Management of issue and public trust using information technology

Najamuddin Amy¹, Anggreni Muchali², Jian Budiarto²*, Adam Bachtiar Maulachela², Ahmad Ashril Rizal³
¹Public Relation and Protocol Nusa Tenggara Barat Province
²Univeritas Bumigora
³Universitas Gajah Mada

Abstract. In the era of public information disclosure, the need for public relations performance that is fast and transparent is needed in all sectors of the company, including the scope of the Provincial Government of Nusa Tenggara. The role and function of human resources and public relations institutions of the NTB provincial government have become strategic in the context of fulfilling educational information. The purpose of this study is to manage issues and public trust using information technology in West Nusa Tenggara. Management of the issue is carried out using a management mechanism called Media Control and Cooperation (MCC) and 2 (three) applications based on artificial intelligence, namely: Data & Public Information Services (DPIS) and Government Social Media Handling (GSMH). Based on studies that have been done, it can be informed that overall PRCC NTB Public Relations succeeded in gathering valid issues 22 to 24 or 91 percent.

Keywords: public issue, public trust, prcc ntb

1. Introduction
In the era of public information disclosure, the need for public relations performance that is fast and transparent is needed in all sectors of the company, including the scope of the Provincial Government of Nusa Tenggara. The government must follow its development to create public services effectively and efficiently as one of demands of society [1]. The role and function of human resources and public relations institutions of the NTB provincial government have become strategic in the context of fulfilling educational information, enlightens and empowers people from Ampenan to Sape.

At present, the government is aggressively implementing modern information and communication technology to create better public services. Increasing the effectiveness and quality of service is not only determined by technological factors but also depends on the vision and mission they have. This information system requires assistance from internal organizations to help community services [2].

On the other hand, the government has planned an online traffic ticket by starting a vehicle count research [3]. In Saudi Arabia, e-Government began with a focus on realizing information technology infrastructure in telecommunications [4]. this is a good collaboration between the transportation department and the local police. Challenges involving the government in the strategy of disclosure of further technical information such as location storage, access rights, observation, and information display. To better understand these challenges, understand the processes and internal processes of data collection, analysis, management, recovery, and data access [5].

Public Relations and Command Center (PRCC) is a centralized system of public relations
management that was developed by the Public Relations and Protocol Bureau of West Nusa Tenggara Province. PRCC supports preparing requests or commands, managing data and information received, made and approved from the agenda of regional leaders. PRCC has targets for urban, rural, student, school communities, both in cyberspace and in the real world. This also became the basis for the West Nusa Tenggara Provincial government to form a community relations command center or abbreviated as PRCC to realize “NTB Gemilang”. PRCC also periodically and in real-time manages issues related to the NTB provincial government.

The purpose of this study is to manage the issues and trust of the public using information technology in West Nusa Tenggara. The management of the issue is carried out using a management called Media Control and Cooperation (MCC) and 2 (two) applications based on artificial intelligence, namely: Data & Public Information Services (DPIS) and Government Social Media Handling (GSMH)

2. Research Method

2.1. Media Control and Cooperation (MCC)

MCC is a control room used by the PRCC team to manage and show the results of output 2 (two) applications based on artificial intelligence in real-time. The management includes mainstream media, online media and local, regional, national and global news[1]. MCC requires a PIC that will require content, photos, and visual communication design (DKV) to package information. MCC will provide information on the results of the management of 2 (two) applications that are presented with 2 (two) changes, namely:

LED Display, the control room is provided with 3 43 "LED monitors that will display the results of sentiment analysis (social media and online media) and the agenda of public officials (Governor and Deputy Governor). The interesting information on this LED screen is confidential and can only be accessed by the PRCC team and other interested officials. This screen solely to avoid information leakage. Meanwhile, information that is widely disseminated to the public will be presented in a different transition.

Infographics, information on the results of the management of both artificial intelligence applications that are disseminated to the public is information that has been processed and has been confirmed to be accessible by the PRCC team and other officials. This information is released once and is packaged in the form of infographics given by the Visual Communication Design (DKV) science. This design to facilitate the public in reading the information presented. After being presented in the form of infographics, the information is packaged in the form of articles sent by experts competent on the issue, news can be given. Furthermore, articles and infographics are distributed through various media, such as the NTB Provincial Public Relations website, facebook, twitter, Instagram and other information media

2.2. Data Collection

Data & Public Information Services (DPIS), DPIS is a service used to announce, receive, manage, and document public information. The DPIS consists of DESK Information Services, Data Support (NTB Satu Data), and Public Information. This service will be managed by 5 PICs that are placed in the front office of the NTB Provincial Public Relations Protocol. DPIS collects online news data obtained using crawlers. A crawler application is run on the server every 1 hour. The application gets news from 33 predetermined local online news sites and Google News. News is stored in a database and analyzed sentiment using the Naive Bayes Classifier method.

Government Social Media Handling (GSMH), GSMH is a service that can present good and accurate public information [2]. Every developing issue must be managed well, it aims to foster public confidence in the Regional Government. Therefore, this application can avoid spreading false information (HOAX) and hate speech. Issues that are managed are sourced from social media such as Facebook, Tweeter, and Instagram. In addition to social media issues that originate from online media, the process of managing sentiment analysis is also carried out on the GSMH application. Management is done by classifying positive and negative issues.

There are many studies about social media as data analysis. Research by Bhor (2018) on social media analysis for Digital Media Marketing. The results of this research show that digital media marketing using trend analysis would help digital marketers, firms or freelancers to have a personalize
engagement with the customer base and help them to generate a much more insight full marketing campaign rather than just wasting money without any reliable output. Social media marketing relies on Hash-Tags for interaction with customer [6]. Bratawisnu (2017) applies social media to see customer feedback. The results of this research can be used by companies to view a summary of the consumer's perception through their comments in social media [7].

DPIS approaches electronic media to get informations. A similar study was conducted by Ejaz (2018). The research shows that the ontology is able to relate different aspects that a news item has for example Actors involved, events involved and date it is recorded on etc. In addition to the analysis of biasness our ontology is able to also allow different queries such as which topic was most discussed in Electronic media and Social media on a particular date [8].

Meanwhile, GSMH approached social media to get information. Related research has been conducted by Ginting (2018). The conclusion of this research is to analyze the spread path of the fake news (Hoax) on social media as Facebook which can be done using Social Network Analysis (SNA) method with the measurement of Degree Centrality, Closeness Centrality, Betweenness Centrality. The analysis of the spread pattern aims at seeing the regions which are affected by the negative effect of the fake news on the social media. This research shows the regions which become the source of the fake news spread (hoax) [9]. In addition, GSMH has also tracked influencers in the past week. Related research has been conducted by Pudjajana (2018) by applying Social Network Analysis (SNA). Conclusions of this research are influencer detection can be performed using SNA measurements (DC, CC, BC) and weighting on the SNA measurement. SNA measurement results produce different influencers list. Weighted SNA measurements serve to calculate SNA measurements and generate accounts from highest to lowest values [10].

GSMH and DPIS implement text classification in the program. The approach used is a text classification with Long Short Term Memory. The RNN LSTM method has previously been used to make predictions. accuracy of prediction results with LSTM reaches 87.9% [11]. In comparison, there are studies that have tried training the RNN with different methods. The method used is the Kalman filter method. The results show that the LSTM method is better than the EKF in Recurent neural network training [12]. In addition, Shahare (2017) conducts sentiment analysis on social media. The conclusion is that Levenshtein algorithm provides a very easy way to text processing on data. Its work fast and provide maximum level of accuracy to processing large amount of data [13].

The classification process in DPIS and GSMH applications utilizes artificial intelligence. The sentiment classification method uses Naive Bayes Classifier. Both of these applications utilize news that has been obtained as input and news testing. By utilizing artificial intelligence the issue classification process becomes fast, automatic, and accurate, making it easier for the Public Relations and Protocol of the Regional Government of West Nusa Tenggara Province (NTB) in managing public issues. This capability can have the effect of increasing public confidence in local government performance.

2.3. Data Analysis

The data obtained in the GSMH and DPIS applications were tested for validity manually by the Head of the NTB Provincial Public Relations Bureau. Validation is done to find out the data generated following the issues most often discussed at the time. Issues that emerge have an effect of 1-3 days, so the issues tested are done every week in the span of the past 1 month. Simple testing is done using the checklist on the issue list sheet.

3. Result and Discussion

3.1. Validation Test of Online News Issue in DPIS

The issues in Table 1 are the weekly issues raised on September 2, 2019. This week it was found that the main issue most discussed was “kemarau panjang tahun 2019 menurunkan tingkat produksi”.

Table 1. The results of the validity test of DPIS (online media) sentiment analysis on September 2, 2019

| Issue | Validity |
|-------|----------|
|       |          |
The issues in Table 2 are the weekly issues raised on September 9, 2019. This week it was found that the main issue most discussed was “sistem transportasi publik kota mataram butuh pembenahan”.

Table 2. The results of the validity test of DPIS (online media) sentiment analysis on September 9, 2019

| Issue                                                      | Validity |
|-------------------------------------------------------------|----------|
| Sistem Transportasi Publik Kota Mataram Butuh Pembenahan    | ✓        |
| Sosialisasi Gerakan Revolusi Mental Kemenko PMK RI Gandeng Lakpedam NU Mataram | ✓        |

The issues in Table 3 are the weekly issues raised on September 16, 2019. This week it was found that the main issue most discussed was “NTB raih penghargaan penyulur rumah subsidi terbaik”.

Table 3. The results of the validity test of DPIS (online media) sentiment analysis on September 16, 2019

| Issue                                                      | Validity |
|-------------------------------------------------------------|----------|
| Jadi Penyalur Rumah Subsidi Terbaik REI dan Bank NTB Raih Penghargaan | ✓        |
| Gempa Guncang NTB dan NTT pada Minggu Dini Hari              | ✓        |
| Jateng Usul Ma’ruf Amin Ketua Dewan Pertimbangan MUI        | ✓        |
| Kapal Pengangkut Logistik Tenggelam di Perairan Liukang Tangayya, 3 ABK Hilang | ✓        |

The issues in Table 4 are the weekly issues raised on September 22, 2019. This week it was found that the main issue most discussed was “Asosiasi Media Siber Indonesia NTB telah dibentuk”.

Table 4. The results of the validity test of DPIS (online media) sentiment analysis on September 22, 2019

| Issue                                                      | Validity |
|-------------------------------------------------------------|----------|
| Asosiasi Media Siber Indonesia NTB Dibentuk                 | ✓        |
| TKW 11 tahun hilang                                         | ✓        |

Based on Tables 1 to 4, it is found that the number of valid trending that matches the NTB trend is 7 to 9 or 77 percent.

3.2. Validation Test of Online News Issue in GSMH

The issues in Table 5 are the weekly issues raised on September 2, 2019. This week it was found that the main issue most discussed was “progres pasca gempa bumi NTB”.

Table 5. The results of the validity test of GSMH (social media) sentiment analysis on September 2, 2019

| Issue                                                      | Validity |
|-------------------------------------------------------------|----------|
| Progres Pasca gempabumi NTB                                 | ✓        |
The issues in Table 6 are the weekly issues raised on September 9, 2019. This week it was found that the main issue most discussed was “bayi laki-laki terlahir disunat”.

Table 6. The results of the validity test of GSMH (social media) sentiment analysis on September 9, 2019

| Issue                                           | Validity |
|-------------------------------------------------|----------|
| Bayi Laki-laki di Lombok Barat Lahir disunat    | ✔        |
| Huntara                                         |          |
| Deklarasi damai untuk papua                     | ✔        |
| Bawah Laut Calabai                              |          |

The issues in Table 7 are the weekly issues raised on September 16, 2019. This week it was found that the main issue most discussed was “Denpol Lanal kota Mataram”.

Table 7. The results of the validity test of GSMH (social media) sentiment analysis on September 16, 2019

| Issue                                           | Validity |
|-------------------------------------------------|----------|
| Denpom Lanal Kota Mataram                       | ✔        |
| Sobat BMKG                                       | ✔        |
| Pengadilan Agama Selong                         | ✔        |

The issues in Table 8 are the weekly issues raised on September 23, 2019. This week it was found that the main issue most discussed was “mandalika menjadi destinasi super prioritas”.

Table 8. The results of the validity test of GSMH (social media) sentiment analysis on September 22, 2019

| Issue                                           | Validity |
|-------------------------------------------------|----------|
| Mandalika Destinasi Super Prioritas             | ✔        |
| Semarak Bulan Bahasa dan Sastra                 | ✔        |
| Tgh Fauzan pimpin AMSI NTB                      | ✔        |
| Gubernur beri semangat pemburu beasiswa         | ✔        |
| Gubernur NTB buka coastal cleanup day           | ✔        |

Based on Tables 5 to 8, it is found that the number of valid trending that matches the NTB trend is 15 to 15, or 100 percent.

4. Conclusion
Based on studies that have been conducted, it can be informed that overall the PRCC has succeeded in gathering valid issues of 22 to 24 or 91 percent. This is an achievement and continues to be developed considering this application is the work of NTB people.
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