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# Community Collaboration and Accountability with Open Source Methodology

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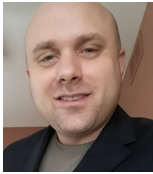
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**Lawrence Bosek** is a Ph.D. student studying Technology Management. He also holds a Master of Public Administration and has been in the IT industry for over 20 years, most recently providing consulting services in network administration, Internet infrastructure, and mass storage systems. Open source systems have been long time interests of his since being introduced to the Unix compiler as an undergraduate and Linux administration as a technology support agent. These interests furthered to include open source methodology and culture as a way to develop sustainable policy in our world of increasingly integrated technology.

# Community Collaboration and Accountability with Open Source Methodology

## ABSTRACT

The information age has given us a plethora of knowledge at our fingertips. This information, ranging from data regarding business practices, technical product specifications, and community impact, has the potential to improve our management policies towards a collaborative community effort. Such efforts are already underway in the public governmental sector, which may lend techniques to other sectors. Democracy, as an exemplary method of publicly open and accountable management, is noticeably void from most business processes despite the impact that business has on the community. The use of open source methodology, such as transparency, information sharing, product improvement, and further collaboration concepts may provide a foundation for the next level of organization that involves more public awareness and community involvement. This brief perspective paper is part of a literature review that touches upon the reasoning for more research on the topic of open source methodology also to be a part of a forthcoming prospective research paper.

## INTRODUCTION

In the age of near ubiquitous information, there seems to be more personal choice involved to be uninformed about a particular topic of concern. That might be true to an extent, however, even with the abundant of information stimulating us at nearly every moment, there is still information that is not readily available to make informed decisions. There are also some that say private information is a permanent part of society. Exactly what and how much information needs to be private or public is a balance we, as a society, are figuring out together. The balance is continually being challenged by people who are actively working to implement policies for transparency, security, and collaboration.

The general meaning of transparency implies openness, or see-through, with regards to accessing information and governmental records to better enable knowledge sharing and accountability. Finel and Lord (1999) define transparency as legal, political, and institutional structures that make internal information available to actors both inside and outside of the socioeconomic systems in society. Across multiple domains, transparency has been touted as a countervailing solution for social, political, and corporate issues (Roberts, 2009). Finel and Lord (1999) further argue that countries with governments that are more willing to provide data about policy actions and decisions are more likely to be countries that permit better information flows of all kinds. Transparency also has become a virtual stand-in for democracy (Christensen & Cheney, 2015). A fundamental part of democracy is, after all, consent from the public being governed, and that consent is not only without merit but ultimately meaningless if the public is not informed (Florini, 1998). Perhaps similar reasoning can be applied to public awareness of business practices and products.

Transparency, along with accountability, is rarely defined with precision and it tends to mean all different things to different people (Fox, 2007). According to Ann Florini (1998), a leading voice on the subject in modern times, transparency is the opposite of secrecy. Florini also states that transparency is a choice, and encouraged by changing attitudes about what constitutes appropriate behavior. Gupta (2008) and Mason (2008) further highlight the complex, contested, and important nature of transparency as a tool of management. Moreover, in an era in which information and technology are fundamental to society, determining who has the right to know amid constantly changing public acceptance presents important, and challenging, policymaking.

Failing to adequately share knowledge and information has been the cause of service failures in the public sector (Bundred, 2006). To achieve the necessary scale of public service improvement, Bundred

(2006) mentions that high quality leadership that demands and rewards a culture of knowledge sharing both within the organization and with other public sector bodies is key. Technology also plays a part with these key factors as we continually improve upon our public services. Transparent information sharing is a cornerstone of the open-source movement, which dates back to the hacker culture of the 1960s (Senia, Horton, & Whitehead, 2010). As the peer-to-peer interconnected Internet progressed, software developers organized themselves outside of traditional corporate, governmental, or institutional hierarchies that were beyond the control of any central authority (MacDermott, 2015).

Mainly found in the technology industry, open-source methodology embodies freely accessible resources and a type of transparency where everything is fully open and available for anyone to examine, scrutinize, and even modify to better meet customized needs. According to the Open Source Initiative, a global non-profit formed to promote and protect open source software, development, and communities, open source software is software that can be freely used, changed, and shared, in modified or unmodified form, by anyone (Open Source Initiative, 2016). The term "free" is used to signify freedom as in freely available without any restrictions such as proprietary licensing, closed source code, or financial costs, although pricing arrangements can be arranged for services such as customization and support contracts.

The advance of Internet technology has also allowed for advancements with transparency through technological applications. Governments can now use electronic communication devices such as computers and the Internet to provide public services to citizens, other governmental offices, and businesses. Citizens' expectations are moving in a similar direction towards openness when it comes to local government. According to a German poll, people have greater satisfaction with government administration when there are additional options to contact government officials, such as those available on the Internet and social media outlets (Stember & Schulz-Dieterich, 2012; Forsa, 2011). The poll numbers also correlate to modern usage of social media sharing and the openness associated with such platforms. A study of transparency efforts at country level government in Southeast Michigan also show a similar direction towards openness and social media usage, however, some information is also lagging such as allowing the public to view the calendars of elected officials despite modern technology (Bosek, 2017).

Citizens that are accustomed to expressing themselves by sharing their views and experiences through social media and e-commerce platforms, such as Amazon.com and Facebook.com, expect similar options to which they can communicate their views and experiences (Jesse, 2015). Social media has forced the German government to regard their citizens as a more active factor in local policy with a focus on open government, transparency, participation, and collaboration, which has to be supported by software standards that are also supportive of the focus (Jesse, 2015). Studying the socioeconomic construction of transparent and collaborative information sharing contributes to our understanding of the changes in democratic interactions (Hood & Heald, 2006). A major issue with such interaction is citizens' trust in management, with transparency being proposed as the solution (Grimmelikhuijsen, Porumbescu, Hong, & Im, 2013).

## DISCUSSION

Information sharing reforms, such as transparency policies, are an ongoing part of our evolving civilization. Such reforms have also been increasing with the assistance of technology. In modern times, information includes the formats and technologies that support its distribution, assurance, and analysis, which is also why the Internet as a means of communication is becoming so important (Bonson, Torres, Royo, & Flores, 2012). The advance of Internet technology also allowed for advancements towards electronic collaboration and information sharing in both private and public sectors. For example, e-government applications use electronic communications devices such as computers and the Internet to provide information and public services to citizens, other governmental offices, and businesses. E-government initiatives, found in almost all modern Western democracies, are a way that governments are responding to the pressure to change how their bureaucracies relate to citizens through the use of technology and the Internet (Bonson et al., 2012).

E-government can be defined as the use of information communication technologies, such as telephones, kiosks, and websites, to offer citizens and businesses the opportunity to interact and conduct

business with government (Almarabeh & Abu Ali, 2010). OECD has noted that Electronic government particularly refers to the use of the Internet as a tool to achieve better government (OECD, 2003). E-government seeks to achieve greater efficiency in government performance through raising the performance of services easily, accurately, and efficiently (Almarabeh & Abu Ali, 2010). Muhammad, Almarabeh, and Abu Ali (2009) further describe E-government as more than a website, email, or the processing of transactions via the internet. E-government becomes a natural extension of the technological revolution that has accompanied the knowledge society by adding new concepts such as transparency, accountability, and citizen participation in the evaluation of government performance (Mohammad, Almarabeh, & Abu Ali, 2009). E-government is also seen as a way to increase transparency in public administration by making it easier to relay information of activities to those being governed (Drüke, 2007).

A fundamental aspect of democracy is consent by the public being governed, and that consent is without merit or meaning unless the public is informed (Florini, 1998). Finding the best way to inform the public is also a challenge. Governing systems using proprietary management methodologies still dominates the political landscape (Glennon, 2014; Engelhardt, 2014; Griffith, 1990). At the same time, the proprietary nature of business makes for an extremely difficult path towards more open sharing of information. Not only do powerful proprietary interests likely want to keep the power structure privatized, but there are also struggles between private and public information sharing (Florini, 1998). Nevertheless, over time democratic methods have been integrating into the business models. Moreover, if information sharing initiatives prove beneficial for government, we can also ask if such initiatives can prove to be beneficial for business and other sectors.

Some public perceptions of the needs for transparency are expected according to Piotrowski and Van Ryzin (2007). In what may seem obvious, demands for more transparency are less with those that view government as already open and demands for more transparency are found among those that consider government to be closed. Further, politically engaged citizens who are in frequent contact with government offices also demand more transparency (Piotrowski & Van Ryzin, 2007). In addition to the correlation that Piotrowski and Van Ryzin presents, trust in government literature supports the relationship between trust in government and public notions that democracy is working well (Marlowe, 2004).

Even with modernity, however, government is still seen as inefficient, ineffective, or unresponsive in many circles, depriving citizens of abilities to engage in public affairs. Some argue that private sector management techniques can be applied by utilizing new ideas that stress collaborative relationships and public-private partnerships to help government become more efficient, effective, and responsive (La Porte, Demchak, & De Jong, 2002). Both ways would still involve techniques in the private sector, which is not especially known for transparency efforts. An intersection between the two occurs with the use of technological innovation allowing citizens to access public information and interact with government officials over the Internet (La Porte et al., 2002). Another method of improvement has emerged in recent times known as citizen empowerment, which has ties to an open source style of transparency by providing citizens with supportive facilities to access government, policy information, and the government officials involved (Barber, 1984; Vigoda, 2000).

Porumbescu (2015) presents an interesting counterpoint to any monolithic presumptions involving transparency efforts at the local government level. Porumbescu (2015) notes that transparency on its own does not sufficiently promote greater accountability and responsiveness. He illustrates that transparency must be complemented by establishing formal channels through which the public can act upon the information given and, in practice, these kinds of outlets are rarely available. Hence an opportunity for synergistic improvement is highlighted. Also, a key implication is that effective, efficient, and equitable disclosure of information needs a strategic network of credible third parties, such as universities or nonprofit organizations, through which information can be disseminated for the public to evaluate objectively (Porumbescu, 2015).

Public awareness is crucial for accountable, participatory socioeconomic management. Access to information regarding official activities can empower citizens and journalists, constrain politicians, and expose corruption (Berliner, 2014). While transparency is not necessarily synonymous with democracy (Zakaria, 1997), it seems ironic and even counter-productive that access to information is hindered in societies that claim freedom as a foundational ideal. Of course, transparency is more than just releasing

information to the public. There are different types and multiple layers involved with transparency policies with no uniform, standardized pattern (Meijer, 2013). For example, while reforming policies to make information public is important, only making the information public does little to help if the public does not know it is available. Reaching and being received by the public is an integral part to the success of transparency. Additionally, there are transparency efforts that are within the organization's control and those which are not (Lindstedt & Naurin, 2010).

Applying methods of transparency can be complex and accomplished in a multitude of different ways. There is also a huge diversity in the quality of transparency initiatives and the degree to which they are adopted (Meijer, 2013). A free press and nongovernmental organizations are some methods used with some in house control although critics contend that these methods are too soft to create real accountability, which is one of the desired goals of transparency. The critics argue that bad publicity is insufficient to make global actors change behavior (Hale, 2008). There are also more radical methods, such as removing all barriers to information and leaking private information. The Internet publisher known as WikiLeaks is one such example of a radical method of transparently disclosing information that is also outside of an organization's control. The WikiLeaks phenomenon, as Hood (2011) describes, is the mass release of secret information using the Internet to obstruct legal pursuit of whistleblowers and publishers and represents a new chapter in the transparency similar to open source. WikiLeaks also demonstrates the effects that the Internet, known as a bastion of freely accessible information, has on national secrecy where also transparency efforts might seem lacking.

Finel and Lord (1999) say that transparency is increased by any mechanism that leads to the public disclosure of information such as a free press, open government hearings, and nongovernmental organizations with an incentive to release objective information. Open source software communities are also examples of democratic culture with their goals, systems, and projects based on values (Dizon, 2009). Different information sharing cultures may exist within an organization and the relationships are a matter of debate. Some characteristics are thought to negatively impact knowledge sharing such as blame, coercion, and lack of trust (Deverell & Burnett, 2012). Call (2005) further concludes that knowledge sharing depends on the existing culture within an organization and to be successful the culture must first be changed to one that rewards knowledge sharing and builds trust among members. The process for sharing knowledge should then be designed around the existing culture of an organization as the process may work for one organization but not another with a different culture (McDermott & O'Dell, 2001).

On a daily basis, members of an organization use what they learn from available information to take advantage of opportunities and solve the constant barrage of problems that arise (Call, 2005). Knowledge is the most sought-after remedy for uncertainty (Davenport & Prusek, 2000). Everyone searches for knowledge because they expect it to help them in their work (Call, 2005). In the UK, culture has changed in favor of knowledge searching across the board ever since the Freedom of Information Act 2000 was implemented in January of 2005. The UK Secretary of State for Constitutional Affairs is on the record saying there is now a right-to-know-culture that replaced a need-to-know culture that existed before (Falconer, 2005). This was also a part of the motivation for implementing the legislation. The goal was to transform the government from one based on secrecy to one based on openness (Straw, 1999).

Open source software communities are striking examples of a similar democratic culture with their goals, systems, and projects based on values (Dizon, 2009). Jack Balkin's theory of democratic culture further plays upon the ideals of the culture of transparency and e-government in relation to enhanced participation. In the digital age, Balkin (2004) says that the focus of democratic theory and practice should be on participation instead of governance. Balkin further explains that,

Democracy is far more than a set of procedures for resolving disputes. It is a feature of social life and a form of social organization. Democratic ideals require a further commitment to democratic forms of social structure and social organization, a commitment to social as well as political equality. And the forces of democratization operate not only through regular elections, but changes in institutions, practices, customs, mannerisms, speech, and dress. A "democratic" culture, then, means much more than democracy as a form of self-governance. It means democracy as a form of social life in which unjust

- barriers of rank and privilege are dissolved, and in which ordinary people gain a greater say over the institutions and practices that shape them and their futures.

What makes a culture democratic, then, is not democratic governance but democratic participation. A democratic culture includes the institutions of representative democracy, but it also exists beyond them, and, indeed undergirds them. A democratic culture is the culture of a democratized society; a democratic culture is a participatory culture. (2004, pp. 32-33)

Balkin (2004) also touches upon the importance of regulatory and technological infrastructure for democratic values, which highlights the role of transparent e-government solutions play in ensuring that technological platforms will uphold, protect, and advance democratic values. These infrastructures within the information flow are composed of different and often hybrid approaches of legislation, administrative regulation, and co-regulation, among other forms, all of which increasingly involve the participation of active subjects, such as open-source communities and citizens (Tambini, Leonardi, & Marsden, 2008). Inclusive decision making, meritocratic modes of governance, radical transparency, and the alignment of passion with the organizational mission and purpose among employees are demonstrated through participation within such open communities and organizations (Whitehurst, 2015).

Open exchange, collaborative participation, rapid prototyping, transparency, meritocracy, and community oriented development comprise the sharing culture known as “the open source way” (Open Source, 2020). “The open source way” is an attitude, which includes a willingness to share, collaborating with others in ways that are transparent, embracing failure as a means of improving, and expecting as well as encouraging everyone else to do the same. Furthermore, it means committing to playing an active role in improving the world, which is possible only when everyone has access to the way the world is designed. This includes government as well as other areas intertwined with government such as science, education, manufacturing, health, law, and organizational dynamics (Open Source, 2016).

Jim Whitehurst (2015), the former CEO of Red Hat, one of the leading software companies that sell a customized and supported version of the Linux open-source operating system, further mentions that leaders embracing transparent open source values can successfully redesign or create an organization suitable for the decentralized, empowered, digital age. An open organization engages participative communities both inside and out by quickly responding to opportunities, having access to resources and talent, and inspires, motivates, and empowers people at all levels of the organization to act with accountability (Whitehurst, 2015). Whitehurst also agrees with spreading open source methodologies beyond technology and argues that the best practices among open source software development can also be adequately utilized for managing an entire company.

The open source public relations organization sponsored by Red Hat, helps them to organize, embody, and share these principles while taking open source methodology a bit further. Aside from the usual open source reference being something that can be freely modified and shared because the code designs are publicly accessible, they also promote a broader set of values in what they call “the open source way,” which is about applying the principles of open source beyond software technology to change the world the way the open source model has changed software. This includes open exchange, collaborative participation, rapid prototyping, transparency, meritocracy, and community oriented development (Open Source, 2020).

Their website at Opensource.com further describes “the open source way” as an attitude, which includes a willingness to share, collaborating with others in ways that are transparent, embracing failure as a means of improving, and expecting as well as encouraging everyone else to do the same. Furthermore, it means committing to playing an active role in improving the world, which, they say, is possible only when everyone has access to the way that world is designed. The analogy is a world full of source code similar to software although the software integrates in all areas of public service. These areas include science, education, government, manufacturing, health, law, and organizational dynamics.

Links between the effective use of open-source software, transparency, business, and governmental

applications lie in the collaboration of community. The high quality of open-source solutions is the result of being able to harness the talent of a large group of people that are not necessarily employed or members of the company or organization. Over 55% of companies in North America already use open-source software solutions for their mission-critical applications (Moskalyak, 2006). Research also shows that open-source solutions are capable of having an equal or higher quality than comparable proprietary solutions. For example, under the open-source model, people diagnose problems, suggest fixes, and help with improvements far quicker than the proprietors could do by themselves (Raymond, 2001). Open-source solutions have a history of reliability and security because everyone is able to see the code and report the issues they find (Senia et al., 2010). While this goes back to the hacker ethic of open collaboration, there are also studies that indicate more protection may lead to less prosperity and therefore utilizing more open source information sharing solutions not only allows the organization to prosper but also allows the local community and even the country to prosper together as well (Senia et al., 2010).

## CONCLUSION

The success of open-source solutions is native to but not limited to technology. While technological development inspired the creation of products and services such as Android mobile phones, wikis such as Wikipedia, and electric cars by Tesla opening their patents, other areas as diverse as soda pop, beer, voting, and cyberdiplomacy are also impacted by collaborative open source methodology (MacDermott, 2015). Open source influence is still mostly seen within the technology industry, although the methods can be utilized by any organization to, perhaps, bring about the next level of cooperative management within business and other socioeconomic areas.

Wise management will continue trending towards open-source solutions to craft official policy by consulting and collaborating with motivated citizens on Internet based forums (MacDermott, 2015). While these ideas are more visible on the international and national level, the local level can also benefit from the same open-source platforms. Issues with disinformation, misinformation, and other biased manipulation of facts and data might be better mitigated by having open rather than closed access in places where such mishandling of information can occur. Transparency and information sharing are developing concepts in all sectors. The result of adopting open-source methodology will be a source of continually evolving ideas produced by a community of heads, hearts, and hands with skin in the game (MacDermott, 2015).

Exploring these evolving ideas provide a basis for my research moving forward. Studying open-source methodology as it is being used and where it can be used within the business sector will be done by surveying technology managers of Fortune 500 companies. Survey questions will be based on the concepts presented in this paper as a foundation for developing potential methodologies. Current methods and behaviors will be surveyed to help find a balance between transparency and privacy concerns while also polling for attitudes about how collaborative transparency can change profits, motives, and benefits to the individual, company, and society.

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