

# The ITC Literacy of e-Government Administrators in Communication and Informatics Office of West Nias Regency, North Sumatera - Indonesia

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DOI: 10.29322/IJSRP.9.04.2019.p8815

<http://dx.doi.org/10.29322/IJSRP.9.04.2019.p8815>

**Abstract** - The electronic-government or e-government is viewed as a process with great potential for improving public service delivery to individual citizens. Thus, purpose of this study is to recognize the ability of HR and find out what aspects of technical capability are needed by the e-Government Administrators of Communication and Information Agency of West Nias Regency, North Sumatra Province. Thus, the subject of this study are e-gov administrators of Communication and Information Agency of West Nias Regency. This study employed the descriptive methods with total sampling determination. The result of study revealed that the concept of e-Gov has not been fully implemented in West Nias Regency. The main reason is due to the lack of support of the local government, especially the shorten of financial support that impact on the e-gov administrators' performance.

**Keywords:** ICT, literacy, e-government, administrator, development.

## I. INTRODUCTION

The advancement and development of information and communication technology (ICT) brings the significant changes to human life. Since the civilization time, information is one of the most important things that accelerates changes in the life of mankind. The lack of information will cause uncertainty and discomfort in humans' life. Thus, humans unrelentingly find and exchanges information each other to suppress the uncertainties. This is clearly evident in the life of our society from the scope of the simple to the most complex.

The ICT has a center role in the future governance. Accurate, timely, and comprehensive information is required to support economic development decision and policy making at all levels of government. The central and regional government agencies have taken the initiative to develop public services through communication and information networks as the implementation of Presidential Instruction No.3/2003 on National Policy and Strategy for e-Government Development, which mandates every Governor and Regent or Mayor to take steps which is needed in

accordance with their respective duties, functions and authorities for the implementation of national e-Government development.

In implementing e-Government State agencies for public services, the West Nias Regency Government has started by building a basic infrastructure of information technology with the use of a Local Area Network (LAN) computer network that connects the Regional Work Unit or *Satuan Kerja Perangkat Daerah* (SKPD) in the environment integrated office in the city center of West Nias Regency in 2016 Regional Budget, which is expected to be connected to the internet in February 2017, according to the agreement with the internet service provider from PT. Telkom Indonesia Wilayah Timur Sumatera Utara.

Thus, in focusing on one SKPD in terms of managing public communication information services and ICT management, the West Nias Regency Government has formed a new SKPD namely the Office of Communication and Information Technology based on Government Regulation Number 18 of 2016, Regulation of the Minister of Communication and Information Number 14 in 2016, and has appointed a Structural Officer in December 2016 to handle the intended Service.

Due to the new established of SKPD of West Nias Regency Communication and Information Office, this work unit needs for the experienced personnel in the field of information management and ICT services, especially in department that handle e-Government. Thus, the *Balai Besar Pengkajian dan Pengembangan Komunikasi dan Informatika* (BBPPKI) Medan conducts research and studies on the development of human resources of Communication and Information Officers of West Nias Regency in the context of implementing e-Government for public services in accordance with direction of the President of Republic of Indonesia.

In dealing with those needs, this study investigates the ITC literacy among the e-Government administrator of Communication and Informatics Office of West Nias Regency, North Sumatra Province which is initiated in 2016.

## II. LITERATURE REVIEW

The term of electronic-Government or known as *e-Gov* was officially introduced to public administration through the Presidential Instruction No. 6/2001 regarding ICT (in Indonesian, *Telematika*) to support the good governance. E-gov is one of the good governance tools to provide new insights related to accountability. It should be manifested by provides 'access' to outsiders or citizen for what is being done. In fact, in certain sectors, it also includes free access to participating in the planning, implementation, and evaluation. When there is no access, then the government is considered as not accountable (Son in Huda and Yunas, 2016:98).

The development of e-Government is part of the efforts to set up structure, system, and administration which is efficient, effective, transparently, and accountable. It is essential to be supported by capable human resources, good management systems, processes, and controlling systems. The main challenges in the development of e-Government lie in the non-technical aspect, particularly planning. However, the lack of ICT Human Resources has caused ICT to put in a low priority. (Salahuddin and Rusli, 2005:8)

Studies on e-gov in several regions of Indonesia revealed that the government officials reluctant to do the task online for they prefer the traditional way. Bastian (2003) suggested that the Indonesian government must learn from the causes of the failure of e-government in some countries due to several factors, namely: the unpreparedness of human resources, information technology infrastructure, and lack of attention from the stakeholders.

Wahid (2008:39) recognizes the disparity in e-government implementation among the regencies or cities in Indonesia. Furthermore, the reasons are including management, infrastructure, and human factors that vary across this large and heterogeneous country. From 456 of regencies and cities websites, 66.9% of them has their own website and were in operations, while other were either still embedded into website of province, not found, or inaccessible. Hermana et.al. (2012:196) found that out of total 443 local governments in Indonesia that already have official websites, only 374 website that are accessible at the time. Moreover, important issues in financial management in Indonesia is transparency and public accountability.

In 2015, an evaluation to 32 regional and city official website in Indonesia also revealed the similar result. Public Administration Reform for better, faster, and more transparency of public service by implementing e-Gov in Indonesia is still running slowly and the cities government seems to be focus on the business service and finance transparency rather than other services. (Prahono and Elidjen, 2015: 32).

### III. METHOD

This study use *Cross-sectional design* that performs for one period of study. (Singleton, et.al, 2008:237). Location of study This research is located in West Nias Regency, North Sumatra Province, Indonesia. The objective of study is to map the e-Government administrators' capability that consist of:

- a. Sociodemographic and psychographic aspects, such as age, gender, education, income, and interest in information and technology;
- b. Professional background and experience, such as background of public relations education, length of work, technical skills of information and technology possessed;
- c. Worldview dimensions that consist of attitudes, values and beliefs in the internet and e-Government
- d. Understanding of the code of ethics and professional rules with dimensions that consist of the presence or absence of professional rules and codes of ethics applied in e-Government, social responsibility;
- e. The communicators authority in the organization, that consist of resilience, problem solving, and decision making.

The respondents of this study were the administrators of e-Government in the Office of Communication and Information of West Nias Regency, North Sumatra Province. The sampling technique used is total sampling.

Data were categorized into primary and secondary data. The primary data was obtained through the Questionnaires and in-depth interviews, while the secondary data was collected from the observations concerning the e-Government in the West Nias Regency Information and Communication Agency.

## IV. RESULTS AND DISCUSSION

### 4.1 Description of e-Government in West Nias Regency

In the framework of implementing e-Government of State administrators for public services in accordance with the direction of the President of the Republic of Indonesia, the West Nias Regency Government has started to build a basic information technology infrastructure with the construction of a Local Area Network (LAN) that connects all Regional Work Units (SKPD) in integrated office environments in the city center of West Nias Regency for Regional Budget 2016, which is expected to be connected to the internet in February 2017, in line with the agreement with the internet service providers from PT. Telkom Indonesia Eastern Region of North Sumatra.

Related to the above matter, in focusing on one SKPD in terms of managing public communication information services and ICT management, the West Nias Regency Government has formed a new SKPD namely the Office of Communication and Information Technology based on Government Regulation No. 18 of 2016, Regulation of the Minister of Communication and Information No. 14 In 2016, and has appointed a Structural Officer at the end of December 2016 to handle the intended Service.

To follow up on the operation of the network that was completed at the end of 2016, the West Nias Regency Government has limited human resources (HR) that are skilled and trained as network administrators, limited budgets for training as government service application administrators developed by the Ministry of Communication and Informatics, limited funding

sources to do a variety of specific applications in some Regional Work Units (SKPD) and limited funds to send *State Civil Apparatus* (ASN) to participate in various *Diklat/Bimtek* with various training providers.

Therefore, the Government of West Nias pleaded for the Ministry of Communications and Information Technology to provide assistance, facilitate and provide training as Network Administrator and Training of Trainer to the ASN of the Office of Communications and Information Technology West Nias in particular fields handle the e-Government in Training and Bimtek held in 2017 both held directly at the Directorate of *e-Government*, as well as training held by the Education and Training Center under the Coordination of the Ministry of Communication and Information.

#### 4.2 Analysis of the Results of E-Government Mapping in West Nias Regency, North Sumatra Province

##### 1. Sociodemographic and Psychographic Aspects

The establishment of the agency that manages the Electronic Data (PDE), especially those who responsible for managing e-Government in West Nias Regency still less experienced. In the framework of the implementation of e-Government agencies for public services, the West Nias Regency Government has build a basic infrastructure of information technology with the construction of a computer Local Area Network (LAN) that connects all *Regional Work Units* (SKPD) in office environments integrated in the city center of West Nias Regency for 2016 regional budget (APBD), which is expected to be connected to the internet in February 2017. This was based upon the agreement with the internet service providers from PT. Telkom Indonesia Eastern Region of North Sumatra.

In accommodate this work, the West Nias Regency government experienced a situation of unpreparedness both infrastructure and superstructure. This is because the penetration of information technology, especially the internet in West Nias Regency is still very low. Not only the general public, but many government officials are unproficient in mastering information technology (IT).

In analysis that discusses sociodemographic and psychographic aspects, it is revealed that the logical consequence is the lack of preparedness of the West Nias Regency government apparatus in implementing Presidential Instruction No. 3 of 2003 concerning e-Government development proven in quantitative facts (statistics) obtained by BBP SDMP Medan researchers in distributing questionnaires to 3 (three) e-Government Administrators, because only three people are currently managing e-Government in Communication and Information Agency of West Nias Regency, which was the location of the study, where the three e-Government Administrators were men. The detail findings are as follows:

Table 1. The age of *e-Government* Administrators

Age	Frequency (F)	Percentage (%)
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19 to 24	1	33,3
25 to 30	-	-
31 to 37	-	-
38 to 43	1	33,3
> 43	1	33,3
Total	3	100

n = 3

The table above shows that the three e-Government Administrators who are working at the West Nias Regency Communication and Information Agency are in a relatively productive age.

Table 2. The last education

Education	Frequency (F)	Percentage (%)
Senior High School	-	-
Diploma	-	-
Bachelor	1	33,33
Postgraduate	2	66,67
Total	3	100

n = 3.

The table above shows that the *e-Government* administrator in Communication and Information Agency of West Nias Regency have completed their undergraduate education, in fact 2 of them have completed Postgraduate (S2).

Table 3. ICT interesting level

ICT Interest	Frequency (F)	Percentage (%)
very interested	2	66,67
interested	1	33,33
less interested	-	-
uninterested	-	-
Total	3	100

n = 3

The administrators of e-Government in Communication and Information Agency of West Nias have high interest in ICT. This is evident from the results of the study that two respondents admitted that they were very interested in ICT. This high level of interest in ICT should be reflected in their intensity in accessing the internet for the week. Moreover, most of e-Government Administrators are categorized as high user (two persons), while the rest is middle user (1 person).

In improving the skills and abilities of e-Government Administrators, all of the respondents admitted that the books were useful to be used as a reference. All of e-Government Administrators claimed to buy books and magazines to increase their knowledge.

##### 2. The professional background and communicator experience

#### a. Public Relations Education

It has been mentioned in the previous section that the qualifications of the work of Administrators of e-Government are basically very related to the basic functions of public relations, and many PDE agencies are under the Office of Communication and Information.

Of the three respondents who managing the e-Government in West Nias Regency, only one person has a public relations education qualification, and the remaining two people do not have a public relations education background.

#### b. Information and Technology IT Education

Likewise the educational qualifications in the field of IT, ideally the management of *e-Government* has an educational background in the field of IT, because their work is closely related to technical issues in the field of Information Technology (IT).

The results of study shows that all e-Government Administrators of West Nias Regency have the adequate IT education and qualification. Two of the administrators had the IT skill from formal education, and the rest admitted that he received the education through trainings and workshops.

#### c. Working period as e-Government Administrator

As mentioned in previous section, that the implementation e-Government has been started since 2003. However, this study reveals that most of e-Government Administrators in West Nias Regency stated that they are not so familiar to their tasks. They added that they had only worked as IT Administrators in their work environment for approximately 6 months.

#### d. Mastery of supporting software

Mastery of various softwares or application programs that are very closely related to the appearance of a website is very important, because it involves the task of an e-Government administrators where one of them is trying to build a website that has interesting, informative features and can introduce all potential in the district. West Nias which has a website .

From the research that has been done obtained data that the quality and competence of the Administrators of e-Government at the Office of Communication and Information of the West Nias Province Regency was not good enough. This is proven by the fact that respondents are generally less knowledgeable and capable of using some software that is important in creating and maintaining a website .

#### e. Other Technical Skills

In the level of other technical skills, the researchers try to find out how other abilities or technical skills possessed by respondents in supporting their work.

##### 1) Video editing skill

As the technical category in the video editing skills, the results shows that all respondents stated that they did not have the skills in video editing at all to support their work.

##### 2) Animation Skills

In animation skill category, the result shows that all respondents stated that they did not have the animation skills to support their work.

##### 3) Photography Skills

The photography skill is also not possessed by the respondents. The results of the questionnaire distribution shows that two of respondents stated that they did not have skills in the field of photography, only one person said that he had skills in the field of photography as supporting their work.

##### e. Updating Website Content

The regular updates of website content is a very necessary task in managing website content. This tasks is to maintain the web-content is fresh or "unexpire". The e-Government administrators should find the related material from the contents of the website from the local government, especially from the Office of Information and Communication Technology.

Material that is always up to date will be able to attract the users to always access the website so that they don't miss out on information.

The results of the study shows that the website Administrators in Information and Communication Agency of the West Nias Regency are not regularly in updating website content. It is done only when it is necessary and if there is the latest material / information to submit. Moreover, the content and the features and appearance of the website should be improved. This website does not provide interactive facilities and has no discussion space and input from website users, thus it is not interesting for public to visit.

### 3. Worldview

Concerning the worldview, an overview of how an Administrators' view and comprehend the e-Government. The view and comprehension of the concept of e-Government is very important, because it is a foundation for the conceptual frame of the Administrators in carrying out their work professionally and responsibly.

The result of study shows that two of *e-Government* administrators claimed not possess the knowledge of the e-Government concept, while the rest admitted that he has the e-Government concept.

### 4. Understanding of professional codes of ethics and rules

#### a . The established professional rules in the work environment

Professional rules in the form of Standards Operational Procedures or regulations are guidelines for Administrators in managing the e-Government. The results of the study revealed that all of the respondents admitted that the institutions they working on has no clear professional rules as guidelines to follows.

#### b . Code of Ethics

The code of ethics is important in guiding the e-gov Administrators to work together in a team. The absent of working code of ethic may lead the administrator to work in unclear area of responsibility in managing the website. However, the results of the study showed that all e-Government Administrators claimed possessed the code of ethics in their working environment.

## 5. Organizational structure

In this section, the study was focused on looking at how the pattern of work relations and hierarchy between staff working as Administrators of e-Government in Information and Communication Agency of the West Nias Regency. The important points in this section are as follows:

### a. Work incentives

This section aimed to recognize whether the Administrators were staying at work, especially when managing and update the website contents. Did they given a certain stimulus, in the form of incentives excluded the basic salary? For working behind a computer screen in a relatively long duration and is quite weary, for example due to radiation computer screens to improper sitting positions may cause the workplace accidents. The respondents admittance implied that the incentive was not a standard procedure. All of respondents stated that they had never received an incentive as long as they works to update the the website contents in long hours.

### b. Intensity in Facing Working Problems

Facing the problems is part of ITC works. The e-Government administrators also face the working problems, both concerning the technical matters, for i.e website contents and appearance to procedural things. The e-Government Administrators claimed that they were too often facing the obstacles or problems in their work. In the term of problem solving, two of respondents admitted discuss it with the team, while one respondent stated completing it by submitting the matters to the head office.

### c. Policy on the Website Content

Content is primarily determine the appearance of any websites and their impact on users. Concerning the policy of website contents, two of respondents admitted that the policy regarding the content and features on the website is under the direct control of the Information and Communication Agency Office of West Nias Regency, while one respondent admitted that the policy regarding manage website content was determined through direct instructions from the District Government Official. However, all policies regarding the material and contents of the websites are specified unregularly.

Finally in completing these results, this study also held and interview with th Head of e-Government of West Nias Regency and the Head of e-Government Organizing Department. The interviews concludes that:

1. Communication and Informatics Office of West Nias Regency was established in January 2017. Previously, the

West Nias Regency collaborated with Transportation Agency in managed its website. This governmental official website provided the practical information and content for the users. However the support of West Nias government in promoting the effectiveness of information publication via the internet is still considered unadequately. However, the West Nias Regency Government has initiated to continue the effectiveness of information publication through technology. In 2016, a the West Nias Regency Government network has been installed. The Office of Communication and Informatics of West Nias Regency has links the SKPD agencies in terms of information distribution, but for now, they still limited to several SKPDs, in West Nias Regency Government.

2. Concerning the structure and working relationship pattern is still unclear. The interviewee suppose an improvement in the future. The Communication and Informatics Office will be used as an information center and internet technology-based information center in West Nias Regency government. There are still many obstacles faced in working relationships due to the internet network, this is the main factor that slowing the public relations tasks.
3. The head of West Nias Regency also promised to improve IT structure, thus the implementation of e-Government program can be implemented properly.
4. Aside from the technical constraints the Communication and Informatics Office of West Nias Regency also experiences obstacles in the field of HR to manage the network. The efforts have been made to request additional employees with an IT education background to the West Nias District Head, but until now it has not been fulfilled because Other SKPDs also desperately need employees who have IT education backgrounds, so that there are scrambling between existing SKPDs if there is an addition to an employee with an IT education background.
5. In dealing with the problems, an adequate budget is needed. The West Nias as a newly formed SKPD has a limited budget to carry out e-Government.

The results of the interview above have a close relationship with the research through the distribution of questionnaires that have been carried out on the Administrators of e-Government in West Nias Regency, which is mutually supporting and complementing one another.

## V. CONCLUSIONS

The concept of e-Government which has been initiated since 2001 the period of Abdurrahman Wahid by issuing Presidential Instruction No. 6, 2001 regarding the construction and utilization of telecommunications in Indonesia, and was followed up by the next Megawati government by issuing Presidential Instruction no. 3 2003 June 9, 2003 on policies and strategies for developing e-Government is something that has been running for a long time but has not been fully implemented by the local nor central

government. Thus, this fact implies that there are many areas that are less ready to implement the e-government.

Several important points concerning the finding and result of study that was carried out in Communication and Informatics Office (Diskominfo) of West Nias Regency concerning the ITC literacy among the e-government administrators are revealed as follows:

The unpreparedness reflected in both infrastructure and suprastructure. It was found that only a set computer in supporting their task, while for the supra-structure level it can be seen that the e-Government Administrators are not familiar with the world of ICT. Meanwhile the Administrators of e-Government are not possess the adequate information technology.

The right attitude and comprehension of e-Government Administrators in managing websites is an important and central role in implementation of good governance concept which one of them is the principle of transparency and participation of stakeholders. This is proven, that after the launch of the e-Government of West Nias Regency, the Administrators no longer maintain and improve performance for their websites. For now, the website is suspended for various reasons and poor management.

There has been no serious attention from the head of the West Nias Regency for management, especially attention to financial support. The E-Government Administrators complain about the shorten of operational funds so that it has a negative impact on their performance.

## RECOMMENDATIONS

Some recommendations suggested as follows:

In dealing with the unpreparedness, it seems that the local government must have a common thought and perception regarding the importance of the website which is one manifestation of e-Government and the implementation of the concept of Good Governance. Especially nowadays is the era of information technology, even with the official website of the district government able to promote its area without recognizing the boundaries, so that the potential of the region can be seen by investors to tourism that is able to attract tourists.

Revitalization is an indispensable thing in improving e-Government Administrators performance, both the human resources and ITC support.

A uniformity is needed, regarding the institutional position and responsibilities of e-Government Administrators where in this study it was found that the Administrators of e-Government in each SKPD of West Nias Regency Government differed in position, under Bappeda, the Ministry of Communication and Information, or stand alone. This will affect effectiveness and performance.

To build a government that is better able to organize Good Governance, the Ministry of Communication and Information

needs to build a network of cooperation with the Minister of Home Affairs based on participatory, transparent and responsive relationships. The problems and trends of *e-Government* legality in the era of regional autonomy are to be adjusted to the actual paradigm, namely how to cultivate the young generation towards skillful knowledge as an increase in Good Governance through e-Government.

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