

Public Sector Information and Open Data: A Focus on Sweden

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Abstract

Good governance and inclusive development require governments to make their information flows accessible to all citizens. The United Nations Sustainable Development Goal 16 advocates the promotion of peaceful and inclusive societies, with the emphasis being placed on access to government information. Apart from this Sustainable Development Goal, globally, several open-data initiatives and advocates of freedom of information are pushing governments to open up their data flows. Open data are seen as a driver of public service innovation that generates new knowledge and enables the creation of new electronic services. The narrative about open data assumes that the data are within reach of the citizens to explore and to develop new electronic services based on, for example, statistical, mobility, meteorological, judicial and court data to boost national innovation. However, research shows the contrary that open data are still concentrated in the hands of a few people such as politicians, journalists, system developers and data miners. This raises questions about the openness of the data. In Sweden, most of the interactions that citizens have are with the municipalities because they offer a broad range of public services. This is why the researcher argues that to promote awareness and open data usage by ordinary citizens, the Swedish government should work with the municipalities to create IT platforms for the exploitation of the data and to facilitate the development of technical expertise. If open data are to be inclusive, the data will require the involvement of citizens in the current open-data developments.

Keywords: open data, PSI directive, data and digital divide and government institutions

Introduction

To promote good governance and inclusive development, the access to government information has become of crucial importance. Among the United Nations 17 Sustainable Development Goals, Goal 16, which is about the promotion of peaceful and inclusive societies for sustainable development, emphasises access to government information (United Nations n.d.). It is also argued in the Swedish Open Government Partnership Action Plan 2019–2021 that it is important for reforms to build on principles of sustainability and inclusivity. The aim is to create trust between the citizens and the government (Swedish Government 2019). Information is seen as an empowering tool that should enable the citizens to engage in governance issues. Sweden, through its long-standing Freedom of the Press Act of 1766 has traditionally guaranteed all its citizens the right to access official records. The focus of the Act has been on official records (Gränström, Lundquist, and Fredriksson 2000).

Developments within the e-government realm have increased the amount of information in government institutions and further, developments in technology have created possibilities to put information that has not traditionally been provided to the citizens to better use. This may, for example, be information that is collected by the municipalities in their geographical information systems. This realisation led to the enactment of a public sector information (PSI) directive of the European Union, which aimed to give European citizens more access to government information beyond the official records (European Union 2003). This information is supposed to be open for anyone to explore and without any restrictions. The PSI Directive of 2003 has been replaced by the directive on open data and the reuse of PSI known as the “Open Data Directive” (Directive (EU) 2019/1024) that was enacted on 16 July 2019 (European Union 2019).

Ten years ago, the Swedish government enacted a PSI directive, which gives all Swedish citizens the right to access open data, which should be proactively published on the municipal and government agencies’ websites or sent to the national portal, called, <https://www.dataportal.se>. It is argued on the Swedish government website that, “To promote greater openness and better service in the public sector, public authorities should make their public data accessible for re-use, free of charge or on standardized and generous terms” (Swedish Government n.d., 1).

The Swedish PSI directive encourages the exploitation of open data for commercial purposes and it aims to promote an information market to boost national innovation. Sand (2010) argued that in Sweden, the PSI directive is integral with e-government development. There are claims that open data have the potential to redress social, economic and political challenges. Open data promote innovation and economic growth, political accountability, democratic participation, and public sector efficiency (Borgesius, Van Eechoud, and Gray 2015). Weerakkody et al. (2017) also argued that governments hope that access to open data stimulates public engagement in

policymaking through facts-based content. They were, however, of the view that there are very limited empirical studies which evaluated the performance of open-data websites, acceptance and use from the citizens' perspective. This study also confirms their observation. There are very few studies that have, for example, focused on open data developments and their implications on the Swedish society (Melin 2016; Svärd 2017).

It can be argued that it will be difficult for the citizens to reap the mentioned benefits without government efforts to raise awareness about the PSI directive that gives individuals the right to exploit open data. Further, since it is claimed that the Swedish PSI is an integral part of e-government development, the uneven development of e-government in the country means that both the municipalities and government agencies have different budgetary capacities to engage in the implementation of the PSI directive and hence the publication of open data. To promote awareness and usage of open data, the Swedish municipalities would be the most suitable partners. This is because citizens interact mostly with the municipalities. Municipalities are institutions which exist to enhance the social welfare of citizens. In this regard, they follow established rules and regulations in executing their obligations (Scott 2008). They are involved in the development of e-government to deliver high quality services (Richard 1999; Worall 2010). They further engage in a complex web of processes that facilitate the delivery of services to the citizens. The services that they deliver include education services, community and welfare services, such as childcare and the care of older people, cultural and recreational services, and housing. They also provide infrastructure and utilities such as water and electricity. In addition, they are responsible for local and regional transport, municipal planning and environmental planning (Larsson and Bäck 2008). All these activities generate an enormous amount of information. Municipalities are also often consulted by citizens who are interested in accessing public records (Sundqvist 2009). The engagement of municipalities in open-data developments, however, varies because of the uneven and slow development of e-government in the country which is confirmed by a report published by the Swedish National Audit Authority (Riksrevisionen 2016). Some of the municipalities further have underdeveloped information management infrastructures and lack the financial means to publish open data as required by the directive (Svärd 2017).

Open data are exciting and have indeed delivered enjoyable products and services for the public good. However, the government has to put in more effort to make it an inclusive development, otherwise there is a risk of creating a data and digital divide since it is currently concentrated in the hands of a few citizens in the society (Melin 2016). Bezuidenhout et al. (2017) used the definition of digital divide to refer to the gaps in access to information and communication technology between the "haves" and "have-nots", whether individuals, groups or entire countries, and to relate to the open-data divide. The PSI directive has not been satisfactorily implemented in the country and very few agencies are engaged in the publication of open data. The article presents

a problem, a method, challenges of open data, a discussion and conclusion, and some recommendations.

The Problem

A lot of emphasis in today's global societies is on citizens' access to government information. It is believed that information is the new gold with the potential to boost innovation, to promote participatory and inclusive institutions and good governance. Therefore, a lot of information is being proactively published by government institutions (United Nations n.d.). The aim is to promote an information market and national innovation through the creation of new electronic services and to increase the transparency and accountability levels of government institutions (Sand 2010). The problem, however, is that despite the availability of free information or open data, very few people are aware of their right to access and exploit the available data for commercial purposes. Again, very few people are technically savvy to use the data in a manner that promotes their knowledge and finances (Kassen 2017). The Swedish PSI directive gives the citizens the right to exploit government open data that are made available via the government institutions' websites and the national portal, <https://www.dataportal.se>. In addition, not all Swedish institutions have implemented the directive although it was enacted 10 years ago (Swedish Agency for Public Management 2018). The lack of proper implementation of the PSI could be attributed to the lack of an information infrastructure that could facilitate the publication of open data and the uneven development of e-government in the country. The general awareness of the PSI directive is low and the same applies to open-data developments which are still concentrated in the hands of a few individuals in the Swedish society.

The Method

A research journey begins with an investigation of what is known. Johnston (2014) referred to the consultation of earlier research studies as the secondary data analysis method. It involves an analysis of data collected by earlier researchers for other purposes. Johnston (2014) defined the method as systematic since it entails procedural and evaluative steps that include identifying a research aim, identifying relevant data sets and evaluating the data. Smith (2008) argued that secondary data include data generated through systematic reviews and documentary analysis. For the purpose of this study the researcher conducted a search of research studies with relevance to the study in databases such as Science Direct, Google Scholar, and Emerald using search terms such as, public sector information, open data, government information and open-data initiatives. The literature search revealed that there is not much research that has been conducted on the implementation of the PSI directive in Sweden. To analyse the accessed studies, the researcher had to read and mark areas that presented results that were relevant to the study. This reading enabled the researcher to identify certain themes. These themes have been used to present the findings from the analysis of the accessed studies.

Challenges of the PSI and Open Data

The sections below present the findings under the themes identified during the analysis of earlier studies conducted by other researchers and that were relevant to the study.

PSI Directive Implementation

Hagström (2019) argued that the e-delegation (the authority that was in charge of e-government development in Sweden between 2009 and 2015), the National Archives of Sweden and the current Agency for Electronic Government recommended that public authorities fulfil the PSI directive by publishing open data. During 2017 and 2018, the National Archives sent out surveys to government authorities and the responses showed increased maturity levels of work on open data. The surveys further confirmed the authorities' improved knowledge of open data, PSI publications lists, the data portal and guidance and an increased experience of support at work from the National Archives (National Archives 2018).

Svärd (2017) examined the implementation of the PSI directive in two Swedish municipalities and concluded that financially stronger municipalities were better placed to invest in measures that led to better quality PSI and hence its publication as open data. Her study concluded that the publication of PSI in the municipalities was irregular owing to budgetary constraints and the uneven development of e-government. The Swedish Agency for Public Management conducted a follow-up on the implementation of the Swedish PSI Act in 2008 and confirmed that the impact of the repurposing of the PSI was limited. The follow-up analysis further confirmed that it was only a small percentage of the PSI that was published. It was noted that small government agencies and municipalities are more challenged by the PSI implementation (Swedish Agency for Public Management 2018). This further confirmed the conclusion drawn by Svärd (2017). The lack of electronic archives and well-developed information management infrastructures further hinder the publication of open data.

Open Data

Zuiderwijk and Janssen (2014) explicated that most of the existing research on open data focuses on the benefits without offering details of the underlying processes. They concluded that current technology focuses on opening data instead of institutionalising the data and that open data literature focuses on open data infrastructure, portals, and their release and functionality. Their study revealed that although the rhetoric on open data emphasises the benefits that the citizens can derive from the exploitation, it mostly served journalists, lobbyists, students, researchers and politicians than ordinary citizens. Melin (2016) examined the myths and realities of open data at the local government level in Sweden. He argued that the investments made in open-data initiatives are huge, with the benefits often related to new and innovative products and services, increased transparency and accountability. He, however, was of the view that the expectations of open data are uncritical and that open data are presented in a simplified and an idealised manner. He identified the following areas on the myths of open data:

- the publicising of data will automatically yield benefits;
- all information should be unrestrictedly publicised;
- it is a matter of simply publishing public data;
- every constituent can make use of open data;
- open data will result in open government; and
- the public will be interested in the reuse of open data.

The different authors that he cited suggested different perspectives that could help overcome the challenges surrounding open data such as a life-cycle perspective, a stakeholder perspective and an ecosystem approach that rests on a social–technical perspective. He confirmed that there are a few studies on open data initiatives in local administrations. Hellberg and Hedström (2015) were of the view that although the lack of technical competence and understanding of the open data are major obstacles to the use and reuse of data, motivation and stimulation of people’s interests are equally important.

Kassen (2017) posited that Sweden is an emerging global leader in advancing open data and has launched a wide range of platforms in the sphere. He was convinced that open data could provide an unlimited source of information for various platforms that could be developed by independent developers or technically savvy citizens. Civic engagement was critical to the promotion of the wider community’s participation in open data to create public values and to improve knowledge and the community’s finances. He identified independent developers as the key stakeholders in the sphere of open data because they are technically savvy and can, through their start-ups, find solutions to local community challenges. He argued that hackathons are a way to network among developers, designers, coders and information and communication technology professionals. Hackathons are events that are arranged to bring together teams of programmers who are interested in computer programming. Artiles and Wallace (2013, 2) defined hackathons as “gatherings of programmers to collaboratively code in an extreme manner over a short period of time on whatever he or she wants, and strive to embody the tone of ‘No Talk, All Action’.” A hackathon can therefore constitute small teams that concentratedly work together for 12 or 24 hours to develop a product or services.

Sweden’s Open Government Partnership Plan 2019–2021 (Swedish Government 2019) aims to promote co-creation with the civil society within the realm of open data. It is stated in the Plan that Sweden occupied the second place in the Digital Economy Society Index that was published by the European Union in 2019 because of the digital competence of the citizens, Internet use, integration of digital technologies and the digital administration. Yet, in the European Portal’s Open Data Maturity in Europe of 2018, it was in the twenty-second place. This demonstrates that when it comes to open data Sweden still occupies a low position although it is one of the leading countries in

e-government development. It was highlighted in the Action Plan that investments in open data required a public administration that would create attractive, citizen-centred solutions in partnership with the citizens and civil society. This would further ensure continued and long-term collaboration between the public sector and civil society. It was further confirmed that 52 per cent of Swedish agencies, municipalities and county councils publish open data but that more municipalities than government agencies lack the necessary skills and common standards (Swedish Government 2019). The Action Plan (Swedish Government 2019) contained recommendations such as:

- strategic investments to boost co-creation with civil society;
- clear prioritisation of a focus on open data;
- implementing thematic investments in open data; and
- the need to draw up a national action plan, with a vision and a mission and clear goals on open data.

“Hack for Sweden” was cited as Sweden’s biggest government agency hackathon. The Action Plan (Swedish Government 2019) further stipulated the following eight open-data principles that were decided on by several government agencies and that would promote open data usage:

- complete (everything that must not be given limited access for reasonable safety and/or security reasons);
- primary (not aggregated or modified);
- instant (made available as soon as possible, ideally in real time where possible);
- available (to as large a circle of users as possible and for as many different purposes as possible);
- machine-readable;
- non-discriminatory (accessible to everyone with no registration or other requirements);
- non-proprietary (no actor may have exclusive control of these data); and
- free of charge (open licences must be used and no form of payment may be demanded for access).

Digital and Data Divide

Van Deursen and Van Dijk (2010) examined the issue of Internet skills and the digital divide in the Netherlands. They were of the view that Internet skills are critical to access information made available and that the lack of such skills exacerbated existing inequalities. McCarthy (2016) elucidated that the criticism on the open-data divide is similar to that levied against the digital divide. The open-data divide is about those who

have access to and own large-scale distributed data sets and those who do not. He argued that it is the data-rich entities such as large media companies, Internet service providers, search engines, insurance companies and governments that have the knowledge and expertise to gather insights from the data. He concluded that although open data provide many insights about the lives of individuals and groups of people, these insights are not evenly shared.

Espinosa et al. (2015) also stated that non-experts are unable to take advantage of open data as data mining experts do which creates the big data divide. Data mining is a prerequisite if one is to discover the implicit knowledge patterns and richer insights in the data and it is a skill that requires expert knowledge. The CEO of the Swedish Local Fibre Alliance (*The Local* 2016) revealed that more than one million Swedes are digitally excluded in a country with the fastest Internet and advanced broadband developments. The factors that caused the exclusion included inequality, broadband access, education, motivation, user ability and access to computers. The groups that were affected by the digital divide included older people, people born outside Europe and groups with low incomes. It was argued that the numbers will increase with people migrating to Sweden from less digitised countries (*The Local* 2016).

Discussion and Conclusion

Global governments are freeing government information and open data because they want to achieve increased transparency and accountability, encourage co-creation of services and products, and promote an information market since information is considered the new gold that will boost national innovation and help solve societal challenges. This work should be pursued in a participatory and inclusive way, which would also be in line with the United Nations Sustainable Development Goal 16. The citizens should be at the centre of these developments. Some of the reviewed authors do not agree with the narrative of open data and have contended that the myths are simplified and idealised and that the negative stories are not told. Open data have no doubt been used to produce products and services for the general good but the fact is that the data are still concentrated in the hands of a few citizens. The fact that there are very few scientific articles published on the Swedish PSI directive and open data developments confirms that the area needs further investigation. The author has mostly accessed government reports because of the paucity of research on the subject.

Research that was conducted by Svård in 2017 confirmed disparities in the municipalities' implementation of the PSI directive and the publication of open data. A similar conclusion was drawn by the Swedish Agency for Public Management in a report that was published in 2018 which stated that small municipalities and agencies are more challenged to publish the PSI. The report further confirmed that it was only a small amount of the PSI that was being published and its impact had not been established. It was also stated in the Swedish Open Government Partnership Action Plan of 2019 that 52 per cent of the government agencies, regions and municipalities

institutions were publishing open data, which explains Sweden's low ranking in this regard.

Kassen (2017) viewed technically savvy developers as the key stakeholders of open data in Sweden. The author on the contrary argues that all Swedish citizens are stakeholders in open data. All stakeholders must be involved in the ongoing open data developments; non-expert users (citizens), the private and public sector, journalists, system developers, data miners, coders and students. The municipalities should here be prioritised because citizens interact mostly with them and they are natural partners when it comes to creating awareness and developing IT platforms in which citizens could engage in the exploitation of open data. This would make open data a democratic endeavour. Open data emanate from our interactions with the government agencies and the municipalities or are collected using taxpayers' money.

Recommendations

- The government should work with the municipalities to disseminate information about the Swedish PSI directive to the citizens.
- Municipalities should be given support to invest in IT infrastructures to encourage the engagement of non-experts in the exploitation of open data.
- All stakeholders should be involved to create inclusive and democratic open-data processes.

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