Dynamics of Stakeholder Collaboration in Bojonegoro’s Open Data Program

Abstract
This paper discusses the complexity of collaboration dynamics and the open data of collaboration cycle in Bojonegoro Regency. Bojonegoro’s open data is a data development program that is collected from the PKK Dasawisma data updated once a month through the publication of Dasawisma data online. This paper has proven a very dynamic level of collaboration in open data initiation through the use of qualitative techniques by collecting data on interviews, observations, and documentation. The level of collaboration dynamics is promoted by drivers in the form of leadership, a culture of openness that has been formed, resource dependence on one another and strong local CSO roles. These drivers are determinants dynamics of open data collaboration to reach a mature collaboration cycle. Some findings indicating weaknesses are the “political will” of leaders determining the sustainability of open data; and collaborative programs that have not been aligned with the current RKPD.

Keywords:
collaborative dynamics; open data; stakeholders; cycle

Introduction
The governance movement has arrived at collaborative governance, wherein one government can depend on other governments at the level of agencies, institutions, and organizations. Collaborative governance is an effort to address public issues both in resolving problems and creating new innovations. In this effort, organizations and individuals are unable to implement programs by themselves in order to solve the problems the face. This is because the problems that the government encounters increasingly exceed their resource capacity and management in carrying out regional governance.

Some of the various conditions before collaboration are high interdependence (Logsdon, 1991); the need for resources and sharing risks (Alter & Hage, 1993; Agranoff &
Policy & Governance Review | January 2020

McGuire, 2003); scarcity of resources (Agranoff & McGuire, 2003); previous business history to collaborate (Radin, et al., 1996); a situation where each partner has the resources needed by another partner (Chen & Graddy, 2005; Gray, 1989; Gray & Wood, 1991; Pfeffer & Salancik, 1978; Thomson, 2001); and complex issues (O'Toole, 1997). Ansell and Gash (2008) added some reasons for collaborating because of the failure of policy implementation, the inability of groups, the mobilization of interest groups, and the high cost and politicization of regulations. Goldsmith & Eggers (2004) also argue that when public sector governance is increasingly fragmented, governance network has emerged as a solution with inter-organizational collaboration. Collaboration is very important for public managers. When devolution, rapid technological change, scarce resources, and increased organizational interdependence encourage an increase in the level of collaboration (Thomson, et al., 2006). The collaboration that emerged from these conditions eventually formed the concept of collaboration.

Establishing collaboration among stakeholders is very difficult, even the level of success is as low as 20% (Huxham & Hibbert, 2008). There are groups of figures who are skeptical of collaboration. One reason for such skepticism is the quality of the participants and their demands on participating actors where there is a thin line between personal and shared interests (Huxham & Vangen, 2005). The complexity of this collaboration can be seen as a “black box (collaboration)”, which is the dynamics of collaboration (Gray & Wood, 1991).

Collaboration between stakeholders is increasingly in demand by the government in the administration of the current digital era government. One program related to digital era collaboration is the open data program. Open Data is data that is freely used, modified, and redistributed by anyone and for any purpose (World Bank, 2017). Indonesia has begun to concentrate on open data since 2014 and by 2017 it has reached 38 levels of openness (Open Data Barometer, 2017, p. 6). In Indonesia, not many regions have implemented open data. However, there is one Regency in East Java Province, namely Bojonegoro Regency, that has successfully implemented open data. At the regional level, Bojonegoro Regency is the only regional level government that has initiated open data.

Bojonegoro Regency was chosen to represent Indonesia as a pilot area in the “Open Government Partnership (OGP) Subnational Government Pilot Program” or web pilot project (Findie, 2016). This is because open data greatly impacts economic and social changes in Bojonegoro. Before the open data program (in 2015), Bojonegoro District was included in the 10 Districts in East Java with the highest number of poor. After the open data implementation in 2017, Bojonegoro Regency was ranked 11th in the region with the highest number of poor. This shows that there was a very significant increase in Regional Original Income (PAD) which resulted in economic assistance to the community through open data, in 2018 Bojonegoro’s PAD reached IDR 368,155,000 (Kurniawan, 2016). In addition, economic success is also demonstrated by the conversion of flood areas into income-producing star fruit agro-tourism (Kurniawan, 2016).

This is in line with previous research indicating that open data had an impact of 1-2% on the Gross Domestic Product (GDP) of countries in Africa (African Development Bank, 2017). In Europe (Bureau of Communications Research, 2016), open data accounts for $ 500 million - $ 25 billion per year. Berends, et al. (2017: 5) states that open data has an impact on macro and micro economics. The EU value of the data is estimated to have the potential economic growth potential of up to EUR 739 billion in 2020 (4% of EU GDP) (Berends, et al., 2017, p. 6).

Based on the many benefits of open data, it is very important to understand how to
develop open data. The main role in open data initiation is the presence of stakeholder dynamics because open data is a complex, multidisciplinary, multicomponent and cross-sector program (Richardson & Allegrante, 2000).

This research focuses on the dynamics of stakeholders’ collaboration within the open data program of Bojonegoro Regional government in realizing open data. In addition, it is important to understand the achievements of the open data cycle in Bojonegoro. Understanding the collaboration cycle helps other local governments intending to implement open data to learn the lessons of the stages in collaboration.

**Collaborative Governance**

Emerson, et al. (2012, p. 2) define collaborative governance as a process and structure of public policy decision making and management that involve people constructively across public institutions, government levels, and / or public, private and civic spaces to carry out public goals that are unattainable.

Based on the above opinion of experts, it is concluded in this study that collaborative governance is a process and its dynamics aiming to achieve common public goals that are formulated and agreed upon jointly by cross-sector stakeholders wherein these public goals are unattainable without working together. In the initiation of open data in Bojonegoro Regency, collaboration among actors aims to implement open data in accordance with the actors’ capacity to cooperate with each other in the same position. Each stakeholder contributes the resources they have for the common goal of creating open data.

**Collaboration Dynamics**

The definition of collaboration from Emerson, et al. (2012) criticizes the notions of Ansell and Gash (2008), as Ansell and Gash only focus on “species rather than genus”. This means that the definition of Collaborative governance provided by Emerson, et al., (2012) is more comprehensive. The three scholars modeled Collaborative Governance as follows:

Figure 1.
 Integrative Framework for Collaborative Governance

Source: Emerson, et al., 2012.

**Drivers**

Based on the findings at the research location, there were two drivers that reinforced the presence of open data collaboration. These drivers were the culture of openness and the role of local civil society organizations. Slightly different from Emerson et al. (2012), the research findings were developed as a thinking framework combined with Emerson’s dynamic concept of collaboration.

a) Leadership: refers to the figure of a leader who can take the initiative to start and help prepare resources to support the implementation of collaborative governance with all of his/her capacities.

b) Culture of Openness: The culture of openness is a custom that is constantly practiced by the Bojonegoro Regional government along with the community in order to achieve principles of transparency, accountability, and participation. The custom is practiced via public dialogue and submission of complaints through several
channels. Their custom eventually forms into culture. Some literature discusses community participation that can shape culture or even become politicized (Chavez, 2015). This is because participation originates from two basic elements namely institution and autonomy (Chavez, 2015).

c) Interdependence: a condition in which individuals and organizations are unable to achieve something using their own efforts and capacities, therefore collaborative actions need to be implemented.

d) The role of local civil society organizations: at present participatory governance is implemented in a large number of developing countries and it is largely a suggestion of reform from donors and non-governmental organizations (NGOs) (Speer, 2012, p. 2379). Moreover, the literature of participatory governance leads to four differing schools as described by Speer (2012). The four schools relate to collaborative governance leading to democratic decentralization; deliberative democracy; empowerment; and self-governance.

I. Collaboration Dynamics

The interrelated components in collaborative dynamics, namely are:

a) Principled Engagement: through principled engagement, parties that come together via different processes, relations, and goals can work together to overcome problems, reduce conflicts, and create values. Principled Engagement arises through repeated interactions of the four elements, namely finding problems, defining problems, deliberation, and determining what problems are to be resolved.

b) Shared Motivation, emphasizes the non-visible aspects present in each person, or what is often called social capital, which consists of four elements, namely forming mutual trust between stakeholders, mutual understanding, creating internal legitimacy, and strengthening joint commitment.

c) Capacity for Joint Action, having collaboration for implementing a policy or agenda can increase the capacity of the participants to achieve common goals. Capacity for Joint Action includes forming collaborative institutions, identifying collaborative leadership, sharing knowledge, and distributing resources.

The Cycle of Collaborative Governance

The collaboration cycle made by Tirrel & Clay can be used as an analysis tool for the collaborative cycle on open data in Bojonegoro Regency. Analysis of the collaboration cycle in the open data program was done by determining at what stage the collaboration occurred. By knowing the point of a certain cycle, it will be easier to determine the next step in carrying out the collaboration process.

Figure 2. Conceptual framework of Cycle Collaborative Governance

Source: Tirrel & Clay, 2010.
Open Data: Data Revolution in Bojonegoro

Government Working Group considers something as open data if it has met the following requisites: 1) complete; 2) primary; 3) timely; 4) accessible; 5) machine-processable; 6) non-discriminatory; 7) non-proprietary; and 8) license-free (Dawes, 2010). With this principle, Dawes concluded that data can be available without buying or by use of a distinctive software, and data can be used by anyone wanting access so that there is increased participation and collaboration surrounding the topic on data.

The Bojonegoro Regional Government employs the concept of data revolution. The concept of data revolution is the provision of data from the household level as collected by PKK cadres. The Bojonegoro Regency PKK Mobilizing Team plays a substantial role in the household data collection process by organizing PKK cadres for family data collection in the Dasa Wisma unit. This data is subsequently processed and published through online media.

Methods

This study employed the qualitative method of research. The aim of this study is to understand the dynamics of collaboration between stakeholders of Bojonegoro Regency’s local government in creating open data. At this stage of the study, the researcher attempted to find out what people think and how they feel about collaboration between stakeholders in creating open data. The second objective is to find out the extent of the cycles and stages of stakeholder collaboration in the open data program. This second objective allows the researcher the opportunity to provide inputs on collaborative development so that it can develop into the final stage.

Purposive sampling was used in this study as a technique to determine the informants. This technique takes into consideration the direct involvement of the informants at the initiation of open data. The informants were determined based on their role in the open data initiation, as many as 13 informants were obtained consisting of 10 individuals from the government, 2 from CSOs, and 1 from academia. There is a limitation in the sampling of informants for this study, that is the private sector is not being involved as informants.

The procedures for collecting data in this qualitative study involved three types of strategies namely qualitative observations, qualitative interviews, and qualitative documents (Creswell, 2010, p. 267). Once data were collected, validity of the data was confirmed by using triangulation techniques. The researcher used source triangulation and data collection triangulation techniques. The data obtained from the data collection results via interviews, observations, and documentation studies in the research locations were then presented and analyzed. Data analysis employed qualitative analysis technique approach of Miles and Huberman, which includes stages of data reduction, data model, and drawing conclusions.

Results and Discussion

Dynamics of Open Data Collaboration

Emerson, et al. (2012) mention that without any driver, the impetus for collaboration becomes hampered and will not develop. There are at least four driving components, namely leadership, consequential incentives, dependence, and uncertainty. However, results of the study found that there were 4 (four) strong drivers that had led to open data collaboration. The drivers were leadership, the Bojonegoro regional government’s culture of openness, resource dependence among actors, and the role of local civil society organizations (CSOs).

Leadership. Based on the research findings, it can be seen that the leadership of Bojonegoro’s Regent, Suyoto, has a high commitment in maintaining collaboration to develop open data. The public dialogue program was originally a
political agenda. This program was promised during his campaign. However, upon observation of its development, Regent Suyoto was truly committed to implementing it until the end of his term. The strong commitment shown by the regent is a good example of the significance leadership holds (Emerson, et al., 2012).

Leadership determines the process of collaborative dynamics. In the open data program, Regent Suyoto retired in March 2018 and was replaced by an Acting Regent. At the time the Friday dialogues had ended, and the open data program continued. The Acting Regent instructed to continue the implementation of the open data program. In September 2019, a new Regent will occupy the regency office. The new regent may change the policy of the open data program. The new regent may not intend to continue the open data program and stop using dasawisma data, so, the government may return to using conventional data. This scenario shows how the regent’s power affect collaborative dynamics.

**Bojonegoro Regional Government’s Culture of Openness.** Based on the findings, a culture of openness has been prevalent among the people of Bojonegoro and this has positive impact on openness innovation. Although, the people’s participation was initially intended for the interest of government legitimacy. Such external conditions has provided the government with positive consequences to push for the formation of open data. According to the theory by Emerson, et al. (2012), the need for collaborative action in addressing public issues depends on both internal and external conditions of the local government. To carry out collaborative actions, it is necessary to examine what local governments have that can be of advantage and disadvantage to achieve that purpose. External conditions in the form of open culture surely encourage collaboration. The public’s open attitude towards change and their participation in the policy-making process are substantial contributions in the process of initiating good open data collaboration. Open data was consequently more easily and more quickly accepted with adaptations merely taking a short amount of time.

**Resource Dependence among Actors.** There were dominant institutions that relate to or cooperate with all stakeholders such as the Bojonegoro Regional Communications and Informatics Office (Diskominfo), but there were also stakeholders who had minimal involvement because they only played a role in formulating the problem and evaluating the implementation. Diskominfo became dominant in managing data revolution because it was the main coordinator. The table’s stakeholder also illustrates, without collaboration between stakeholders there cannot be open data. This is due to the fact that the ownership of resources was spread out across several stakeholders rendering them mutually interdependent. Thomson and Perry (2006) state that a precondition to collaboration is when individuals/organizations are incapable of achieving something by themselves. This is similar to the initial condition of the open data program in Bojonegoro. For example, Diskominfo would not have been able to collect Data Wisma (Dawis) data if they had not coordinated with TP-PKK to mobilize the PKK cadres. Without budget from Exxon Mobil to pay for Sinergantara to create the Dawis application, Diskominfo would not be able to run the open data program. Therefore, open data is a collaborative framework that uses the respective resources of its stakeholders for the purpose of mutual data sharing.

**The Role of Local Civil Society Organizations.** There are civil society organizations (CSOs) in Bojonegoro that are active and have a strong drive to consistently assist the local government. These CSOs are originally from Bojonegoro, such as Bojonegoro Institute and IDFoS, and they each have a different field of concentration. According to the Director of the Bojonegoro Institute, local CSOs have an active
role in the local government. The role of local CSOs is as a control as well as a partner in drafting and implementing policies. The active role of CSOs, which dates back to before the data revolution, has accordingly served as a driver to keep control of the government. Participation in organizational form has more power in advocating interests (Hardy and Koontz, 2010).

These four drivers affect the collaborative process in Bojonegoro Regency’s open data initiation. Each driver supported the collaborative process to run properly. The description of drivers in the collaboration dynamics is shown in Figure 3.

The collaboration dynamics in the open data program is a collaborative process that consists of principle of engagement, shared motivation, and capacity for joint action. **Principle engagement** is a stage of problem finding. Discovery focuses on identifying values, problems, and common interests (Emerson et al., 2012). Problems with government data as a basis for development were found when the local government agencies (SKPD) were unprepared to provide data. Regent Suyoto felt that there is a lack of data availability, both in terms of realtime, integration and validity (ODB Global Report, 2017, p. 14). So in the 2016-2017 open government partnership action plan, the first issue/problem to be addressed was the absence of integrated and real-time data to support development programs. The government stated the importance of data to help make policy decisions. CSOs need data to conduct studies and advocate public policies. Others also want to access data for public information. These interests were subsequently brought together when formulating the action plan. Coordination meetings were held five times from January to August of 2016.

The definition is characterized by the existence of business continuity to clarify the intent and purpose, approve the concept that will be used to achieve that goal, and clarify the rights and obligations of each participant (Emerson et al., 2012). At the meeting held in August 16, 2016 on the 7th floor of the regional government’s new building, the agenda was an action plan meeting which resulted in 8 points. The meeting began by clarifying a list of the problems that had been collected. After the 8 points were verified, the meeting participants established a joint criteria for assessing information and alternative problem solving.

**Figure 3. Collaboration Dynamics of Open Data Stakeholders**

Source: Emerson, et al., 2012.
Deliberation, dialogue or communication as part of a mutually beneficial learning process. Deliberation is carried out by promoting deliberation to reach a consensus, in accordance with democratic principles. Collaborative governance is built on face-to-face dialogue between stakeholders, as a consensus-oriented process. Communication conducted by stakeholders is carried out directly or indirectly. The 2016-2017 OGI action plan started with both online and offline screening of public aspirations. The deliberations of the open data issue had a weakness. The private sector had not been involved in the deliberations, while on the other hand, the district government has been using private grants to fund government activities.

Determination or designation can include procedural decisions (e.g. setting an agenda, holding discussions, establishing a working group) and substantive determinations (e.g. reaching agreement on items of action to be taken or final recommendations) (Emerson, et al., 2012). In the initiation of the open data program, the action plan was followed up with the issuance of the Decree of the Regent of Bojonegoro No. 188/177/KEP/412.013/2017 dated May 18, 2017 concerning the Steering Team, the Technical Implementation Team, and the Open Government Partnership Evaluation Team of the Bojonegoro Regional Government in 2017.

Shared Motivation. Emerson et al. (2012) define shared motivation as a self-reinforcing cycle consisting of four elements: mutual trust, understanding, internal legitimacy, and commitment.

Trust Building is a major part of the collaboration process (Ansell & Gash, 2008). Stakeholders must have good and transparent performance to build trust. In the case of the Bojonegoro data, trust was built along with the increasing intensity of stakeholder meetings. The stakeholders took turn in hosting the meetings, sometimes the local government would host, or sometimes the CSOs would invite the government and host the meeting at the CSO’s office. By having different hosts in the coordination meetings, it would at least provide a differing insight from the perspectives of the government and CSO. Mutual trust was shown by the closeness of the relationship between the government and CSO. The division of tasks among each of the stakeholders also helped increase their knowledge, because each stakeholder provided an explanation of their tasks and achievements.

Ansell and Gash (2008) suggest that shared understanding becomes the main process in collaboration. Aside from IDFoS, other NGOs, Bojonegoro Institute and other stakeholders also encouraged data transparency and the construction of valid data. The agreement of the stakeholders in the revolutionary data action plan shows their mutual understanding of the need to have valid data, despite each of them initially carrying different interests.

Internal legitimacy is indicated by mutual respect and understanding of the role and condition of each individual so that it will generate trust (internal personal validation and cognitive legitimacy). In the dynamics of open data collaboration, initially internal legitimacy was formed along with the issuance of SK OGP No. 188/177/KEP/412.013/2017, but actually internal legitimacy had already been built for a long time by Regent Suyoto through the habit of involving all stakeholders and the community in his administration.

The stakeholders’ commitment in building open data can be observed throughout the entire process, from formulation of problems, FGDs, discussion of issues, assigning action plans and up to the implementation. At this stage, all stakeholders agreed on the first action plan of the data revolution. After agreeing on the action plan, discussions were held regarding implementation, and at least a meeting was held every three months for reporting and evaluation.
In addition, commitment was also shown by the constant coordination occurring among the stakeholders through routine meetings and personal coordination. This is not unlike the explanation presented by Thomson and Perry in Emerson et al. (2012, p. 14) wherein the efficacy of collaborative dynamics is shown by trust built from informal and reciprocal relationships between stakeholders leading to interactions strengthening mutual trust faster in legitimacy.

**Capacity for Joint Action.** The capacity to carry out joint activities relates to the ability of organizations or individuals involved in collaborative actions to build data at both the village and district levels. First, institutional matters, which include guidance on the process and organizational structure needed to regulate relationships in larger, more complex and long-lasting collaborative network systems, require more explicit structures and protocols for work administration and management (Emerson et al., 2012, p. 15). In relation to the open data program, SK OGP No. 188/177/KEP/412,013/2017 was issued concerning the steering team, technical implementation team, and the evaluation team of the Open Government Partnership of the Bojonegoro Regional Government in 2017. The Regent’s Decree regulates the division of tasks and authorities of the stakeholders respectively. Additionally, the Regional Regulation of Bojonegoro Regency Number 2 of 2017 concerning Public Information Disclosure was also ratified, which strengthened the implementation of the open data program.

Second, collaborative leadership can come from anywhere including the leadership of sponsors, organizers/mediators, representatives of organizations or constituencies, experts of science, technology, and public advocates (Emerson, et al., 2012). Diskominfo along with Sinergantara implemented a cooperation agreement as a follow-up to the MoU, which entailed strengthening the HR of the administrators/data operators and developing the Dasawisma application as a means for inputting, processing, and outputting in the data utilization dashboard.

Third, at the preparation stage, there was development of knowledge relating to Data Revolution by all stakeholders. Knowledge about data revolution was delivered by experts, namely Sinergantara, an NGO from Bandung. Sinergantara is a non-governmental organization that focuses on IT development. At the time, Sinergantara made 2 modules to educate about open data.

Fourth, through collaborative dynamics, these resources can be utilized and redistributed as shared resources to influence common goals. Collaborative success can depend on how well differences in resources are managed. In the Bojonegoro open data program, given the limited resources available, the collaboration had a positive impact on managing those limited resources to achieve the goal of data revolution, which is shown by the monthly Data Wisma input.

**Figure 4. Collaborative Dynamics of Stakeholders in Bojonegoro Regional Government’s Open Data Program**

Source: Emerson, et al., 2012.

Based on the analysis on the collaborative dynamics of the open data program, there are some weaknesses found in the dynamics. First,
leadership was very dominant in the practice of data revolution through Dawis data. The change of leadership has stopped open data innovation. Second, the regional government and CSOs held a most significant role in determining the problem. Other participants only agreed, including universities. The private sector was not involved. The involvement of the private sector was merely in terms of funding at the end of the decision. Third, the commitment towards program sustainability remains dependent on the leadership. Other staff and stakeholders still intend to continue the commitment, but the new leadership may see a change in strategy. Fourth, limited availability of resources. In addition, the data revolution program set was not in line with the current RKPD budget and program. This had an effect on the program’s funding process that relied on stakeholder’s efforts in organizing open data programs.

The Level of Collaboration in the Open Data Program

The collaboration carried out in the data revolution program has reached a mature stage. This shows that the open data program has had immensely dynamic experiences. At this stage, the implementation of the data revolution has set a standard of success that has been agreed upon. Evaluation of success standards is carried out every three months. At this stage, training and assistance are continued, wherein the district level PKK Dawis cadres provide villages with assistance. Data update is done once a month. In addition, program implementation continues to develop by resolving issues that hamper the operation through the utilization of all available resources. The average achievement for inputting is at 87.7% of the determined success standard. At this stage, the leader emphasized the sustainability of the implementation of Dasawisma data through the development of the Dasawisma online data dashboard and integrated it on the data.go.id portal.

Conclusion

The collaboration of stakeholders in Bojonegoro’s data revolution was very dynamic. The most powerful forms of drivers in the open data initiation were (1) Regent Suyoto’s leadership in the style of democratic deliberation; (2) an established (institutionalized) culture of openness; (3) mutual resource dependence among stakeholders due to limited resources; and (4) the role of powerful local civil society organizations. These four drivers had strongly led to the advent of the open data collaboration program.

These drivers had affected the collaborative dynamics. The collaborative dynamics of stakeholders in the Bojonegoro open data program shows three closely interrelated components as well as high and low enthusiasm depending on the components mutual relationship. Bojonegoro’s open data collaborative program has reached a cycle of mature collaboration. One of the significant findings in the open data collaboration cycle is that the Regent’s leadership was a strong impetus for initiating the open data collaboration with his command and control approach.

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