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Research paper

Data Governance Strategy for E-Government in Bandung District Governments

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Abstract

The era of information technology has a tremendous impact for the government in providing a variety of services both internally and externally through the data and information generated. But in some ways, Bandung district governments faced with data and information that are inadequate or not fully trustworthy, or the amount of data that is so great that it is often difficult to get reliable analysis results. In the fast-paced era of government-led course requires accurate data and information. If the Bandung district administration with different levels of the units do not have good data quality will certainly complicate the lead in obtaining the information needed in decision-making. Therefore, the government of Bandung district need to design data governance strategy and information in the system of government so that a system built able to answer the public demand for transparency of government activities and government's own internal needs, especially in terms of helping decision-making Bandung district government. this research use qualitative analysis with case study and focus produce data governance srategy model for E-government.

Keywords: *Data Governance Strategy, E-Government, Bandung Distric Governmens*

1. Introduction

As part of the global community, in particular the Government of Bandung regency, West Java province is required to place themselves in quality is able to answer the changes that occur in the environment. It also provides impact and considerable influence on the governance environment. In some instances it has been shown that the era of information technology has a tremendous impact for the government in providing a variety of services both internally and externally through the data and information generated. Data and information generated will certainly affect the decision-making process that occurs in a variety of activities. But in some ways, Bandung district governments faced with data and information that are inadequate or not fully trustworthy, or the amount of data that is so great that it is often difficult to get reliable analysis results. Here are some common problematics related to data and information that may occur in the administration environment like often the leaders are faced with data that is unclear and inconsistent, the Organization has made massive Cleansing data but the data still 'dirty' back. Often there is accumulation of data, the data is not complete, the data is redundancy in some units (Panian, 2010).

In this case the district Government of Bandung has some functional unit organization which implementing an information system that would produce data and information that is differents. If the government in terms of Bandung district administration with the various levels of the units do not have good data quality will certainly complicate the lead in obtaining the information needed in decision-making. Therefore, the government of Bandung district need to design data governance strategy and information systems so that systems built able to answer the public demand for transparency of government activities and government's own internal needs, especially in terms of helping decision-making Bandung district government.

2. Literature Review

2.1. Data Governance

Data governance is decision-making and authority for certain things. In principle, data governance can be said to represent the owner, or the interests of a group of people, who represent a company, or any institution. Data governance will represent interest groups that manage the company. Data governance consisting of a regulatory body that directs the management on all aspects of the company. The governing body is the board that oversees the overall function of the organization. Regulatory bodies, on the other hand, refers to management personnel, who are given the power to manage the organization. Data governance can be said to set appropriate policies and proceduresto ensure that all data management is done in a proper way. Many models of governance data that can be used, one of which is a data governance model DAMA. DAMA Model is the most widely used model reference in over 60 countries. DAMA international classified data governance function into 10 (ten) area (Mosley, 2010) , as figure 1.

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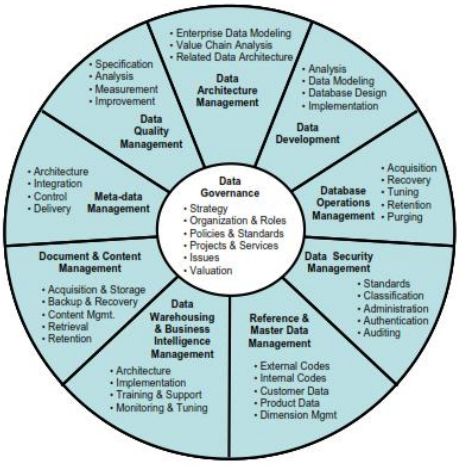


Fig 1: Data Governance Framework DAMA International

In Figure 1, the model shows that the function of data governance is at the core. As for the ten (10) in the data management function DAMA International is as follows:

(1) Data Governance that includes planning, supervision and control over the management and use of data.
(2) Data architecture Management is part integrating enterprise architecture.
(3) Data Development which include analysis, design, development and testing, distribution and maintenance.
(4) Data Operational management supports the physical structure defines the data asset recovery and performance needs for data and assist the service level in this area.
(5) Data security Management guarantee of privacy, trust and permissions. In this case providing for security, trust and privacy, identifying issues of data security, helps in data security audit, and classifies confidential documents and other information products.
(6) the reference and Master Data Management. Managing major version and a replica of data, overseeing the manufacture, modification and deletion of code values and other reference data, define master data management needs, identification master data management issues.
(7) Data warehouse and business intelligence management providing open access to data to support the decision in terms of reporting and analysis.
(8) Documents and content Management that includes storage, protection, and access rights index to find unstructured data.
(9) Meta Data Management integrating, controlling and distributing metadata.
(10) Defining data quality management, supervise and improvise the quality of data.

3. District Government Institution

Along with the growing use of information technology in government, since 2001 through Presidential Instruction No. 6 of 2001 concerning the Development and Utilization of Telematics (Telecommunications, Media, and Informatics) in Indonesia(Presidential Instruction 2001) and Presidential Instruction No. 3 Year 2003 on National Policy and Strategy Development of E-Government (Presidential Instruction, 2003) which shows the commitment of Indonesia in implementing the concept of utilization of information technology that has been practiced in developed countries to create a bureaucratic governance that is effective and efficient, transparent and accountable.

Based on one of the tasks of government that has been stipulated in Law No.25 of 2009 on public services that provide a good service to the community. To give a sense of satisfaction with public services, the government of Bandung district in need of improvement and development system of government bureaucracy are effective and efficient with the use of information technology in order to realize the Good Government As a manifestation of the efforts to increase development in Bandung district, composed 2016-2021 development vision which is Strengthening Advanced Bandung District, Independent, and Competitive, through the Good Governance and Strengthening Rural Development, Based on Religious, Cultural and Environmental.

3.1. E-Government

E-Government is a concept utilizing information technology by the general public with regard to services provided by the government. Some of the major countries in the world have utilized the use of E-Government in providing services to the public[3]. Particularly for Indonesia, the first time began to be discussed in several references since 2001. This is presented as a presidential instruction No. 6 of 2001 dated 24 April 2001 on Telematics. The development of E-government concept evolved as the high public demand for good customer service, effective and efficient, especially with the need for open data as a part of the process of transparency of government activities(Heeks, 2005).

4. Methods & Model

The method is performed in designing a model of this strategy is the interactive qualitative analysis approach with case studies. Qualitative analysis research is interactive with case studies is the study of a "unified system". This unity may be programs, activities, events, or group of individuals bound by place, time, or a certain bond. in this case, study is aimed at collecting data, extract meaning,

gain an understanding of the case[4]. In this research, data collection is done by collecting related documents, conducting surveys and interviews with units in Bandung district. Surveys and interviews were conducted to illustrate the current conditions in Bandung district government.

Data governance strategy model is required as the government's goal of Bandung district that is in need of repair and the development of government bureaucracy system that effectively and efficiently with the use of information technology in order to realize the Good Government. This will require support to improve the quality of the data, restore data inconsistencies that occur, broadly share data, manage change relative to the use of data; and comply with internal and external regulations and standards for data usage.

4.1. Existing Condition & Evaluation Data Management

4.1.1. Data Problem From Existing Information System

Based on the percentage of integrated information systems analysis, it can be shown the potential of the data problems that occur in Bandung district administration. Only 7 % of information system has modules interconnected in the sense of using the same master data. The remaining 93% of unconnected information systems, and will certainly potential occurrence data redundancy, the same data input process is repeated, and the accumulation of data. The following are the results of the study based on focused associated with the data and information that occurred in Bandung District Governments:

- There are no Standard Operating Procedure (SOP) which is able to provide an overview linkage of data between applications, particularly related to information management process, from data collection, data processing, to the dissemination of information and related process data back up and recovery of data in case of damage the infrastructure of information resources either intentional or unintentional such as floods, earthquakes and so on.
- lack of data integration on the application of a general nature and carried out all units of Bandung District Government. Current conditions, each SKPD possible to build applications independently. Obstacles that emerges is redundancy / duplication of applications, data redundancy, to overlap the processes and functions of SKPD.
- Lack of integrated data center that can provide government updated reports and public service performed by Bandung district government and SKPD
- Lack of data security mechanism is done on the system used in the Government of Bandung regency. Until now only rely on certain antivirus applications held by a particular unit or SKPD.
- Lack of standard data and documents used or generated from a mechanism or system in the environment Bandung regency government and SKPD.
- Lack of a Data Architecture as a reference in designing data requirements and the development of data on the system used or built environment Bandung district administration.
- Disclosure of information (Open Data) to the public by the government and SKPD Bandung district has not been optimal,
- Lack of a specialized unit which is technically in charge of data and information Bandung regency government as a whole.
- Existing Condition data center architecture is now more likely in distributed architectures where availability Data Center in Bapapsi still limited. Most of the servers are still kept scattered SKPDs outside Bapapsi. Therefore, the physical architecture for servers is spread in each SKPD and connected as the network architecture. Data Center currently has room only 4 m x 3 m. Data Center has a 2 rack server to store the server from some SKPD.

4.2. Data Governance Strategic Plan for E-Government

4.2.1. Data Governance Strategic Design

The life cycle of data and information involving users or people related business processes such as data ownership, data availability, data processing, data deletion, data standardization, and so on. user component has a major role related to the management of data within the organization. Therefore, the readiness of the data, data availability, data processing, reliability of the data, corruption of data, overlapping of data, data duplication, the credibility of the data, reliability data and so is the interrelationship between roles and rules, the people involved, processes and technologies as figure 2

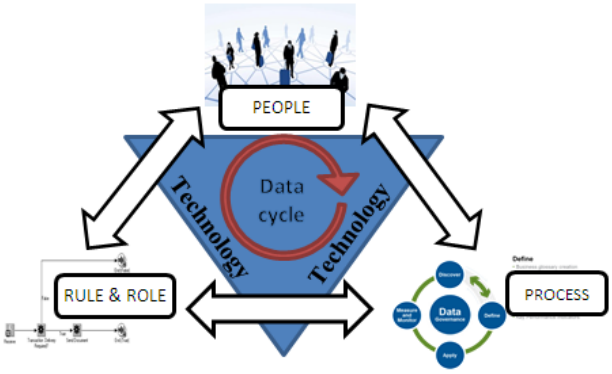


Fig 2: Triangle Model among Role, People & Process on Data Cycle

Figure 5 shows that an important aspect in the implementation of data management. This is a draft structure governing the roles and functions that are responsible for the implementation of data management processes. Without the roles and responsibilities are clear, it

will be difficult to ensure that the data management process carried out regularly and correctly. Therefore, the approach can be determined data governance DAMA strategy based on the needs of e-Government as the following table.

Table 1: As-Is & To Be Scenario

No	Data Governance Functions	(As is)	(To be)	Impact of changes
1	Data Governance	There are no policies, procedures or rules that specifically deal with data management environment Bandung district government. Only there is Law No. 14 of 2008 on Public Information and Regulatory locally No. 24 of 2012 regarding Concept One Data	Bandung District Government has: policies related to the regulation and control of data management. The strategic plan of development of data-driven integrated data through IT Masterplan Procedures that regulate the processing of data	There are rules and policies will create a system of government transparency and openness of the data can help improve the performance of the Government of Bandung district.
2	Data Architecture Management	Do not have a data architecture current conditions related to the needs of the data in the Government of Bandung district	Bandung district government has a data architecture that becomes a reference in designing an integrated data	With the data integration among applications, particularly applications related to e-government, then the government's performance, and community service to be effective and efficient.
3	Data Development	There is no special unit that handles the data and technical information in the Government of Bandung district.	There is a special unit that regulates the development of data and operational data is technically in Bandung district government.	Special Unit will facilitate the coordination and consolidation of data management can be realized.
4	Database operational Management	There has been no mechanism Back Up Data (visible by SOP) and Data Recovery mechanisms in the event of a data-related infrastructure damage caused by earthquake, flood or other.	Bandung district government has a mechanism that regulates the storage of data, Back up Data and Data Recovery.	With the implementation of the mechanism of storage, backup and data recovery there will not be a failure or loss of data during the data operation in progress.
5	Data Security Management	there is no mechanism Data Security conducted.	Bandung district government has a data security mechanism to set permissions data protection from both internal and external	Data owned by Bandung district government capable of protecting information and information systems from unauthorized access, use, dissemination, destruction, alteration, and destruction without legal authorization.
6	Data Master Management	There are no Master Data Management settings used in the application.	through BAPAPSI have rules related to Master Data Management on the application of a general nature.	Settings and Master Data Management enables to prevent data duplication or redundancies so that the use of the application will be effective and efficient.
7	Data Warehouse and Businees Intelligent Management	there are no relevant Integrated Data Center Data warehouse and Business Intelligence in the Environment Government of Bandung district	BAPAPSI have Integrated Data Center (Command center)	Bandung District Government CAN Monitor Data from the application of a general nature.
8	Content and Dokument Management	there are no regulations related to data and information that is confidential and openness to the public	Bandung district government has a mechanism for the management of confidential data and data open.	expected disclosure of information would provide the freedom for citizens to be able to access the data in accordance with the needs of government institutions at the official websites of government that are integrated through a computer or smart phone.
9	Meta Data Management	there are no settings Metadata Management	There are rules relating to metadata management on the applications used in the Government of Bandung district.	With the metadata management, the fundamental characteristic of who, What, when, where and for what a set of data is created or can be arranged and conducted.
10	Data Quality Management	there are no data quality management mechanisms.	Bandung District Government through BAPAPSI have the mechanisms and rules of the application of quality data management.	Data and information are correct and complete and timely is a highly strategic resource for leaders at all levels in the organization bandung district government environment.

5. Information Requirement of Bandung District.

Information architecture designed to support application development, harmony with the concept of one data line with local regulations No. 24 of 2012 regarding one data concept, West Java Province Government as well as the potential implementation of Public Information (Open Data) follow Law No. 14 of 2008 on Public and Government of the Republic of Indonesia (Local Regulation, 2012). To fulfill these conditions, Bandung district government will apply the general principles of data and information management in the ICT concepts include:

1. Use Application System which is integrated with the sharing of data;

2. There Metadata Standards where you want the data base should have a single ID (key) standard and is used by all applications that need it;

3. Transactions and Electronic Data Interchange is safe and reliable;

4. Electronic Documentation System is good;

5. Every person in charge of the data has obvious;

6. Duplication of data should be avoided;

7. Optimizing sharing data through a standard procedure;

8. Data is divided into two, namely:

a) Basic Data, the data obtained directly from the source

b) Derived Data, the data obtained from the transformation or data processing Basic.

9. Derived data should be stored separately from the data base and its transformation process must be documented and understood by users;

6. Conclusion

Based on the description of existing conditions, gap and purpose, can be described data governance strategy is needed Bandung district government. Can be described plan data architecture based on a gap analysis to be desired with DAMA data governance approach so that in the future the district of Bandung has a mechanism for better data management.

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