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Improving the Smart Village Cluster With a New Smart Government Model

Antoni[1], Solly Aryza[2]
Email: antoni@gmail.com
[1]*Universitas Islam Sumatera Utara*
[2]*Universitas Pembangunan Panca Budi*

ABSTRACT
The development of Electronic Government (e-Gov) is an effort to develop electronic-based governance in order to improve the quality of public services. e-Gov is the process of utilizing information technology as a tool to help run the government system more efficiently. Realizing the huge benefits of e-Gov, the Indonesian government has issued a National Policy and Strategy for e-Gov Development through Presidential Instruction Number 3 of 2003 as a legal umbrella for all policies in the field of e-Gov as well as several articles in Law Number 6 of 2014 concerning Villages that explicitly talk about Information Communication Technology (ICT) for Villages. The Open Group Architecture Framework (TOGAF) is one of the methods that can be used in planning and designing e-Gov. The purpose of this study is to build an e-Gov model, especially services, and develop an e-Gov implementation strategy for Village Government in Pari City, Pantai Cermin District, Serdang Bedagai Regency towards Smart Village. Based on the value chain of the Pari City Village Government, the e-Gov model built has implications for the Pari City Village Government e-Village model consisting of Village Administration Service Applications, Village Financial Governance Applications, Village Development Planning Applications, and Land Ownership Document Data Management Applications. The implementation of the e-Government model is carried out in stages starting from the procurement of better facilities, equitable distribution of communication networks, and increasing better human resources (village apparatus), then the e-Government model that has been built will be applied.

Keywords: ***Electronic Government, Kota Pari Village Government, The Open Group Architecture Framework***

INTRODUCTION

The development of Electronic Government (e-Gov) is an effort to develop electronic-based governance in order to improve the quality of public services. e-Gov offers public services that can be accessed at runtime, anytime, and from wherever users are. e-Gov is the process of utilizing information technology as a tool to help run the government system more efficiently. Therefore, there are two main things in the definition of e-Gov, namely the use of information technology (one of which is the internet) as a tool and the purpose of its use so that the government can run more efficiently (Sosiawan, 2008).

Realizing the huge benefits of e-Gov, the Indonesian government has issued a National Policy and Strategy for Electronic Government Development through Presidential Instruction Number 3 of 2003 as a legal umbrella for all policies in the field of Electronic Government as well as several articles in Law Number 6 of 2014 concerning Villages which explicitly talk about Information Communication Technology (ICT) for Villages, namely regarding Appropriate Technology: Article 80 paragraph (4) Village Development priorities, programs, activities, and needs as referred to in paragraph (3) are formulated based on an assessment of the needs of the village community which includes: (a) improving the quality and access to basic services, (b) development and maintenance of infrastructure and the environment based on technical capabilities and available local resources, (c) development of a productive-scale agricultural economy, (d) development and utilization of appropriate

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technology for economic progress; and (e) improving the quality of order and tranquility of the village community based on the needs of the village community.

Article 83 paragraph (3) concerning or states that Rural Area Development includes: (a) the use and utilization of Village areas in the context of determining development areas in accordance with the District/City spatial planning, (b) services carried out to improve the welfare of rural communities, (c) infrastructure development, rural economic improvement, and the development of appropriate technology; and (e) empowerment of rural communities to improve access to services and economic activities. Article 112 paragraph (3) The Government, Provincial Government, and District/City Regional Government empower village communities by: (a) applying the results of the development of science and technology, appropriate technology, and new findings for the economic and agricultural progress of the village community, (b) improving the quality of government and village communities through education, training, and counseling, and (c) recognizing and functioning of original and/or existing institutions in the village community.

In the application of the e-Gov concept towards good governance, it needs to be applied in every government agency, including village-level governments. The Open Group Architecture Framework (TOGAF) is one method that can be used in planning, designing e-Gov (Yunis and Surendro 2008). The output of TOGAF will produce an enterprise architecture that can later be used by the village government to implement the e-Gov model on village devices towards smart villages. Enterprise architecture design is a framework used to realize the acceleration of technology and business processes in organizations (Zarvic and Wieringa 2014).

Based on these problems, a system is needed that can help the process of service to the community at the Pari City Village Government Office, Pantai Cermin District, Serdang Bedagai Regency, North Sumatra Province. In system development (e-Gov) it is necessary to apply the TOGAF model to support the enterprise architecture model to be built. The development of a web-based system (e-Gov) is the right answer to answer the service needs of the residents of the Pari City Village Government towards the smart village concept. This research was conducted to build an e-Gov model, especially services, and develop an e-Gov implementation strategy for Village Government in Pari City, Pantai Cermin District, Serdang Regency towards Smart Village.

LITERATURE REVIEW

E-Government

Electronic government is a government system process by utilizing ICT (information, communication and technology) as a tool to provide ease of communication and transaction processes to citizens, business organizations and between government agencies and their staff. So that efficiency, effectiveness, transparency and government accountability to the community can be achieved.

Smart Village

A smart village has investments made in human and social in addition to physical capital, the main focus as a driver of growth is the role of ICT infrastructure, human capital or education, social and relational capital and environmental factors. Village performance depends on physical infrastructure, and availability of quality knowledge, communication &

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social infrastructure (intellectual capital and social capital).

The Open Group Architecture Framework (TOGAF)

TOGAF is a framework with a more detailed methodology with a set of supporting tools to develop and improve IT infrastructure in business. TOGAF offers an approach to planning, designing, implementing, and setting up EAs in enterprises. TOGAF can be defined as a framework aimed at any kind of organization in the world by The Open Group.

Electronic Village (E-Village)

Electronic Village (e-Village) is a system that can be based on cloud computing technology (Fitri et al, 2015). With e-Village, the village government does not need to be bothered with the provision of system infrastructure such as servers, applications and system maintenance. The hope with this e-Village system is that the village government can be independent in managing information and administration carried out. The development of e-Village is specifically intended to obtain a model of information management and administration carried out by the village government to improve services in accordance with the vision and mission of a district in the spirit of regional autonomy.

METHODS

The type of research used in this study is a type of descriptive research with a qualitative approach. According to Sugiyono (2006) qualitative research is interpreted as a research method used to examine the natural condition of objects, while qualitative descriptive research is described according to the opinion of respondents, as it is in accordance with the research question, then analyzed according to respondent behavior, reduced, triangulated, concluded and verified.

RESULTS AND DISCUSSION

Architecture Vision Analysis

The identification carried out at this stage is represented through aspects of vision and mission, business goals, business objectives and scope. In the Village Government structure of Kota Pari, the authority of the head of the organization is carried out by the Village Head who is assisted by the Village Secretary. In carrying out his duties, the Village Head is assisted by the Head of Correspondence, Finance Head, Government Head, and Community Peace and Order Head (Trantibmas).

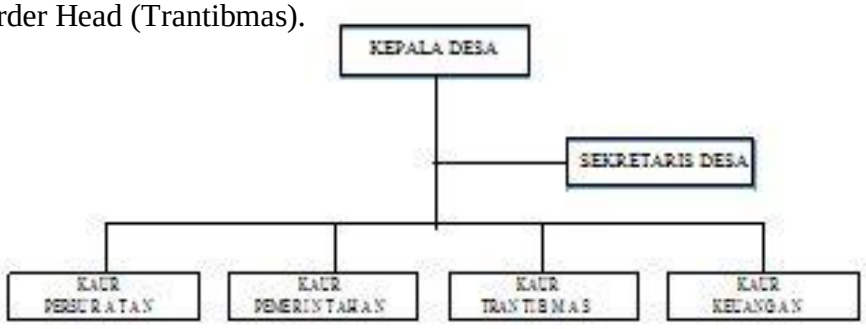

Figure 1. Kota Pari Village Government Institution Structure

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Architectural Business Analysis

Currently, the Kota Pari Village Government will create an e-Gov model architecture by making the main activities and supporting activities in the Pari City Village Government using a computerized application. To create an e-Gov model architecture, the Village Government of Pari City first analyzes the real conditions of the main activities and supporting activities in the village. The design of the e-Gov prototype that will be applied to the Pari City Village government and refers to the main activities and supporting activities in the Pari City Village Government such as Village Administration Service Applications, Village Financial Governance Applications, Village Development Planning Applications, Land Ownership Document Data Management Applications.

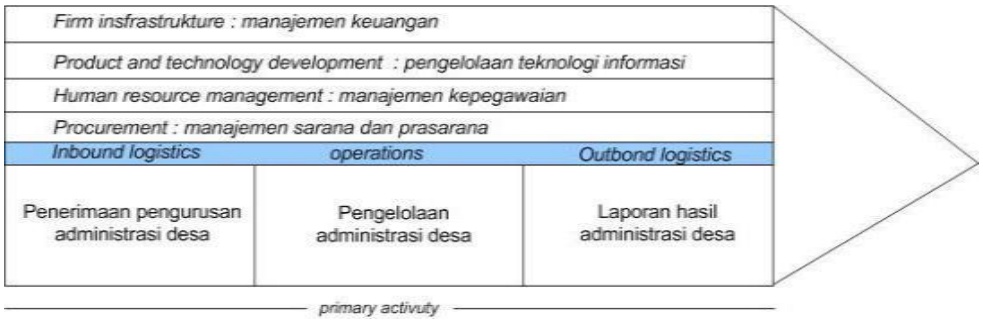

Figure 2. Kota Pari Village Government Value Chain

a. Main activities
   Inbound logistics: Receipt of village administration management.
   Operations: Management of village administration.
   Outbound logistics: Report on the results of village administration.
b. Support activities
   Procurement: Management of facilities and infrastructure in the Village Government of Kota Pari.
   Human resource management: Personnel management which includes Kaur Letters, Kaur Government, Kaur Trantibmas, and Kaur Finance.
   Product and technology development: Management of information technology by the Information Technology Team of the Pari City Village Government.
   Firm infrastructure: Financial management managed by Kaur Finance.

Architectural Information Systems Analysis

All existing information is processed manually using data processing applications such as Microsoft Word, and Microsoft Excell. The results of the identification of the business function of implementing the e-Gov model, can be determined a list of candidate application features needed to support the main functions of the Pari City Village Government. From the business architecture stage using value chain business modeling, it is obtained that the main functional areas of Pari City Village Government are the receipt of village administration applications, village administration management, village administration reports, financial management, infrastructure management, personnel management, and information technology management.

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Architectural Technology Analysis

In the principle of technology, it is identified that the technology needed is network technology that connects between applications so that in determining the technology platform needs to be considered. Design of technology architecture on the e-Gov model of Pari City Village Government.

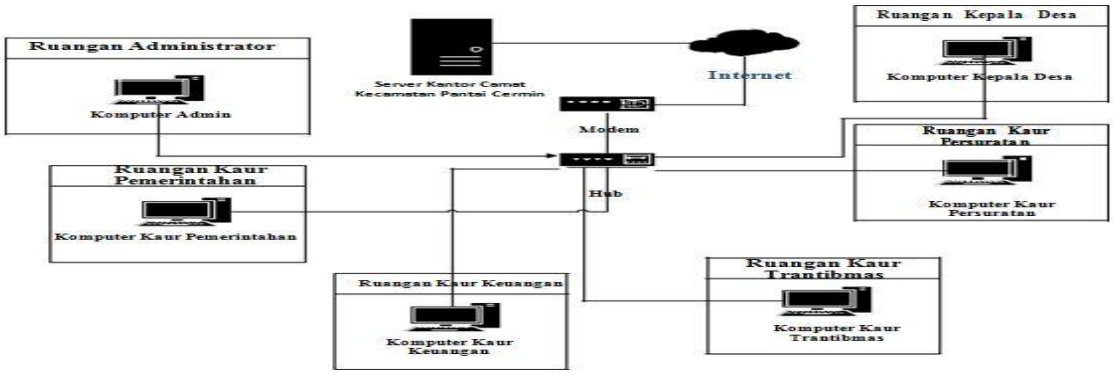

Figure 3. Technology Architecture Design on the E-Gov Model of Pari City Village Government

CONCLUSION

Based on the value chain of the Pari City Village Government, the e-Government model built has implications for the Pari City Village Government e-Village model consisting of Village Administration Service Applications, Village Financial Governance Applications, Village Development Planning Applications, and Land Ownership Document Data Management Applications. The implementation of the e-Government model is carried out in stages starting from the procurement of better facilities, equitable distribution of communication networks, and increasing better human resources (village apparatus), then the e-Government model that has been built will be applied.

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