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The Swedish People's Awareness of The Public Sector Information Directive - a Pilot Study

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Abstract

This article is based on a pilot study that investigated the Swedish people's awareness of the Swedish Public Sector Information (PSI) directive, their understanding of the difference between the PSI-directive and the Public Access Act and whether they had the prerequisite skills required for the use of the Public Sector Information (PSI). Sweden has a long tradition of readily access to official documents which could have delayed the implementation of the European PSI-directive that was enacted in 2003. Sweden implemented its Public-Sector Information (PSI) directive in 2010. The Directive focuses on the commercialization of government information to create an information market and to promote innovation. In Sweden, the PSI directive is intrinsically linked to the e-Government development policy. The study applied a literature review and interviews as data collecting techniques. Sixteen interviews were conducted with people of different occupations such as students, a personnel manager, a head of a unit, a doctoral student, a pensioner, a clinical research associate, a workers' union employee, a web designer, two archivists, a head of an archival institution, an associate professor, a receptionist, and two shoemakers. The conclusion is that there is need to create awareness about the PSI directive, offer training, and to create IT infrastructures and projects that would promote the use of the PSI to avoid a societal digital divide. The reviewed literature confirmed that PSI usage is still concentrated in the hands of a few citizens that is, those who are already digitally empowered. The study had limitations since it is based on a limited number of respondents which means that the results cannot be generalized.

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Introduction

This article is based on a pilot study that investigated the Swedish people's awareness of the Swedish Public Sector Information (PSI) directive, their understanding of the difference between the PSI directive and the Public Access Act and whether they had the prerequisite skills required for the use of the Public Sector Information. The efficient flow of information and its re-use contribute to a country's economic strength (Omatoyo, 2015). Bauhr and Grimes (2012) also argued that transparency advocates believe that greater access to government information is crucial to accountability and better-quality government. Therefore, to innovatively use government information, the European Union in 2003 enacted a Public-Sector Information (PSI) directive on the repurposing of public information. The directive focuses on the economic aspects of public information re-use, and it had to be implemented in the member states by July 2005 (European Union, 2003).

The enactment of the European Union PSI- directive in 2003 was not news to the Swedish government since by constitution, the citizens of Sweden were already enjoying readily access to information. The Freedom of the Press Act of 1776 grants Swedish citizens access to official records (Gränström, Lundquist, & Fredriksson, 2000). The principle of public access to government records is one of the cornerstones of the Swedish judicial system. The legal framework which governs the management of public information and records is as follows:

- The Freedom of the Press Act (SFS 1949:105)

- The Public and Secrecy Act (SFS 2009:400)

- The Archives Act and Ordinance (SFS 1990:782; SFS 1991:446) (Sundqvist, 2009).

- The Swedish PSI directive 2010:566 on the Re-use of Public Administration Documents (Lundqvist, 2013).

Sand (2010) argued that due to Sweden's long history of freedom of information and transparency, the implementation of the European Union's PSI-directive was not quickly done. Sweden was five years late in implementing the EU PSI-directive (Eklund & Jansson, 2013). The Swedish government's minimalistic approach to the implementation of the PSI-directive forced the European Commission to start an infringement process against it in 2008. The Swedish government responded by enacting its national PSI-directive in July 2010 and integrated it with its e-government policy (Sand, 2010). The directive is in Swedish referred to as *Lagen om tillsvidare användning av allmänna handlingar* literally translated as "the law on the further use of public records." The European PSI-directive focuses on the commercialization of information to create an information market. Information is looked

upon as raw material that can be exploited to create new electronic services. The Swedish PSI-directive was to serve the same purpose as the EU one that is, to promote the development of an information market and to facilitate the re-use of government information by citizens (Finansdepartmentet, 2010).

The PSI-directive is claimed to be crucial for the functioning of the internal market, free circulation of goods, services and people. Henninger (2013, p. 78) explored the concept of PSI and defined it as "information, including all information products in any format, and services, generated, created, collected, processed, preserved, maintained, disseminated, or funded by or for public entities (governments or public institutions) in all branches and at all levels be presumed to be in the public domain, unless another policy option (e.g. a legal right such as an IP right or personal privacy) is adopted and clearly documented, preventing it from being freely accessible to all." The PSI constitutes, amongst others, data in geographical information systems (GIS), land registry, public weather services and other types of information that are created by public administrations. The information industry in Sweden is based on legal, financial, company, property and vehicle information. The Directive even covers written texts, databases, audio files and film fragments (European Union, 2003). When the PSI is published as open data, it means that it is available for the citizens to exploit it without any restrictions.

Sweden has a portal that can be found at https://www.dataportal.se. The open data responsibility lies with the Agency for Digital Government. The true value of information is only realized when it is used. Knowledge of the laws that promote the use of public information is a prerequisite for knowledge of and use of the PSI-directive. This makes the citizens' education and awareness about newly enacted laws crucial to their successful implementation. It is against this backdrop that the author set out to investigate the phenomenon under study. This article presents research questions, a research methodology, a literature review and a discussion, conclusion and makes some suggestions.

Research Questions

How do the Swedish citizens understand the difference between Public Sector Information (PSI) directive and the Public Access Act?

Do they use the Act and the directive?

Do they have the requisite skills and infrastructure for open data exploitation?

Research Method

The data upon which this article is based was collected using interviews as a data collection technique. Interviews are a common means of collecting qualitative data (Merriam, 1988). The interviews were carried out in September 2016 and August 2018. An interview guide with open-ended questions regarding the Swedish people's understanding of the difference between the Public Access Act and the Swedish Public-Sector Information directive, technology and information management skills to exploit PSI was designed. The questions were straight forward and simple. The interviews that were conducted in 2016 were emailed to the respondents and the responses were equally sent back to me using the same channel. The second set of interviews were conducted in 2018 and were face to face. Eight of the responses were therefore received via email and eight were face to face interviews. The total number of respondents was sixteen. Purposive sampling was used when choosing the respondents. Pickard (2007) states that purposive sampling lies in the selection of cases that are of central importance to a study. It seeks to identify participants based on selected criteria. For the purposes of this study people with different occupations were selected. The point of departure was from a supposition that Swedish citizens have readily access to government information and should therefore be informed regarding most developments in society. Fourteen respondents were working/had worked in both government institutions and private organizations. Two of the respondents had just completed gymnasium level of education. Pickard further states that if a researcher wants to set boundaries for a study because of time restrictions, purposive sampling facilitates the creation of a rigid structure around the study. The respondents included two gymnasium students, a personnel manager, a head of a unit, a doctoral student, a pensioner, a clinical research associate, a workers' union employee, a web designer, two archivists, a head of an archival institution, an associate professor, a receptionist and two shoemakers. The face-to-face interviews were transcribed and the data that was received via email interviews were merged in a Word document for analysis. The relevant data that would facilitate the answering of the research question was extracted from the rest and is presented under the following themes:

- The citizens understanding of the Swedish Public Access Act

- The citizens understanding of the Swedish Public-Sector Information Directive

- Use of the Act and Directive

- Technology and skills to exploit PSI.

A literature review of the articles that were relevant to the phenomenon being researched was also conducted and guided the study.

Literature Review

The literature search enabled me to access articles that highlighted the advantages and the challenges surrounding the Public Sector Information (PSI). Other than projects that are trying to raise awareness of the PSI-directive's potential and to promote the PSI use, no literature that investigated the ordinary people's awareness of the Swedish PSI-directive was discovered. Within the scope of this work, not all projects that are endeavouring to raise awareness of the PSI-directive have been analyzed. Weerakkody, Irani, Kapoor, Sivarajah, and Dwivedi (2017) argued that there were few scholarly studies that have empirically evaluated the performance of government open data websites and acceptance and the use of open data from a citizen perspective. This could clarify why it was difficult to access studies regarding people's awareness of the PSI-directive.

Challenges Regarding Public Sector Information

Dander (2013) contended that the Public Sector Information (PSI) was still concentrated in the hands of a few people such as business people, politicians and academics. This is because, to meaningfully explore the PSI, one needs to be in possession of skills that can turn the availed data into a useful product. Additionally, one should have software and hardware to process it. Dander (2013) was therefore of the view that before non-experts and the broader community can start exploring the PSI, the following will have to be addressed:

- Internet access that is enough to support making the data available and barrier-free.

- Computers and software sufficiently powerful, users having enough time.

- Computer/software skills to use the software and hardware.

- Content and formatting – having the data available in a format such as to allow for effective use at a variety of levels of linguistic and computer literacy.

- Interpretation/Sense making enough knowledge and skill to see what data uses make sense (and which don't) and to add local value.

- Advocacy – having supportive individual or community resources enough for translating data into activities for local benefit.

- Governance – the required financing, legal, regulatory or policy regime, required to enable the use to which the data would be put.

Zuiderwijk and Janssen (n.d.) pursued the same arguments as Dander (2013) and contended that although the benefits derived from open data were highlighted in many research articles, there was little research that highlighted its negative impact. They posited that open data empowered the already empowered that is, people who have access to open data infrastructures, hardware, software, financial and educational resources and skills. According to Donker (2016), research confirmed that the re-use of PSI in Europe was complicated by technical, organizational, legal and financial challenges. Furthermore, governments still faced the challenge of poor-quality data. When data is of poor quality, its exploitation requires advanced computer skills. 80 per cent of the time and cost of a data analytics project could instead be used to clean up data to useable levels (Lemieux, Gormly, & Rowledge, 2014). The same observation was made by Shepherd (2015), who a year later, argued that to publish good quality data, resources needed to be invested to avoid data redundancy, inconsistency, to deal with data integrity and interoperability problems. Authors such as Mouzakitis, Papaspyros, Petychakis, Koussouris, Zafeiropoulos, Fotopoulou, Farid, Orlandi, Attard, and Psarras (2017) also expressed concern that when the PSI is not published in machine processable formats it makes it hard for re-users to combine it with other information sources. Additionally, when public organizations provide unstructured documents, it can increase the cost of linking and utilizing the provided information.

Svärd (2017) examined the implementation processes of the PSI directive in two Swedish municipalities and established that PSI was closely linked to e-government development. Therefore, its quality depended on the level of e-government development in a municipality and the information management infrastructure in place. Though all municipalities were expected by the Swedish government to engage in e-government development and in the implementation of the PSI-directive, they had different budgetary capacities. Municipalities that were financially strong were better placed to invest in an information infrastructure and e-government development, and hence reaped better quality PSI. The two municipalities had different information management environments and the capacity to invest in information management systems that would facilitate the management of their information resources. It was evident in the study that, the budgetary constraints faced by smaller municipalities impacted the implementation of the PSI-directive and hindered its publication.

The Swedish Agency for Public Management conducted a follow-up on the implementation of the Swedish PSI-directive in 2008 using a questionnaire that it sent to the municipalities, the county councils and government agencies. It also conducted interviews with parties that had expertise in the PSI. The results confirmed that the impact of the repurposing of the PSI is limited. One-half of the municipalities and county councils and one-third of the government agencies lacked knowledge of the PSI-directive and what it entails. Only one-

fifth of the government agencies and municipalities and county councils had published a PSI list as required by the PSI-directive. The Agency identified the impediments to the PSI-directive objectives to include lack of resources, lack of established systems within operations to facilitate easy access to information, difficulties in identifying relevant information and the fact that very few government agencies, municipalities and country councils promoted the repurposing of government information as part of their mandates (The Swedish Agency for Public Management, 2018).

Papapavlou (2000) warned that although the information society has led to more transparency and citizens' participation in governance, it is also likely to create information haves and have-nots. In his opinion, the public sector should endeavour to bridge this gap to ensure that all citizens have access to information.

Awareness of the Public Sector Information

In a short paper published by the EuroGeographics (2011) it was argued that there seemed to be lack of awareness in some parts of the public sector about the potential of the PSI. It was advocated that more efforts should be made to raise awareness amongst markets and its re-users. Lassinantti, Bergvall-Kåreborn and Ståhlbröst (2014) who explored the different perspectives attributed to open data initiatives and how they shape the process of opening data revealed that, there were two ways of interpreting open data initiatives; as a platform for techno-economic growth or as a platform for co-created societal growth. Open data initiatives were quite key in the promotion of the open data objectives and Hellberg and Hedström (2015) opined that arranging competitions could be an effective way of promoting the re-use of open data by the citizens. Hackathons are competitions arranged to bring together teams of programmers interested in hacking. Artiles and Wallace (2013, p. 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 could therefore constitute small teams that concentratedly work together for a period 12 or 24 hours to develop a product or a service. Hacking has gained a broader meaning today than what it stood for in the past, and it is used by innovators and companies to develop new products and services using unconventional ways (Wass, 2012).

There were other initiatives that were promoting the responsible re-use of data such as; the Participant of Responsible Data Forum which is a collaboration between Amnesty International (https://www.amnesty.org/en/), Aspiration (https://aspirationtech.org/), the Engine Room, Greenhost (https://greenhost.net), HURIDOCS (https://www.huridocs.org), Leiden University's Peace Informatics Lab

(http://www.peaceinformaticslab.org), Open Knowledge (https://okfn.org) and Ushahidi (http://www.ushahidi.com) (Granickas, 2015). The aim of this collaborative effort was to develop useful tools and strategies for dealing with ethical, security and privacy challenges regarding the re-use of data. In 2012 a W3C Workshop that took place in Brussels focused on teaching non-expert users how to identify, extract, integrate and analyze datasets. The objective was to create a single access point and to democratize the use of open data. The UK Data Forum published a five-year plan to inform and guide the development and use of data and related sources for social and economic research. According to the plan, high-quality empirical social science research requires high-quality data sources and associated infrastructure. The UK data service funded by the Economic Social Research Council (ESRC) supports researchers, policymakers and teachers who depend on high-quality social and economic data by providing on-line and face-to-face training and courses, guidelines for learning and teaching (UK Data Forum, n.d.).

Projects such as the APORTA project in Spain that was launched in 2008 were working to raise awareness on the importance of the re-use of Public Sector Information (PSI) among government institutions, citizens and businesses and hence endeavoring to create a culture to re-use PSI. Aporta means to share in Spanish. The project was co-ordinated by institutions such as the Ministry of Finance and Public Administration, the Ministry for Industry, Energy and Tourism. The APORTA project had the following objectives:

- Enhance public trust

- Enhance transparency

- Improve access

- Improve efficiency

- Increase citizen engagement and to support economic growth (APORTA project, 2008; Garcia & Maldonado, 2012).

Other attempts to make PSI an inclusive endeavour included:

- A group of researchers and software developers from Dresden in Germany who in 2012 presented the concept for OPEN, The Open Data Processing Engine which is an enhanced Database Management System meant to enable non-expert users to identify, extract, integrate and analyze datasets.

- The school of Data by the Open Knowledge Foundation which is a non-profit organization founded in the UK in 2004 is also an attempt to empower civil society

> organizations, journalists and citizens with the skills to effectively explore data. Its objective is to make open knowledge a routine and every part of life to create a world with better governance, research, economy and culture.

- The UK Data Service funded by the Economic and Social Research Council supports researchers, teachers and policymakers who depend on high-quality social and economic data. It provides advice and face to face training and courses, guides for learning and teaching (Dander, 2013).

The literature reviewed confirmed the complexities surrounding the PSI. Even though it promotes social and economic development through innovation, it is still concentrated in the hands of a limited number of citizens that have the requisite skills to optimally exploit it. The literature also emphasized the need for robust IT-infrastructures for those interested in re-purposing the PSI.

The Research Findings

The section below presents the findings regarding the following research questions:

- How do the Swedish citizens understand the difference between the Public Sector Information directive and the Public Access Act?

- Do they use the Act and directive?

- Do they have the requisite skills and infrastructure for open data exploitation?

Understanding the differences between the PSI Directive and Public Access Act

Regarding the respondents' understanding of the Public Sector Information directive (PSI-directive), nine respondents out of the sixteen did not know what it was about and had never heard about it. The students did not know about the directive because they never learned about it at school, the shoemakers had no knowledge about the directive, and were equally unaware of the Public Access Act. The type of job they had never exposed them to issues related to the Act such as, the management of the information their business generated. The Clinical Research Associate also confirmed that he did not understand what the directive entailed. This was surprising since one expected pharmaceutical companies to be big consumers of the PSI. The web designer who worked for a government institution was equally as ignorant about the PSI-directive yet, it was applicable to government institutions. The archivists who worked for a private archival institution informed that even though, by profession, they ought to understand the laws governing public information, they had never

heard about the PSI-directive. The remaining respondents' understanding of the PSI directive varied. One of the respondents was unsure of the changes the PSI directive had had on the Public Access Act and others equated it to it. They were of the view that it is meant to promote increased access to government information, transparency and accountability. Only three respondents out of the 16 understood what the PSI-directive meant and mentioned its commercial component. The quotes below back the conclusions drawn above:

> "My understanding of the directive is low. The knowledge I have was gained through my studies in Archival Science. I know it is a directive to promote entrepreneurs to use information. For example, I understand that the applications of maps in Sweden have probably been created thanks to this directive. But how the entrepreneurs gain access to the information and how they process it to make it easier to grasp is beyond my knowledge" (Student).

> "I do not know what that change has meant since Sweden already has a Public Access Act (Personnel manager).

> "I do not have that much experience, but I have understood that its purpose is that authorities should be able to publish information and make it publicly available online so that anyone can retrieve it and reuse it. The challenge is well that it should be commercially useful in some way so that anyone can build an application for any purpose, so that it can in some way stimulate the economy. It is indeed the thought of boosting Europe's economy", (Associate Professor).

The Associate professor shared that he did not think that the institutions that generated the PSI should be held responsible for creating awareness. He, however, was of the view that there was need to increase the education level in general, if citizens are to be able to use the raw data. The head of an archival institution contended that schools should promote programming. This was because the computer courses that were offered during the late 1970s were better than those that are offered in schools today. He argued that today's computer courses are about learning how to surf for information, but that students had very little knowledge about how computers work. He also expressed that schools were the right places to start, if those left out of the PSI developments were to catch up. He was of the view that if the citizens are offered general knowledge about the PSI, those who are genuinely interested would have a chance to engage.

Twelve out of the sixteen respondents understood the Swedish Public Access Act while four of them did not. Those who understood the Act worked/had worked for government institutions and knew that it gave citizens and journalists the right to access government documents and promoted transparency and accountability. Two of the remaining four were

students and had heard about the Act at school but could not explain what it meant. The remaining two were immigrants and the nature of their job had never brought them in contact with the Act. Below are some of the explanations that were offered by some of the respondents:

> "My understanding is that it is a fundamental part of the sound foundation of trust for the Swedish state. I know the Act to a certain degree; I know what information I can expect to receive and what I cannot expect if I make a request." (Student).

> "Primarily to me it lays a solid foundation for how we as Swedish civil servants must act professionally, in that all official documents in electronic and paper versions, including material from official communication via e-mail and telephone which is requested for by anyone outside the organization must be made accessible without unnecessary delays" (Head of a unit).

The head of an archival institution informed that they had discussed and planned to incorporate the dissemination of knowledge about the Act to gymnasium students who visited the institution. He argued that it was important that the students understood the Act since it was their democratic right.

Use of the Act and Directive

Responding to the question whether the respondents had ever taken advantage of the Act and the directive, twelve out of sixteen respondents responded negatively while four of them had made use of the Public Access Act to access information.

Technology and Skills for PSI Exploitation

Responding to the question of being in possession of the technology and pre-requisite skills to facilitate the exploitation of the PSI, two out of the sixteen respondents confirmed they had the technology but lacked the skills. The rest of the respondents did not have the skills, nor did they have the technology to exploit the PSI. The respondents who had the technology argued that:

> "I do have the technology, but I lack the knowledge to create an application. If the information was ordered from a municipality for example, I would maybe use it in its raw form. But most likely that would not be the case because of the overwhelming amount of information" (Student).

> "I think it would be possible within my organization with some help from a web technician, but the needed infrastructure is at hand, yes" (Head of Unit).

The authors own interpretation of the above respondents' responses is that they were not aware of the complexities of the PSI and perhaps thought that having access to a computer or technology would enable them to exploit it.

Discussion

The purpose of this article was to explore the Swedish people's awareness of the Swedish Public Sector Information (PSI) directive, their understanding of the difference between the PSI directive and the Public Access Act and whether they had the prerequisite skills required for the use of the PSI. The EU Public Sector Information (PSI) Directive required member states to release their data to the citizens who might be interested in its exploitation for innovative purposes. Sweden, therefore, after some delay, adhered to the EU's call and in 2010 implemented its PSI-directive. The PSI is considered a raw material with a potential to boost the European information market. Efforts to promote the use of the PSI have been made in some European countries through projects such as APORTA in Spain, The Open Data Processing Engine in Dresden, Germany, the Open Knowledge Foundation in the UK and The Network Open Knowledge Sweden. However, the participants in this study confirmed a need to create more awareness among the citizens if they are to make use of the directive and to engage in the re-use of the PSI.

A good number of the respondents understood the Public Access Act but only a few fully understood what the purpose of the PSI-directive was. Sweden promotes readily access to government information and therefore those who were or had been government employees understood their right to access public information. The commercialization aspect of the PSI-directive, which differentiates it from the Public Access Act was not known by most of the respondents. However, most of them understood that both the Public Access Act, and the PSI directive aimed to increase access to public information, transparency and accountability. It was only three respondents who were aware of the commercial aspect of the directive. This indicated that there is a need to create awareness and to educate the citizens since some of the people interviewed seemed to equate the PSI-directive to the Public Access Act. The citizens need to be made aware of the difference between the Act and the directive because the latter has a commercial focus which could commercially benefit individual citizens. The interviews further revealed that the respondents with low education levels and who had never worked at any government institution were quite ignorant about both the Act and the directive.

The literature reviewed demonstrated the fact that PSI continued to empower the already empowered and that more needed to be done if it is to put within reach of all citizens. The uneven e-government development in Sweden, also impacted the PSI production and

publication. Some of the authors reviewed highlighted the challenges that needed to be dealt with before ordinary citizens could start exploiting the PSI. These constituted; lack of skills, access to the PSI infrastructure, lack of the technology and general awareness if ordinary citizens are to engage in PSI exploitation (Dander, 2013; Papapavlou, 2000; Zuiderwijk & Janssen, n.d.).

All citizens in one way or another benefit from the free flow of government information through the products and services that are produced as well as increased transparency of government institutions. However, the concentration of PSI in the hands of a few people with the skills and technological infrastructure is likely to create an information divide even in a democratic society such as Sweden. It is not expected that every citizen will engage in the exploitation of the PSI but the fact that some citizens do not have any understanding of what the PSI directive implies might hinder some sections of society from utilizing their right to access government data for commercial purposes. Therefore, Papapavlou (2000) argued that the public sector has an important role to play in bridging the gap between the information haves and have-nots. In the literature review section Dander (2013), the APORTA project in Spain, Garcia & Maldonado (2012) list some of the measures that can be undertaken to make the PSI a democratic project. This could be done through creating spaces that can involve the non-experts and hence promote the use of PSI by different shareholders. The biggest challenge is still how to make the PSI a democratic project. Open data is a public good and all citizens contribute to it during their interactions with government institutions. All citizens should therefore have knowledge about it. What we need to see happening is the creation of platforms that will engage citizens who lack the requisite skills.

This pilot study cannot be generalized since it is only limited to a few citizens, but it is indicative of the need for further research to address the democratic challenges that surround PSI developments. There seems to be a supposition that citizens are aware of the directive and hence know what the commercialization and the creation of an information market entails. It seems to be assumed that they have the skills to exploit the availed information. Before the PSI can become a democratic endeavour, challenges such as the digital and data divide, awareness creation, skills creation, education programs in data exploitation, provision of IT-infrastructure to facilitate PSI exploitation and the creation of projects that can harness the PSI should be addressed.

Conclusion and Suggestions

Most of the respondents in the study except for five understood the Public Access Act and the transparency aspect of the PSI-directive but not all understood the fact that the PSI is supposed to promote the commercialization of public information. If the PSI is going to be an inclusive process, all citizens need to be made aware of the PSI-directive to avoid making an enterprise of a few people since all citizens contribute to its generation. Even though social and economic challenges are solved through the innovative capacities of a few individuals, it would be more democratic to create public awareness about the various aspects of the PSI-directive. This would interest novices in the PSI re-use. It would also allow the citizens to decide whether to engage or not. Even though releasing government information to the public is a commendable effort, use must be democratized by equipping the citizens with the requisite skills. This will require the Swedish government to invest in the education of its citizens in collaboration with the municipalities. This is because municipalities are the institutions that the citizens mostly interact with. The government should provide the necessary IT infrastructure needed for the exploitation of the PSI. If the citizens are to engage in the PSI project, they need the necessary skills and understanding of how to turn public information into knowledge, e-services and products.

Some suggestions to deal with the challenges:

- The Swedish government should endeavour to create platforms that could bring together computer scientists and non-experts for training purposes. Such platforms should aim to stimulate the use of PSI by citizens.

- Training in the exploitation of PSI should be offered early enough to students.

- The citizens interact mostly with the municipalities which would make them suitable partners in the creation of projects that would interest the ordinary citizen in the PSI.

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