The Use of Artificial Intelligent in Disaster Communication between Government and Society through E-Government in North Lombok

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Abstract
North Lombok Regency is the area with the worst damage impact due to the earthquake in 2018. The North Lombok Regency Government as the organizer of the regional government also has responsibility and authority in disaster management, under Article 5 of Law of the Republic of Indonesia Number 24 of 2007 concerning Disaster Management. The purpose of this study was to determine the implementation of E-government Public Relations in North Lombok as well as the supporting and inhibiting factors in the implementation of E-government Public Relations. This study used a qualitative descriptive method and conducted in-depth interviews with the Head of Public Relations Officer, BPBD, and the people of Gangga Village in North Lombok Regency. The results showed that the implementation of North Lombok E-government Public Relations in the 2018 earthquake disaster communication, according to the type of service, is for publication and interaction between governments and communities affected by the disaster. It was carried out via electronic government platforms, which are Website Facebook, Instagram, and YouTube to gathering data about how the government communicates with society regarding disaster management in North Lombok. Public Relations also conducts conditional cooperation with national online media. Public Relations also manages the information conveyed through the news menu on the website of the North Lombok Regency Government, called lombokutarakab.go.id. The supporting factors in the implementation of E-government Public Relations are the condition of the people of North Lombok Regency who are increasingly well informed with internet media in meeting their daily communication and information needs. The inhibiting factor is the lack of a telecommunication system network in the North Lombok area, especially in the blank spot area because the topography of North Lombok is mountains and valleys. In essence, the researcher considers that the PR of the North Lombok Government has been implemented but the operation of e-government needs to be improved. Out of the many existing social media, North Lombok Government Public Relations need to act in operating and optimizing them.

Keywords: E-Government, Public Relations, Disaster Communication, Earthquake, North Lombok, Indonesia

1. Introduction
An earthquake with a magnitude of 6.4 rocked North Lombok on Sunday, July 29, 2018. One week later, on August 5, 2018, at 18.46 WIB, North Lombok was again shaken by an earthquake with a magnitude of 7.0, which center was on land, 18 km northwest of East Lombok and was the mainshock (main earthquake) from the earthquake on 29 July 2018 [1]. North Lombok Regency is the area with the worst damage impact due to the earthquake in 2018. The North Lombok Regency Government as the organizer of the regional government also has responsibility and authority in disaster management, following Article 5 of Law of the Republic of Indonesia Number 24 of 2007 concerning Disaster Management. When a natural disaster occurs, effective disaster communication involving communication and information technology must be carried out, especially from the government to the affected communities. In this case, the priority must be related to KIKK, which includes Communication, Information, Coordination, and Cooperation. This is necessary because information needs to be updated quickly, precisely, and accurately.
[2]. Information needs regarding the location of victims, the number of victims, and the data collection on the needs of victims are urgently necessary to facilitate officers and volunteers in assisting victims [3] because in the field.

Effective disaster communication involving communication and information technology with internet technology facilitates the handling of natural disasters in affected areas. Current technological developments make it easier for people to access important information about disasters which will benefit the efficiency of disaster management [4]. One example is the use of the Google API application, which is a logistical assistance management information system that will provide distances, road routes, and locations of natural disaster posts so that assistance can be provided more precisely.

2. Basic Theory

Basic Concept of E-Government

In general, the term E-Government can be defined as the application of Information and Communication Technology (ICT) to improve the performance of traditional government functions and services. According to Sudrajat et.al [5] that traditional government demands a transformation of the government bureaucracy by developing E-Government. Thus the application of e-government is intended to be able to provide fast and accurate services from government agencies to all existing stakeholders. By implementing E-Government it is expected to provide changes in the form of improved services to the wider community. The goal of E-Government is the more effective delivery of government services to the public. Generally, the greater number of online services available and the wider the use of these services, the greater the impact on E-Government. As for the benefits of E-Government according to Al Gore and Tony Blair in Indrajit [6], including (1) Improving the performance of government service to its stakeholders, (2) Increasing transparency, control, and accountability, (3) Reducing administrative costs, relations and interaction, (4) Providing opportunities to get new sources of income, (5) Creating an up to date community environment, (6) Empowering the public and other parties who take part in making public policies equitably and democratically. The types of E-Government services according to Indrajit are divided into 3 main classes, which are (a) Publication is communication via the internet, (b) Interaction by government with those concerned, (c) Transaction, which is a two-way interaction in which there are transactions related to money from one party to another (not free) [6].

When a disaster occurs and after a disaster, communication becomes important, especially from the government to the affected communities. In this case, at the time of an incident and after a disaster, the need for accurate information is urgently needed by the public and private institutions that are concerned about disaster victims. Communication in a disaster is not only needed in a disaster emergency but also important during and before a disaster. It is said that communication is the best way to succeed in disaster mitigation, preparation, response, and recovery of situations during a disaster. The ability to communicate messages about disasters to the public, government, media, and opinion leaders can reduce risks, save lives and the impact of disasters [8].

Disaster Communication Management

Disaster Management can be defined as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response, and recovery to lessen the impact of disasters. According to Coppola and Maloney that modern disaster management comprehensively includes four functional components, such as (1) Mitigation, which includes the reduction or elimination of hazard risk components, (2) Alertness, which includes preparing communities at risk from disasters or preparing communities to be able to help people in disaster events with a variety of tools/equipment to improve their ability to survive and minimize financial risks and other risks. (3) Response,
which includes actions taken to reduce or eliminate the impact of disasters, and (4) Recovery, including repairing, reconstructing, or recovering what has been damaged/lost as part of a disaster. These four important aspects in disaster management are things that must be done to reduce the greatest risk from the disaster [10].

There are 5 main bases in building effective disaster communication [8], including, (1) Customer Focus, understanding the information needed by customers, in this case, the community, and volunteers. Communication mechanisms must be established to ensure that information is conveyed accurately and accurately. (2) Leadership Commitment, leaders who play a role in emergency response must be committed to effective communication and be actively involved in the communication process. (3) Situational Awareness, effective communication based on the controlled collection, analysis, and dissemination of disaster-related information. Principles of effective communication such as transparency and trust are key. (4) Media partnerships, media such as television, newspapers, radio, and others are very important media to convey information accurately to the public. Collaboration with the media involves understanding information needs. And (5) Disaster Management, must be supported by various approaches, both soft power, and hard power to reduce disaster risk. The soft power approach is to prepare community preparedness through socialization and provision of information about disasters. Meanwhile, hard power is a disaster management effort utilizing physical development, such as building facilities and infrastructure.

3. Methodology
   This study used a qualitative approach, with the object of research being the Public Relations of North Lombok Regency. This research is descriptive qualitative research by describing and analyzing existing data based on the theory of E-Government, Government Public Relations, and disaster communication. This research is more directed at a positivistic paradigm because this paradigm is related to the search or discovery of causal laws that can be used in different contexts and times [14]. Data collection techniques used primary data, using interviews and FGDs with Public Relation Officer, BPBD, and the people of Gangga Village in North Lombok Regency. While secondary data using the techniques of literature and documentation to confirm and strengthen the data to be analyzed. Qualitative data analysis requires the researchers to carry out activities simultaneously with data collection, data interpretation, and research report writing [15]. Thus data analysis is not carried out separately with data collection but is an activity carried out together. During data collection, researchers moved interactively in 3 components of the analysis, such as data reduction, data presentation, and conclusion drawing/final verification [16].

4. Findings and Discussion
   Public Relations and Protocol are components in the scope of the Regional Secretariat of North Lombok Regency. Structurally, this section is led by a Head of Section assisted by the Head of the Protocol Sub-Section, the Head of the Documentation and Publication Sub-Section, and the Head of the Public Relations Sub-Section. The main tasks and functions that are carried out can be summarized into four roles, which are (1) Communication technician through the task of covering, documenting, publishing, and providing public information services in the form of district government activities; (2) Facilitator of communication through the task of managing relations with the media (media relations), coordinating with regional apparatus organizations regarding the activities of regional leaders and preparing public complaint services; (3) Expert advisors and problem-solving facilitators through the task of conveying suggestions, input and results of the analysis of media
and public information to regional leaders as material for consideration in making policies; and (4) Protocol.

The role of public relations also plays a role in disaster communication and it is important to make adjustments to the implementation of E-Government. As for the benefits of E-Government according to Al Gore and Tony Blair in Indrajit including (1) Improving the performance of government service to its stakeholders, (2) Increasing transparency, control, and accountability, (3) Reducing administrative costs, relations and interaction, (4) Providing opportunities to get new sources of income, (5) Creating an up to date community environment, (6) Empowering the public and other parties who take part in making public policies equitably and democratically [6].

Before the disaster, during the disaster, and after the 2018 earthquake disaster, the Public Relations of the North Lombok Regency Government had conducted disaster communication activities. This is done through disaster mitigation activities, preparation, and conditioning of society as well as the researchers’ response to the provision of the information needs of the community and help the recovery of the earthquake to synergize with BPBDs Government of North Lombok. This is important to do to reduce the number of disaster victims and reduce the impact of damage from various economic and social aspects resulting from the disaster.

In this study, the Public Relations of the North Lombok Regency Government in communicating the earthquake disaster has used E-Government platform that the government use for communicating with society. This paper found that in figure 1 explain about how the government communicates the disaster management in e-government platform such as website and social media in north Lombok. The data analysis is using NVivo to gathering all the sources in terms of disaster communication in north Lombok.

Figure 1. Cluster Analysis using NVivo

As mentioned in Figure 1, disaster communication is a focus on the rehabilitation in an earthquake, meaning that the government has categories. The rehabilitation has the issue such as handling about the management disaster, make a program to re-creation the post-disaster, and make an emergency response to delivering service in society. This is in accordance with the objectives and benefits of E-Government, which is to provide government services to the public more effectively. In general, the bigger the number of available online services and the more widespread the use of these services causes greater the impact on E-
Government. Benefits of E-Government according to Al Gore and Tony Blair [5], among others improve the performance of government services to stakeholders, increase transparency, control, and accountability, reduce administrative costs, relations and interactions, providing an opportunity to gain new sources of revenue, creating an up-to-date community environment, and empowering people and other parties who play a role in making public policies that are equal and democratic. Figure 2. explains the classification of the back-end in the platform of social media that are talking about disaster communication.

Figure 2. Back-End of Disaster Communication in Social Media Platform

Source: primary data 2020

Figure 2. explains the disaster, enforcement, and government performance is the issue that society always talked in social media means the society need the government responsibility to handle disaster management in north Lombok in term of disaster communication. Even if you look at the types of E-Government services according to Indrajit which are divided into 3 main classes, they are (a) Publication is communication via the internet. (b) Interaction by the government with those concerned. (c) Transaction is a two-way interaction in which there are transactions related to money from one party to another (not for free). The types of E-government services for North Lombok Government Public Relations in earthquake disaster communication consist of the publication of information about (1). information on disaster developments, for example, the number of victims, the number of damaged facilities and infrastructure, the evacuation of victims and the distribution of disaster assistance, information on appeals and interactions, (2). Appeal information in the form of appeals to the public orally via radio broadcasts or forwarded in mass media coverage [6]. The appeal was conveyed like a call for the community to remain calm, alert, and coordinate with local officials in the face of an earthquake. (3) Educational information and disaster mitigation, to share information related to educational disaster created by the institutions relating to the disaster through its media. For example, Public Relations shared a tsunami educational video series made by the Meteorology, Climatology and Geophysics Agency (BMKG) without losing the source. This is done so that the community has high knowledge, understanding, and awareness that they live in disaster-prone areas. Thus, when an earthquake occurs, the community is ready and the number of casualties can be minimized.

In implementing the E-Government Public Relations of the North Lombok
Government in disaster communication, there are inhibiting factors. The inhibiting factors mean that there is still a lack of a network of telecommunications systems in the North Lombok area, especially in the blank spot for North Lombok topography of mountains and valleys, especially in the area Pusuk, Tanjung Kayangan, Bayan, Pemenang, Gangga, and Malaka.

5. Conclusion
The implementation of the North Lombok E-Government Public Relations in the 2018 earthquake disaster communication has been implemented with the type of service, which is for publication and interaction between governments and communities affected by disasters. This is done via email, and official social media accounts such as the Humaspro KLU Facebook fan page, Instagram, and Youtube. Public Relations also conduct conditional cooperation with national online media. Public Relations also manage the information conveyed through the news menu on the website of the North Lombok Regency Government, which is lombokutarakab.go.id. There are supporting factors in the implementation of E-government Public Relations, such as the condition of the people of North Lombok Regency who are increasingly well informed with internet media in meeting their daily communication and information needs. But there is also an inhibiting factor that is the enduring lack of a network of telecommunications systems in the North Lombok area, especially in the blank spot for the North Lombok topography of mountains and valleys. In essence, the researcher considers that the PR of the North Lombok Government has been implemented but the operation of e-government needs to be improved. Out of the many existing social media, North Lombok Government Public Relations need to act in operating and optimizing them.

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