent, effective, nondiscriminatory terms. This is an important source of potential growth of innovative online services" (European Commission 2010b, p. 9). In order to enforce the reuse of already existing public data, and as part of the digital agenda, the European Commission presented the "Open Data Communication" in 2011 (European Commission 2011a). Therein, a package of measures and common standards is proposed in order to provide a better European (legal) framework for public data reuse. For this purpose, the open data strategy not only stresses the necessity of financing instruments in support of open data, as well as the communication between the member states; most notably, it is also accompanied by a proposal for a revised Directive on the reuse of PSI. Figure 1 gives an overview of the legislative framework for PSI (right column) and the underlying strategic documents (left column).

The proposal for a revised Directive on the reuse of PSI is considered an important component of the Europe 2020 strategy and the digital agenda for Europe. The 2003 Directive (2003/98/EC, based on European Commission 1998 and European Commission 2001) regulated the basic conditions concerning the reuse of PSI and addressed nondiscrimination, charging, licensing, and exclusive arrangements. Yet, the Directive only provided a minimum of harmonization and left it up to the member states to go beyond the minimum standards. The fact that only four countries
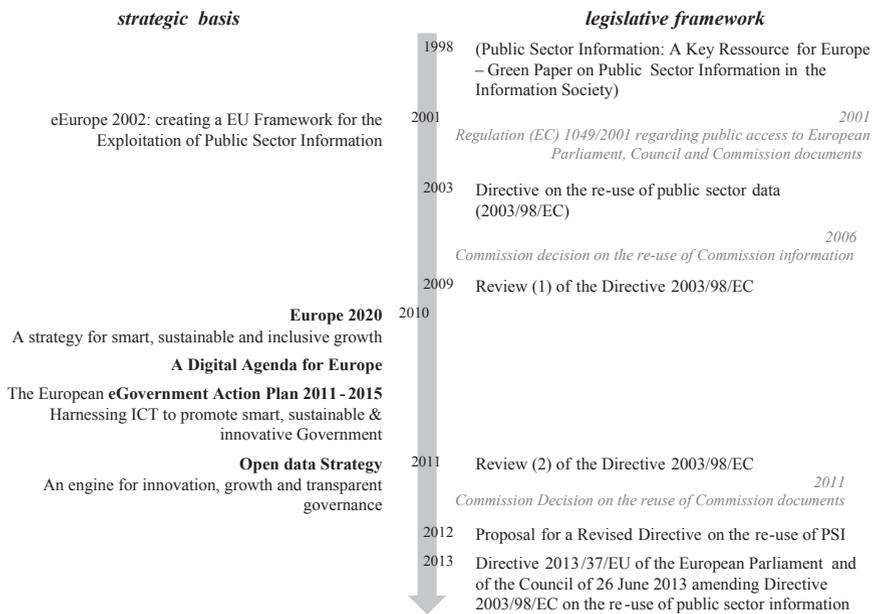
strategic basis		*legislative framework*
	1998	(Public Sector Information: A Key Ressource for Europe – Green Paper on Public Sector Information in the Information Society)
eEurope 2002: creating a EU Framework for the Exploitation of Public Sector Information	2001	*2001 Regulation (EC) 1049/2001 regarding public access to European Parliament, Council and Commission documents*
	2003	Directive on the re-use of public sector data (2003/98/EC)
		2006 Commission decision on the re-use of Commission information
	2009	Review (1) of the Directive 2003/98/EC
Europe 2020 A strategy for smart, sustainable and inclusive growth	2010	
A Digital Agenda for Europe		
The European **eGovernment Action Plan 2011 - 2015** Harnessing ICT to promote smart, sustainable & innovative Government		
Open data Strategy An engine for innovation, growth and transparent governance	2011	Review (2) of the Directive 2003/98/EC *2011 Commission Decision on the reuse of Commission documents*
	2012	Proposal for a Revised Directive on the re-use of PSI
	2013	Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information

Fig. 1 Overview of PSI initiatives at European level, as of August 2013. (Source: Author's own)

met the 2005 deadline for national implementation—the Commission had to open 17 infringement cases—provides evidence for the skepticism of the member states towards a harmonization at supranational level (Janssen 2011). A 2009 review of the Directive (European Commission 2009), accompanied by a public consultation, revealed considerable deficiencies in existing legislation. The European Commission summarized that "both stakeholders and MS (Member States, the authors) indicate that the full potential of PSI reuse has not yet been realized. Public sector bodies lack awareness of their responsibilities and opportunities, and private companies have limited knowledge of their rights and the availability of PSI" (European Commission 2009, p. 6). While reusers argued in favor of a far-reaching revision of the Directive, member states adopted a hesitant position, especially with regard to the scope of the Directive. Due to the delay of implementation and the negative tenor of the member states, the Commission decided to carry out a further review. This review, conducted in 2011, is an essential part of the digital agenda (European Commission 2010b) and demonstrated that, although some progress was reported (web portals, price reductions, new legislation, etc.), barriers concerning the reuse of PSI still exist. The European Commission identified problems, such as insufficient clarity and transparency, unclear and restrictive licensing, lack of information on available data, locked resources, excessive charging, or incoherent approaches across the member states (European Commission 2011b). Against this backdrop, and especially due to the fact that the importance of open data has strongly increased since 2002 when the Commission made its first proposal for the Directive, the 2011 open data strategy goes hand in hand with a proposal for a revised Directive.

In its revised approach, the European Commission focuses on a packaged solution that consists of legislative amendments and corresponding soft law measures. Concerning the former, currently, a general right to reuse public sector data can only be granted if a public sector body has explicitly allowed this reuse. The new regulation, however, creates a genuine right to reuse public sector data: Member states are then obliged to deliver this data upon request (i.e., in principle, PSI has to be open and sensitive data has to be blocked actively). Concerning the scope of the Directive, the new regulation includes an extension and also covers museums, libraries, and archives, which ultimately supplies a mass of new information. There are also new charging rules which reject the zero cost option but instead leave it to the member states to decide whether or not they levy a fee (European Commission 2011e). Thereby, marginal costs should be the basis for the calculation of charges, whereas higher charges can be collected in certain cases (this is especially an issue for museums, libraries, and archives). According to the 2003 Directive, the burden of proof lies with the reusers to show that charging practices do not comply with the rules of the Directive. The proposal for a revised Directive includes a reversal of the burden of proof, so public sector bodies must demonstrate that their charges correspond with the charging rules of the Directive. The proposal of the Commission also intends that "the means of redress shall include the possibility of review by an independent authority that is vested with specific regulatory powers regarding the reuse of public sector information and whose decisions are binding upon the public sector body concerned" (European Commission 2011c, p. 16, see also European Commission 2011a). The proposal does not further specify the characteristics of such an authority. It remains to be seen how the member states react on the additional obligation due to the widening of the scope, the reversal of the burden of proof, and the call for an independent authority. In addition to these legislative amendments, some soft law measures (platforms, guidelines, recommendations, etc.) are proposed. Recommendations concerning licensing provisions, technical formats or price calculations can be the subject of such accompanying soft law measures. In order to encourage coordination and sharing of experiences, the "PSI-Group", a group of national experts for the exchange of good practices, was set up, as well as the "PSI Platform"[4]. The latter is an online platform that is primarily an information network, but it also functions as an important soft-law tool, not least because it also includes the so-called "PSI scoreboard" (a ranking based on the assessment of the reuse situation in the member states).

In addition, EU member states are expected to formulate national open data policies and to orient towards European good practices. The European Commission itself wanted to set a good example and presented a revised "Commission Decision on the Re-Use of Commission Documents" in 2011 wherein it argued that "[a]n open reuse policy at the Commission will support new economic activity, lead to a wider use and spread of Union information, enhance the image of openness and transparency of the Institutions, and avoid unnecessary administrative burden for users and Commission services" (Official Journal of the European Union 2011,

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[4] http://www.epsiplatform.eu, last accessed: August 12, 2013.

recital 12). In 2012, the European Commission planned the launch of a data portal in order to provide a single point of access to search for its data. The data shall be provided in any existing format or language without the need of an individual application (unless otherwise specified) and the reuse is basically free of charge. An enlargement towards the coverage of data from all EU institutions and agencies is planned. In spring 2013, the Commission's data portal was released online[5] in a beta version; the announced "pan-European open data portal" will follow. The latter is conceptualized as a multilingual interface with datasets from the national, regional, and EU level with the aim that one-third of the available public sector data of the member states can be accessed here by 2015 (the already existent portal *publicdata. eu* can be seen as a prototype). In the light of the frequently emphasized importance of accordance of national and regional activities, and using the example of Austria, we will turn to the member states level in the next chapter in order to gain a deeper insight into whether national structures and implementation activities keep up with the supranational performance.

3   Open Data Ambitions at National Level: the Austrian Approach

Although the European Commission has been dealing with the issue of PSI since the end of the 1980s, it has only been over the last few years that the issue has gained more and more attention among national administrations, which play a crucial role as creators and collectors of PSI. And despite the PSI Directive of 2003 being a first step towards a minimum harmonization concerning PSI reuse among the member states, to date existing national rules on the reuse of PSI vary strongly. For example, according to the "PSI scoreboard," the UK, Spain, or the Netherlands are considered to be example-setting operators; some states pursue isolated approaches only, and yet others are still reluctant.[6]

Against this backdrop and particularly under the Europe 2020 regime, the Commission makes reasonable efforts to enforce a stronger harmonization of national approaches and invokes the respective accountability of the European level, as well as of national and local administrations. The National Reform Programmes (NRPs) are the key tool in translating the Europe 2020 targets into national policies: They break down the Europe 2020 targets into national targets and define related measures that need to be taken. The Austrian NRP reflects the need of PSI provision and the European Commission's open data initiative as barely as those of the other member states.[7] Instead, open government is only affected by referring to digital communication in general and e-government solutions in particular. The neglect of the issue of PSI in the NRPs may be taken as first evidence for the suspicion of a

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[5] http://open-data.europa.eu/en/data, last accessed: August 12, 2013.

[6] http://epsiplatform.eu/content/european-psi-scoreboard, last accessed: August 12, 2013.

[7] Based on a keyword search in the 2011 NRPs of the EU-27.

certain inconsistency between supranational and national levels. Nevertheless, open data were stated to be an aspiring topic at national level in Austria.[8]

In this chapter, we illustrate the experiences of Austria, because it is considered to be one of the leading countries in the EU with regard to sophistication and availability of e-government services (European Commission 2010d). From a global perspective, Austria can be seen as one of the top-emerging leaders in the development of e-government (United Nations 2012). Thus, it also seems to be an interesting example to investigate national open-data ambitions, as it could be assumed that an e-government leader may also be an exemplary open data operator.

In Austria, the municipalities are the drivers of opening public data, whereas the federal level, the uncontested protagonist in terms of e-government, is regarded as "dispassionate"[9]. While Austrian cities like Graz, Salzburg, and Linz, but especially Vienna, have been very active, the federal level was reserved and concentrated on a primarily coordinating role, resulting in the foundation of the "Cooperation Open Government Data Österreich"[10]. The corresponding website *data.gv.at* serves as a national meta portal and lists 870 datasets—from different policy areas such as geospatial data on farmer's markets, public toilets, or skiing areas, statistics on the age distribution of the population, ozone pollution data, or real-time public transportation data—that are published by units at all administrative levels (the "producer side"). Yet, less than 7 % of the datasets stem from federal bodies.[11] Compared to most of the municipal initiatives, the open data issue at federal level is not a political, but merely a pragmatic one, which is mainly driven by some interested persons aiming to be well equipped in the face of upcoming challenges.[12] Hence, from a federal perspective, the Austrian federal data portal is seen as a response to the steadily growing number of local open data portals (due to Austria's federal character and the regional responsibilities), as a possibility to standardize efforts of individual data providers, and to have a coordinated linkage of all existing Austrian open datasets with the planned pan-European portal in 2015.[13]

Besides the public bodies, there are initiatives from civil society that aim to further the topic (the "demand side"), such as the *OPEN3* association. *OPEN3* is very active in raising awareness of the open data issue, e.g., by conducting surveys among politicians, visualizing public budgets, or programing a visualization tool for geospatial data (*DataMaps.eu*). Moreover, *OPEN3* co-organizes bar camps and

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[8] Interviewee 2: manager responsible for open data in the e-government department in the Federal Chancellery.

[9] Interviewee 2: manager responsible for open data in the e-government department in the Federal Chancellery.

[10] In Austria, the term "PSI" is strongly connected with the PSI Directive, while "open data" or "open-government data" refer to national developments and are commonly used (Donau-Universität Krems 2012).

[11] All figures are as of August 12, 2013 and were taken from data.gv.at.

[12] Interviewee 2: manager responsible for open data in the e-government department in the Federal Chancellery.

[13] Interviewee 2: manager responsible for open data in the e-government department in the Federal Chancellery.

create camps where programers experiment with open data.[14] Most recently, not just stakeholders like *OPEN3,* but also the media exerted increased pressure on open data providers in Austria. Especially the public transportation company *Wiener Linien* came under fire in March 2013. Starting a petition and supported by the daily press, *OPEN3* board members demanded the release of real-time data of the public transportation system in Vienna. After a political decision, *Wiener Linien* finally bowed to public pressure and promised to publish its data in summer 2013. The current open data developments show the high political relevance of the topic and underline the central role of municipalities in general and the City of Vienna in particular, which is—due to its special position, what we will outline in more detail in the next chapter—not only one of the biggest data holders in Austria but positions itself also as a crucial role model for national and international imitators.[15]

4   Local Open Data Ambitions: the Example of Vienna

In this chapter, we present the open data efforts of the City of Vienna as an illustrative example. Vienna was chosen not just because it presents itself to be one of the exemplary operators in terms of open data at local level in the German-speaking world, but also because its efforts were acknowledged in a recent survey which compared selected open data portals in Europe (Fraunhofer IAIS 2012). Against this backdrop, we are interested in whether, and to what extent, there is a coherence, indifference, or even divergence between the EU PSI strategies and the implementation efforts in Vienna. Furthermore—and as we rather observe in the case of Vienna—we aim to identify possible reasons and relevant variables as to why there is still room for improvement as far as the translation of EU ambitions in the local context is concerned.

Background

Vienna takes a special position due to its twin role as federal state and municipality on the one hand, and as Austria's capital city on the other hand. With a current population of over 1.7 million inhabitants, the city employs about 28,000 people in its core administration and a further 60,000 people in hospitals and corporatized units (e.g., in public transportation). The administrative apparatus is characterized by its large size (it is, in fact, one of the biggest employers in Austria), the broad spectrum of competences and services, and complex governance mechanisms. Traditionally, Vienna has the typical characteristics of a legalistic *Rechtsstaat* administration (Hammerschmid and Meyer 2005), with a strong procedural logic and a focus on

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[14] Interviewee 4: OPEN3 Association: board member.

[15] Interviewee 1: CIO of the City of Vienna.

administrative law. In the last 2 decades, this traditionally hierarchical-bureaucratic and corporatist governance system has been accompanied by a distinct public service focus and a strong managerial orientation (Hechtner 2011; Theimer 2004), like elsewhere in the Austrian public administration (Meyer and Hammerschmid 2006). In order to create higher managerial autonomy with new ways of steering and control, the City of Vienna has chosen a relatively decentralized governance approach and implemented a broad array of new public management (NPM) tools. Especially the increased competition in respect of business location demands a high level of activity from the City of Vienna, not only with respect to economic growth, but also quality of living, and a certain lifestyle which attracts in particular creative entrepreneurs (Sassen 2005). Latest rankings show that, although in 2012, for the fourth year in a row, *Mercer* placed Vienna first in its quality of living ranking, Vienna does not perform equally well as regards its economic potential (for example as assessed by the *European Cities Monitor,* see Meyer et al. 2012). These developments not only show the rise of challenges, but may also be an indicator for the capacity of the administration to absorb new reform waves and paradigms. And although strong legalistic administrations are known to be reserved reformers (e.g., Derlien 2003; Kuhlmann 2010; Pollitt and Bouckaert 2011) or "maintainers" (Pollitt and Bouckaert 2004, p. 186), the City of Vienna follows a fashionable course oriented along international reform trend routes (Hechtner 2011). This is not least because—based on a clear political request—the city administration tries hard to be a top performer among the German-speaking public administrations in terms of public management reforms. However, as research has shown that many public sector reform projects are widely announced, but do not attain practical impact (Brunsson 2002), we discuss the latest reform topic—the open government strategy for Vienna—in more detail.

The City of Vienna's Open-Government Strategy

In October 2010, elections were held in the city and the following coalition agreement between the social democratic and the green party included a clear commitment to open government and open data. The responsibility for both the open government and the open data activities lies in the hands of the "City Councilor for Integration, Women, Consumer Protection and Personnel" on the political side and the chief information officer (CIO) on the administrative side (Krabina et al. 2012). As a coordinating body, a municipal *Open-Government Data Competence Center* was founded which serves as an internal governing body for the open data activities (ibid.). Besides the CIO, who plays a leading role, its members are representatives from the ICT department, the communication department, and the departments that provide the data to be published. It is the task of the competence center to assess which data have been made public by the city so far, what other public sector bodies have released, and what the stakeholders want to be published (ibid.).

Vienna already began to upload the first datasets to its open data portal (*data. wien.gv.at*) in March 2011. In July 2012, the office of the CIO issued the *city's*
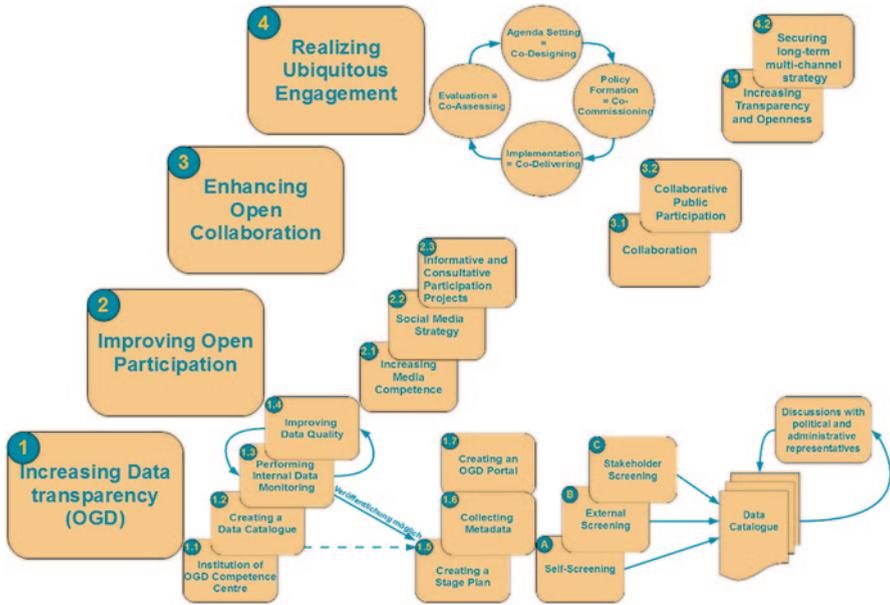
Fig. 2 OGD implementation model of the City of Vienna. (Source: Krabina et al. 2012, p. 44)

open-government strategy, assisted by a management consulting company (Krabina et al. 2012). This strategy (see Fig. 2)—in which the *City's Open Data Strategy* is embedded—was derived from a consecutive four-stage model by Lee and Kwak (2011) from the *IBM Center for The Business of Government*.

The strategy sees open-government data as the first important stage in the development towards an integrated open-government system (Stage 2 is about *participation* issues, Stage 3 focuses on *collaboration* aspects and, finally, Stage 4 aims at realizing an *ongoing engagement*).[16] According to the city's strategy, two tasks dominate the first stage: (a) identification of data which are of high value or high impact and (b) assurance and improvement of the quality of data. To achieve this goal, the establishment of a *competence centre* (measure 1.1) is intended in the strategy just as the *creation of a data catalog* (measure 1.2). Furthermore, all the departments of the city are required to conduct ongoing *internal data monitoring* (measure 1.3), i.e., to check which of their datasets would be suitable for publication (e.g., if there are legal and copyright restrictions, and if an added value can be ascertained). The *quality of the data* (measure 1.4) is to be improved constantly by applying the ten principles set by the Sunlight Foundation (2011). A *stage plan* (measure 1.5) was developed serving as a timetable that outlines when which dataset should be published. Moreover, a special focus is put on the issue of the *collection of metadata*

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[16] However, when a closer look at the open government strategy is taken, it has to be remarked that while the first stage is described in detail, the steps 2-4 are documented to a far less comprehensive extent.

of the datasets (measure 1.6); here, the standards defined by the aforementioned "Cooperation Open-Government Data Österreich" working group are applied. Last, an *open data portal* (measure 1.7) will be developed and integrated in the website of the city (Krabina et al. 2012).

Status Quo of the City's Open Data Activities

Already at the beginning of 2013, the first stage of the open-government strategy had been almost fully adopted.[17] Currently, there are 226 entries on the city's data portal from very different domains (e.g., statistical data like birth rates, economic data on commuters, or financial data like the statement of accounts for recent years)—however, some datasets are listed in more than one category.[18] A special focus is put on geospatial data as Vienna is investing € 1 million per year in maintaining a digital map of the city with over 100 layers and including, for instance, the locations of parks, city bike stations and public toilets.[19] In sum, 89 apps for smartphones (e.g., the *Toilet Map Vienna* or *Citybike Wien,* i.e., visualizations of the city's public toilets or stations for bikes with Google Maps) and desktop visualization solutions (e.g., *Vornamen in Wien*, a website-based visualization of the most popular first names for babies in recent years) have been programed so far, most of them by private persons on a voluntary basis, and were linked to the city's data portal.[20] In respect of the *competence centre,* the office of the CIO organizes a meeting ("open-government data platform") with interested stakeholders (citizens, IT community, companies, and academia) once per quarter to identify further datasets to be made available to the public. In order to extend the data catalog continuously (e.g., adding datasets from fields like culture or traffic), the city also defined focus areas and step by step—in 13 tranches with five to 10 datasets including the metadata— each will be put on the portal.[21] Based on a set of criteria in the open-government strategy, internal data monitoring assesses datasets with regard to their suitability for disclosure. Due to continuous communication with several stakeholder groups, the City of Vienna not only endeavors to discover errors and to improve the quality of data, but is also interested in discussing their needs and ideas.[22]

Recently, an external evaluation study concluded that the governance structure with the *open-government data competence center* led by the office of the CIO can be considered as one of the main success factors of the Viennese model (Donau-Universität Krems 2012). But the same study also stated that the opening of the datasets currently available was like the harvest of "low-hanging fruits" (Donau-

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[17] Interviewee 1: CIO of the City of Vienna.

[18] http://data.wien.gv.at/katalog, last accessed: August 12, 2013.

[19] Interviewee 1: CIO of the City of Vienna.

[20] http://data.wien.gv.at/apps, last accessed: August 12,, 2013.

[21] http://data.wien.gv.at/aufnahme-datenkatalog.html, last accessed: August 12, 2013.

[22] http://data.wien.gv.at/veranstaltungen, last accessed: August 12, 2013.

Universität Krems 2012, p. 18), as most of the datasets—e.g., the geospatial data—were already available in the city administration and could be put online without much further effort. Yet, for data that still have to be collected or quality checked, the costs are estimated to be much higher. The survey also highlighted that the economy is not overwhelmingly interested in open data yet—partly due to a general risk-avoiding business culture in Austria and because no business models on open data have so far been developed (ibid.). Nevertheless, in a recent comparison with other larger German-speaking cities (Munich, Bremen, and Berlin), Vienna ranked first in terms of the number of datasets and apps using the published data (Fraunhofer IAIS 2012).

Influence Factors: What Drives the City of Vienna?

The description of the status quo demonstrates that in terms of open data, the City of Vienna is a fast and ambitious operator. But this is not only the case in matters pertaining to open data but to most reform trends under the banner of NPM[23] within the last 2 decades. In order to be recognized as a top-reformer within the German-speaking public reform community, the city implemented a broad array of management tools and portrays itself as an active reformer (Hechtner 2011). A clear political position provides the basis for this continuous development. And it is exactly this strong political alignment that can be considered as the most important driver in terms of the promotion of open data activities.

Moreover, elements of mimetic isomorphism (DiMaggio and Powell 1983) can be identified, as Vienna is strongly oriented towards upcoming international reform trends from non-German speaking public administrations. Open data can be regarded as one of the most fashionable reform topics of the last few years, with a high public appearance and visibility in the media. This high visibility is the result of many new products, developed on the basis of open datasets. Especially young and technically sophisticated urbanites appreciate the broad range of new and helpful applications. On the whole, the new services are associated with the City of Vienna, although independent developers are responsible for the products. Due to its role as a leading city ranked by *Mercer* in terms of lifestyle and quality of life, elements that help to remain in this leading position are highly welcome—as new services in form of apps demonstrate. Thus, we argue that following the chosen way—also with the help of external programers and other stakeholders who develop new products—can be very attractive for lifestyle cities to continue improving their image as highly livable metropolises.

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[23] We acknowledge that the international academic debate is already one step further and centers—with hindsight to the dysfunctions and shortcomings of some of the NPM reforms—on the question of "what's next" in the post-NPM era of public governance (Christensen and Lægreid 2011; Dunleavy et al. 2006; Lapsley 2009). Yet, in the public management reform discussion in Austria, NPM arguments are often still used.

While especially reusers with a large headcount regard public administrations not only superficially as data providers but instead as the most important customers of solutions based on public sector data,[24] it seems that the City of Vienna itself mainly takes the providing role and does not see the need to take the demanding role (although *public government authorities* are mentioned as stakeholders in the city's open-government strategy, Krabina et al. 2012). Beneficiaries of open data are seen primarily as external; from a city's point of view, it is especially third parties that should think about useful products, while the city itself does not function as an active demander of new services based on its own data. In this context, NPM arguments in terms of focusing on core competences come to the front and strengthen the city's position in not acting too proactively. Instead, the city seeks for cooperation potential that leaves the production of certain services which are not in its core competence to third parties (if well thought out, the release of data for free could even be at conflict with NPM reform ideas that aim at generating revenues in administrative units).

Besides, external developments and stakeholders increase the pressure on the city administration. It is especially cooperations in the form of networks and exchanges with other public administrations in the German-speaking world that can stimulate this effect. There are regular conferences where municipalities present their efforts; these events serve as a kind of benchmark for the open data activities in particular and reform efforts in general. But also actors from civil society are putting pressure on the administration—as for instance the petition from board members from *OPEN3* to release the real-time data of *Wiener Linien* online, which can be seen as an example to find a consensus in an issue area that is contested (Meyer and Höllerer 2010).

5   Discussion and Conclusion

We started our research by asking the question of what degree of coherence there is between European PSI strategies and the corresponding national implementation activities, i.e., how supranational strategies on open data are "translated" at local (national and regional) level. On the one hand, we found the European Commission to be a very ambitious actor and an advocate of the release of public sector data and the harmonization towards coherent national policies. Activities at European level clearly have a strong focus on economic issues (not least due to the European Commission's competences) and the belief that the unlocking of the potential of PSI can help to reach the Europe 2020 targets. On the other hand, we investigated the open data efforts of an implementer, the City of Vienna, that regards itself as one of the best practice examples among the German-speaking cities, and found that those aspirations have only very little to do with European ambitions and are, one might even say, decoupled from supranational strategies. Due to past experience of

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[24] Interviewee 3: business developer in the Austrian subsidiary of a large ICT company.

implementing the PSI Directive, it was to be expected that ambitions at EU level would only have minor influence on national and especially regional open data policies and efforts. To some extent, the Austrian example has confirmed this assumption but has also provided possible explanatory aspects which are worth discussing below in further detail.

First, Austria shows a general hesitant attitude towards administrative reforms and has a reputation as a late adopter (Wutscher and Hammerschmid 2005). More currently, also the cautiousness towards the potential of open data, and consequently its implementation, are originated in the deeply anchored legalistic tradition (Hammerschmid and Meyer 2005). Against this backdrop, and while the European Commission with its open data activities finds itself in the "digital-era governance" age (Dunleavy et al. 2006), Vienna still draws on a strongly internal and NPM-oriented concept which seems to be, in the post NPM era, only moderately contemporary in an international comparison. In fact, in the case of Vienna, internal management aspects (i.e., how to deal with the topic from an organizational point of view, e.g., setting up a project structure for "executing" the open-government strategy in the city) and issues of privacy and legal liability come to the fore. In a nutshell: In the era of public governance (Osborne 2010) and outcome orientation, it appears that Vienna focuses more on processes and inputs than on governance aspects and outcomes; instead, lifestyle and reforming arguments (open data as a "must have") dominate the municipal discourse. Principally, a strong management focus seems to be legitimate to the extent that concrete implementation is a local-level task, while the general strategic oversight remains at supranational level. However, this restricted approach might have further implications and can even generate odd by-product outcomes. There is the danger that implementation efforts might be limited to mere formality without recognizing the "underlying philosophy" of the reform topic: Open data is much more than just a mere management item, it is an attitude and an organizational culture topic. The way in which the city acts can be explained in part with its embeddedness in Austria's distinct bureaucratic administrative tradition, which is characterized by a strong focus on processes or characteristic principles, such as official secrecy. Our findings clearly point to administrative tradition as a relevant factor of influence as regards the national implementation of global reform topics (see also Meyer et al. 2013). Therefore, bearing in mind the heterogeneity of the EU member states and their various administrative traditions (Hammerschmid et al. 2007), it remains questionable as to whether open data is a suitable issue for Europe-wide harmonization efforts.

Second, the heterogeneity of the EU member states, the observed importance of administrative traditions and the respective dealing with reform topics can result in a decoupling of supranational strategies and national implementation efforts. This happened in Austria, where we can observe a quite fragmented open data scene. In order to avoid once ambitious European open data efforts winding up as lifeless "trend ruins", national, and especially local, implementers also need a broader strategic connection and orientation. For the Austrian example, on the one hand, one reason for the decoupling can be found at federal level, showing restraint in terms of the subject and not acting as an active "translator." As the European mul-

tilevel governance structure does not traditionally provide many points of direct contact between supranational and local levels, such an active "translator" would be needed—and for federally organized countries such as Austria, the central level should play this role. But in terms of open data, the Austrian central level acts very reluctantly and does not function as a connecting link in a multilevel governance system, as we demonstrated, among others, with the fact that the open data issue is not mentioned in the national NRP. On the other hand, from an internal perspective, it is not enough for the central government to solely monitor activities in Brussels and to assume coordinating tasks of a technical mature towards the setting of metadata standards and to ensure the connection with the pan-European portal in 2015. In contrast, a "translator's" task would be to connect the local implementers to a broader (European) strategic vision, and, from an internal-management perspective, to hand out one "culturally refined" roadmap for all governmental levels in order to sustain better coordination within Austria. A promising approach to enhance the connection between the strategically oriented supranational level and the implementers at regional and local level could be the strengthening of soft-law measures. We found that, from a governance perspective, the open data issue is a very competitive one and that especially local implementers are very present on data portals and conferences. Therefore, the open data scene seems to be more steerable by soft law measures like data portals, expert groups or awards that follow the best-practice idea than by hard-law measures like new directives. Thus, cooperating and coordinating elements should be strengthened both at supranational and national level.

Third, all that glitters is not gold. Although the City of Vienna has won some prizes and holds a top position in rankings in the German-speaking world, from an international comparative perspective, no breakthroughs have been achieved so far that would go beyond the "standard" solutions like the visualization of data of the city's apple trees or the reporting of damaged streetlights—acknowledging that the city's open portal is still growing and also most other cities have not yet achieved their open data goals. It has been argued that the city's open data activities to date have focused only on disclosing datasets that could easily be published (Donau-Universität Krems 2012). So, special attention will have to be paid on how the city will develop the open data portal in the future, i.e., how it will deal with requests for datasets that are seen as classified material in the eyes of the administration (e.g., the real-time data of *Wiener Linien*). Furthermore, as the open data activities are only one stage of the open-government strategy, the question remains as to which results will be achieved on the other stages of the open-government implementation model (Stage 2: *participation* issues, Stage 3: *collaboration* aspects, Stage 4: *ongoing engagement*) and how intense the respective efforts will be. The city is required to see open data not only as a mere process, but as a kind of "philosophy" towards more participation, transparency, and accountability in line with a "digital-era governance". It remains to be seen if the implementation of the next stages of the open-government model will make the philosophy come "alive."

Fourth, with regard to the role of the public sector as a supplier and/or demander of PSI, on the supranational as well as on the local level we found a strong orientation towards external beneficiaries. The strategic as well as the implementation

level show an almost exclusive focus on the needs of reusers and are strongly oriented towards third parties. In fact, the City of Vienna only benefits with regard to its image, but there are no steering or control benefits offered by the use of PSI. However, our results shed light on the potential that open data has for the public administration itself and give an idea of a more sophisticated use of public sector data: We consider the public sector itself as the most important customer of its own data; therefore, seeing beneficiaries exclusively in third parties seems to be shortsighted. Instead, public administration would be required to request innovative products and services actively from the reusers (e.g., solutions for the prediction of traffic jams in the rush hours based on real-time telematics data) in order to create growth and jobs. So, public administrations have to discover the potential of their own data in offering new services, improving existing ones, or for cross-departmental or cross-territorial collaborations.

Fifth, and last, we see two challenges which might hinder a successful translation and implementation of the open data agenda. On one hand, we identified some tension between transparency issues ("all data shall be published for free") and the NPM reform paradigm with its idea that administrative units should develop business models in order to generate revenues, e.g., by selling profitable data from the commercial register to the customers (Hood 1991)—here, it remains the political and administrative task to find an adequate pricing model for the data. And, on the other hand, the context of the Austrian public administration does not seem to be fertile soil for open data activities in the long term. There is some evidence that Austria "rides" on the open data wave as long as the topic is trendy—however, when the wave dies down, Austria will, as experiences with other reform topics have shown, most likely not follow international champions like the UK (which so far has published almost 10,000 datasets) or the ambitions of the European Commission (more than 6,000 datasets). So, the question of how engagement with the issue can be secured, remains. The answer may be found in soft-law measures.

In any case, in June 2013, the European parliament and the council signed Directive 2013/37/EU amending Directive 2003/98/EC on the reuse of PSI (Official Journal of the European Union 2013). It is expected that the development of open data especially at national and local level will thus experience a new boost and pick up speed. So, the projected influence of the revised PSI Directive provides another interesting avenue for future research, i.e., discovering how it will resonate with both national and local levels from a translation perspective.

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