Evaluation of the Open Data Implementation of the City Government of Depok

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Abstract:- The purpose of this evaluation is to describe and analyze how the Depok City Government implements Open Government Data in terms of the theory of Open Government Data implementation. The research method used is descriptive method with a qualitative approach. Data collection techniques were carried out through literature, observation, interviews, and documentation. The informant determination technique was carried out purposively. The results of the study show that based on the four dimensions of Open Government Data implementation, there are a number of things that need to be improved such as community involvement in dataset creation which is still minimal, public awareness of the importance of open data, the capacity of all Depok City Government agencies to utilize manufacturing technology data, and cooperation from parties tasked with monitoring the operation of Depok City Open Data. The researcher suggests that the implementation of Open Government Data can run better, it is necessary to make formal cooperation agreements with external and internal parties as data producers and also build special facilities for Depok City Open Data so that government open data in Depok City can run effectively..

Keywords:- Implementation, Open Government Data, Open Data, Depok City Government Data.

I. INTRODUCTION

The development of information and communication technology or electronic government in government has made open government more developed. Open data/open government data or if translated, that is data openness/open government data is developed from the concept of open government. Open government data is a government doctrine that is open regarding the data it has for certain matters so that the public can freely use the data. Disclosure regarding this data is not only a form of transparency and accountability but also hopes that it can be used by academics, business people, bureaucrats, professionals and other groups to develop expertise in their respective fields as well as for discussions about government policies.

Open government and open government data cannot be separated when we want to talk about information disclosure to the public by the government.

In Indonesia efforts to implement the open government concept began with Law Number 14 of 2008 concerning Public Information Disclosure (KIP) and then through Law Number 25 of 2009 concerning Public Services.

With the existence of a clause in Law 14 of 2008 concerning KIP in Part Four, namely Obligations of Public Agencies in Article 8, then in Law Number 25 of 2009 concerning Public Services in Part Three namely regarding Public Service Information Systems in Article 23, there has been a change in data accessibility, previously the data was closed and only opened to the public when requested, now the data must be open directly without having to request it first. Then also in the public information disclosure law, various government agencies both at the central and regional levels are encouraged to use digital technology in the publication of related data.

In 2018 the City Government of Depok launched an open data portal which can be accessed at http://data.depok.go.id. This website is an open data portal that can be accessed by the public to obtain various kinds of information. This data portal was created on the basis of Law Number 14 of 2008 concerning Public Information Disclosure . Depok City Open Data itself is an initiative and commitment from the Depok City Government in realizing Depok Smartcity. The existence of Depok City Open Data is a form of support from the Depok City Government to make improvements to the data owned by the Depok City Government. The Depok City Open Data Program it self is under the auspices of the Depok City Communication and Information Office.

To analyze the problem of implementing Open Government Data by the City Government of Depok in more depth, the researchers used the theory of implementation of open government data originating from the study of Azmi Omar, Julian M. Bass, and Peter Lowit from The Robert Gordon University, Scotland who carried out a study on open government implementation. government data with his study entitled "A Grounded Theory of Open Government Data: A Case Study in The UK". Researchers use this theory, because this theory is considered suitable to be able to explain problems in the implementation of open government data within the Depok City Government with another perspective according to the dimensions of the theory, namely data sharing, standardization, awareness, and government responsibility.

II. RESEARCH METHODS

In this study the method used is a descriptive method with a qualitative approach . The data collection technique used was literature study and field studies consisting of interviews and documentation.

Determination of informants in this study was carried out using a purposive technique in which informants were selected based on certain considerations (Sugiyono, 2010:

96). Based on this consideration, the informant in this study is the Head of the Statistics Section of the Depok City Communication and Information Service because he is considered competent and knows about the dimensions of Government Responsibility, Data Sharing, Standardization, and Awareness in the implementation of open government data as a government organization that becomes the operator.

Implementation of open government data as a non-governmental organization that produces data and collaborates with open data operators. In order to obtain reliable data validation, researchers use the source triangulation technique . The data analysis technique used in this study is qualitative data analysis, following the concept given by Miles and Huberman namely data reduction, data presentation, drawing conclusions, and verification . The duration of the study was carried out from September 2019 to June 2020.

III. RESULTS AND DISCUSSION

The Depok City Government through the Depok City Communication and Informatics Office initiated the Open Data of Depok City to realize transparency, accountability and innovation in Depok City. However, in practice there were several problems where the desired indicators were not achieved in the implementation of Depok City Open Data. The failure to achieve this indicator can then be further explored using the open government data implementation theory put forward which consists of four dimensions, namely data sharing or data sharing, standardization or standardization, awareness or awareness, and government responsibility or the responsibility of the government. As for the failure to achieve the indicators desired by the City Government of Depok in implementing Open Data in accordance with the four dimensions, they are as follows.

A. Data Sharing

The first dimension is data sharing which discusses the disclosure or sharing of data between one organization and another. The focus of this dimension is how data is shared between organizations. In addition, this dimension also focuses on how to involve organizations outside of government in sharing data, then on the security, accuracy, quality and integrity of the data itself in open data.

In terms of implementing data sharing, Depok City Open Data acts as a place where data is shared from data producers. Next? The data producer will produce data in accordance with certain conditions and then give it to the Data and Statistics Sector to then display it on the Depok City Open Data website with certain conditions in accordance with standardization. Basically, the data provided by the data producers to the Statistics Section is data that meets the standards or can be published widely in accordance with the provisions of existing laws and regulations such as Law Number 14 of 2008 concerning Public Information Disclosure. Depok City Open Data acts as a medium for aggregating data produced by various data producers into one place.

Data sharing in an open data system is basically not closed only to data produced by government institutions, but data sharing can also be carried out with parties outside the government, for example with non-governmental organizations or other organizations. In terms of cooperation with external government parties, Depok City Open Data carries out two types of cooperation. The first is by holding a data processing competition, the second is by collaborating with non-governmental organizations.

Regarding whether collaboration or data sharing between government agencies and non-governmental organizations is needed.

Then in the implementation of open government data, the thing that is of concern is the security of the data published on the portal. Where data producers, both organizations within the government or outside the government, must feel safe in sharing data. In terms of infrastructure, the hardware supporting the Depok City Data Portal since 2018 has not been evaluated to measure its security level.

The accuracy of the data produced by producers at the beginning with what is displayed in the Depok City Data Portal is important. Not only by the data accessor, but also by the original data producer. Depok City Open Data as the aggregator of data producers lists the source of the data and also when the data was last modified. This will help data accessors as well as initial data producers. For accessors, this can show whether the data they are accessing is the most up-to-date data. Then, for data producers, they can see whether the data they produce is in accordance or not with the data they own.
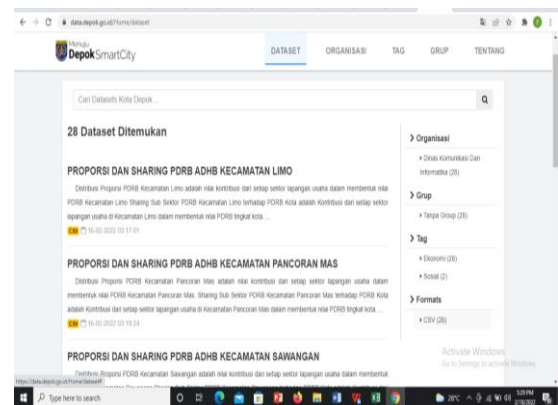

Fig. 1: Depok City Dataset

Source: Depok City Data Portal. Accessed on
18 February 2022 at 21:08 WIB

As can be seen in Figure 1, in the dataset menu, 28 csv format data have been produced.

Data is not necessarily uploaded into an open data portal, but the quality of the data and the integrity of the data must also be considered. The quality and integrity referred to here is how the accessor of the data can use existing data with a certain quality for all data so that there are no significant differences for the data accessor. In this

case, the City Government of Depok through the Office of Communication and Informatics is the party responsible for ensuring data quality through enforcing standardized data formats and this does not yet exist.

Regarding the quality of the data, Depok City Open Data does not yet have a data administrator officer who maintains that the data in the Depok City Data Portal can meet the Comma Separated Value or CSV standard. What is meant by Comma Separated Value itself is a simple format for representing a rectangular array (matrix) of numeric and textual values (Library of Congress Collection, n.d). By using this CSV standard, data accessors who need data will get the data with a good standard that can be accepted by data processors. In maintaining the integrity of the data, the Depok City Open Data party also stated that when the data cleaning process is carried out, it will not affect the content or function and purpose of the data because metadata is still being considered.

The conclusion that can be drawn here is that in terms of the dimension of data sharing implementation, Depok City Open Data is expected to act as an aggregator of various datasets produced by other institutions which will later be uploaded to the Depok City Data Portal. The existence of this Open Data Portal can revolutionize the concept of online access to data, considering its use and the possibility of this data being reused later by different stakeholders .

As an aggregator, Depok City Open Data should carry out its duties in two ways, namely actively where Depok City Open Data requests data from related institutions, then passively where Depok City Open Data retrieves data that is already available in each agency independently (not done).

No data sharing has yet been displayed on the portal, but it is intended to be limited to data produced by organizations within the Depok City Government itself. Collaboration with organizations outside the government has not yet been implemented, it is hoped that in the future it will reach the stage where these organizations become producers of the data displayed on the portal. Production of data from the Depok City Open Data initiative by government organizations themselves can strengthen relationships between organizations in the long term . If the organizations participating in data sharing are low, it will lead to decreased engagement between open data initiatives and the community . Then displaying the data is important, especially those with high value, even though they are not used, they can be utilized by the community later . Then, there is the problem of Depok City Open Data in its collaboration which acts more only as a bridge between non-governmental organizations and related agencies related to the focus of these non-governmental organizations. The technical implementation of data sharing in terms of security has been carried out in accordance with statutory standards so that the privacy of the contents of the data will be maintained when it concerns individuals. In terms of accuracy, what is most

important is the time and also the source of the data itself to be displayed to data accessors, so that the dataset can be verified to related parties. For quality and integrity, there is already a minimum standard, namely CSV (comma separated value) and however, there is no data cleaning technique that takes into account the metadata of the dataset.

B. Standardization

The second dimension is standardization which discusses how to standardize in open data systems. The focus point in this dimension is how to standardize data, data formats, work systems, and also applications in open data. In terms of standardization implementation, Depok City Open Data can refer to the three star standard published by Tim Berners Lee, which is an open format and easy to reproduce. (R. Karlina, personal interview, 9 April 2020).
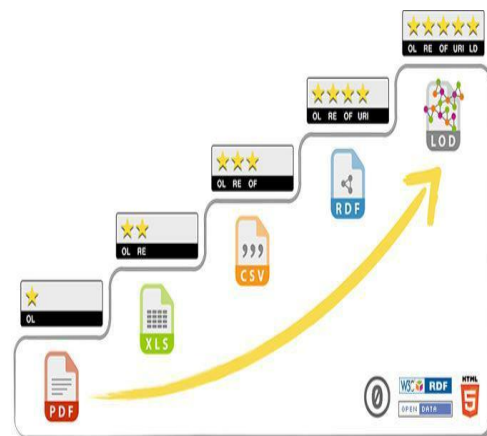

Fig. 2: Tim Berners Lee's Five Star Open Data Standard

Source: 5stardata.info/en/

Tim Berners Lee stated that there are 5 star standards in Open Data (https://5stardata.info/en/). The first star is that regardless of the type of data, as long as it is on the web or data portal that can be accessed and has an open license, for example with the format PDFs. The second star is that the data that is opened must be structured, for example in the XLS format which can be processed. The third star is that the data that is opened must use an open format such as CSV and not be in a data format that can only be opened by one particular application such as XLS which is "property" by a certain party in this case Excel is owned by Microsoft Excel. The fourth star is that a URI (Uniform Resource Identifier) must be used for data so that data accessors can point to the data displayed in open data. The fifth star is that data must be linked to other data so that it can provide a deeper context for data accessors.

Depok City Open Data itself uses a data format, CSV format and for spatial data there is no standard format. By using CSV data, Depok City Open Data already meets Tim Berners Lee's three-star standard, where the data format is an open license.

The standards set by Depok City Open Data should apply to all data displayed in the Depok City Data Portal.

Then the work system of Depok City Open Data has not been established, it is suggested to divide it into several stages, namely the data collection/acquisition stage, then the data processing and analysis stage, finally the data publication stage. The working system of Depok City Open Data does not yet exist in practice with non-governmental organizations

The use of applications cannot escape the standardization dimension because when the application used is an exclusive application it will cause problems related to the collaboration of various parties in efforts to implement open government data or open data, especially the lack of agreement on data formats and applications used by both parties. Depok City Open Data itself has the following applications:

- Available and free to download
  - CKAN for Depok City Data Portal
  - Tableau, data processing tool
- Not yet available
  - Data cleaning tool

The applications above can also be viewed from another perspective, so that the categories can be divided into applications for managing the Depok City Data Portal and applications for publication of available data. The use of applications that are open licensed by Open Data Depok City will make it easier for various government and non-government organizations to be able to have clear standards so that the open data system will be better. Then there is an application from the government for an integrated data publication facility that will make access to that data easier.

The conclusion that can be drawn here, in terms of the dimensions of standardization implementation, is that Depok City's Open Data already has clear standardization with the adoption of the three-star open data standardization from Tim Berners Lee. If the open data portal is developed to its maximum level and to the highest quality level, then the data must be clearly and consistently standardized so that it can be reused (Martin, et al, 2015: 11). Then the data format used is also an open license data format so that it can make it easier for various parties to be able to produce or process data owned by Depok City Open Data. Then, there has been the adoption of work systems which are divided into data driven and problem driven. In terms of application usage, Depok City Open Data manages it using an open application so that it will facilitate coordination. Then, the existence of an integrated data publication application will make it easier for the public to access data in one place with the same standards. There are deficiencies in the implementation of standardization, namely in collaboration with organizations outside the government. The problem begins with the absence of a formal cooperation agreement that makes data standardization, data formats, work systems, and applications used by government and non-government

parties different. Having a standard definition of data and information that is unique to information or data officers will reduce confusion (. From the results of the study we can see that there has been standardization in the Depok City Open Data initiative but external parties did not understand these standards so that standards were not uniformly known.

C. Awareness

The third dimension is awareness which discusses public and government awareness of Open Data initiatives. This awareness must be understood that it does not only come from the Government, but also by the community. The focus point in this dimension is how socialization and knowledge about open data initiatives are discussed.

In terms of socialization implementation, Depok City Open Data has not carried out socialization yet, it is hoped that socialization will be carried out not only to the community but also socialization will be carried out internally to the Depok City Government. Internal socialization is carried out in two ways, namely:

- Visualization of data in the form of infographics through social media or exposure in meetings as material to provide knowledge that the data is used and needed in policy making.
- Submission of examples of data analysis in several coordination and technical meeting activities related to data management.

Submission of the Depok City Open Data initiative to internal apparatus in the Depok City Government by focusing on the results of data analysis and data visualization will help provide an understanding to government officials that the data collected, produced, and disseminated so far has indeed had benefits and not only as a routine matter. which is not important.

Then, the outreach to the community was carried out by Open Data Depok City through routine outreach to campuses in Depok City. Targeting socialization to campuses is something that is really needed. This is because the campus is a place where many researchers are located, so that the Open Data of Depok City will help researchers to be able to access various data relevant to their studies. Then, outreach to the general public by focusing on applications, such as Depok Single Windows which displays basic data will form a data literate society.

Regarding the socialization of Depok City's Open Data to non-governmental organizations, a competition event can be held where the data produced at the previous socialization event is reused to be used as a basis for problem-solving innovations.

Then, continue with the knowledge from the Depok City Open Data initiative. Knowledge of open data initiatives must also be known by internal government including various institutions that produce data and the public or non-governmental organizations that can also produce data for open data systems.

Regarding knowledge from this initiative, Depok City Open Data is expected to have an activity called Data Discovery Workshop (DDW) where this will provide knowledge about Depok City Open Data initiatives. This is important for internal government, because basically open data or open government data requires government agencies to be able to produce, manage and open as much data as possible.

The number of visitors to the Depok City Data Portal site cannot be seen/doesn't yet exist, this should be there as a reference for how awareness of the Depok City Open Data initiative is in the wider community.

The conclusion that can be drawn is that in terms of the dimensions of awareness implementation, Depok City's Open Data already has clear socialization efforts with the existence of a socialization medium that is adjusted to the target of the socialization. Inviting active public participation in the production of new data and utilization of existing data is important for the government to implement to increase this awareness .

The existence of meaningful communication between the government and other stakeholders regarding public issues is also relevant for high-quality open government data . The government can formulate an action plan for this open data initiative so that companies, universities and other entities that have innovation capabilities can develop this existing data (Gomes & Soares, 2014:349). Then, in terms of knowledge regarding the Open Data initiative, Depok City also has clear efforts with programs or activities designed for internal government and also external non-government. This increase in digital literacy in open data can be achieved if public participation and collaboration with various sectors is formed and facilitated, in achieving this it can be carried out by socialization, study of data, or competition (Soegiono, 2018: 9). Factors that are important in using open government data are ease of use and usability, transparency, participation, and collaboration will determine how people's intentions are to use open government data .

open data initiatives with interested parties .

Factors that greatly impact the participation of various organizations in open data initiatives are regulations and policies . Support from the government has taken the form of a commitment since the initiation of the Depok City Open Data initiative. The government must believe that stakeholders can provide real value and also appreciate their perspectives and participation so that this open data initiative can run well . Then in terms of resources there are two that are used, namely brainware and software which unfortunately do not have special facilities to be able to support the operations of Depok City's Open Data. From the results of this study we can see that the Depok City Government has made a commitment without clear attention such as the provision of special facilities and also the absence of formal cooperation agreements with external parties.

D. Conclusion

Judging from the four dimensions of Open Government Data implementation by the City Government of Depok, there are several things that require improvement in terms of data sharing collaboration and formal agreements with external parties, standardization of data formats, to infrastructure supporting the implementation of Open Data initiatives. For this reason, the City Government of Depok needs to do a number of things to improve the implementation of this Open Data initiative.

First, the City Government of Depok can cooperate more with other external organizations so that the data obtained is richer data accessible to the public is more comprehensive. Of course, this cooperation must be formal in nature so that standardization of work systems, applications used, data formats, data publication, data production, and so on can be achieved between the government and external parties. Second, the City Government of Depok can increase the standardization of the use of data formats from a 3-star standard to a higher standard so that they can compete with the progress of the implementation of Open Government Data with the rest of the world.

Third, the Depok City Government is intensifying outreach to external parties, especially to prospective external data producers so that more technical knowledge can be identified so that future collaboration can run more easily. Finally, the City Government of Depok can improve supporting infrastructure for the implementation of Open Government Data such as data centers and data transaction facilities between organizations in order to expand its work focus, especially on improving data quality.

The four Depok City Governments can improve the implementation of open data in terms of governance by creating an open data roadmap for Depok City that is in line with the RPJMD and data governance management based on data management of knowledge.

Fifth, the need to develop web-based open data applications using technology that can integrate with the data ware house as the core data in the Depok City Government data architecture framework.

Sixth, the need for the development of a single data application that has been created by the Bappeda of the city of Depok, as a web-based private data application for the internal needs of the city government which is integrated with the data warehouse as the core data in the data architecture framework of the Depok City Government.

Seventh, the need for the development of a web-based one map application (idsd) that has been developed by Bappeda, as a spatial data application for the internal and external needs of the Depok city government which is integrated with the data warehouse as the core data in the Depok City Government data architecture framework.

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