

## Model of Disaster Information Cycle of West Java Television Journalists

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### Abstract

Disaster information is an important factor in disaster management efforts, including in West Java. It helps officers and the community to immediately anticipate disasters that may occur. Journalists are among those who play a role in disseminating disaster information. This study aims to describe disaster information cycle model of West Java television journalists in obtaining and disseminating disaster information with the help of technology to increase the speed. This research applies a qualitative method, namely a case study to describe a usage model of disaster information seeking which is uniquely influenced by the developments in information technology. Data collection is carried out through observation, interviews, and documentation. This study finds that smartphone technology contributes to the dissemination of disaster information by television journalists through providing access to social media, online media, and information in group chats. There is an interrelated flow of information between journalists, television editors, local governments, officials and the community. Participation of public and journalists in obtaining and disseminating disaster information helps the government and officers to find out the real conditions of disaster locations and how to handle them.

**Keywords:** Information, disaster, technology, journalists, west Java

### Introduction

Any disaster event gives cause for concern for the community. Thus, in such a situation, people really need disaster information (Steelman, Nowell, Bayoumi, & McCaffrey, 2014). Based on data from the National Disaster Mitigation Agency/BNPB, Indonesia is geographically at risk of disasters such as earthquakes, tsunami, floods and landslides (Badan Nasional Penanggulangan Bencana, 2016). West Java is one of disaster-prone areas that needs to be watched out for (Ruswandi, Saefuddin, Mangkuprawira, Riani, & Kardono, 2008). Disaster management requires speed in helping victims and encouraging various community groups to take part in providing assistance, including in the dissemination of disaster information (Susanto, Eko Harry., HH,

Setio Budi., A. G.B. Lucinda., Lestari, Puji., Chandra, Ade., Ari, Ahmad., Badri, M., Astuti, Santi Indra., Junaedi, Fajar., 2015).

In a study, creating an information dissemination entity becomes more important than written planning. The planning process naturally provides opportunities for increased knowledge of capabilities and a culture of sharing disaster information with each other (Folb, Detlefsen, Quinn, Barron, & Trauth, 2010). Media involvement in providing information is to warn or notify; it can be in the form of reports on developments of events and actions or direct and indirect actions in providing assistance to save victims, reducing the number of victims, alleviating the suffering of victims and reducing other losses that may be occurred (Prajarto, 2008).

The presence of mass media is an important part of putting pressure on the government, providing support and rationality for people affected by disasters (Prevention, 2018). During a disaster, journalists need to report facts and news to build empathy in the community in a persuasive manner (Cottle, 2013). The mass media can influence the audience to act through its news (McQuail, 2010).

### **Theoretical Framework**

West Java needs to pay attention to disaster information literacy since it affects community preparedness in facing disasters. Literacy here means the ability to identify and find information, evaluate information, organize and integrate information, and utilize and communicate information effectively, legally and ethically (Marlyono, Pasya, & Nandi, 2016). To increase disaster literacy, disaster preparedness needs to be socialized to the community (Supartini et al., 2017). Several studies stated that disaster risk information can help strengthen disaster preparedness for the community, as it did when tsunami disaster hit Indonesia several years ago (Adiyoso & Kanegae, 2017). However, not all disaster information can assist the handling; there is a need for issue management in communicating disaster information to the community (Nugroho & Sulistyorini, 2018).

Journalists play a role in conveying disaster information to the public (Sanusi, 2018). Mass media of television, one of which plays a role in disseminating disaster information, needs to prioritize ethics in broadcasting its news (Juditha, C, 2014). Journalists have the obligation to report facts in accordance with the ethics and rules of journalistic norm and standard (Panuju, 2018). Several studies have shown that the role of journalists in reporting disasters will help the community to get immediate assistance, even though the journalists themselves are threatened by the disaster (Tandoc & Takahashi, 2018) (Sreedharan, Thorsen, & Sharma, 2019). Television journalists, in particular, have deeper challenges in reporting disaster events (Rochimah, 2009). The development of information technology can affect journalistic performance (Pavlik, 2000). Several studies showed that journalists have used internet technology as an effort to break away from traditional work patterns (Touri, 2017; Hoey, 2017).

New technology has made it easier for the journalists to carry out their roles to meet people's needs for information quickly (Çatal, 2017). From time to time, changes in journalists working patterns will be influenced by the technology they

use (Örnebring, 2010). Changes in journalist work patterns in various aspects of coverage are due to the adaptation of digital technology (Tong & Lo, 2017). A study shows that technology can support disaster management.

Technology that is designed and being developed can increase the understanding of an information that may be related to a disaster (Ogie & Verstaavel, 2020). The competence of journalists in journalism and disaster, as well as the availability of adequate tools and equipment are the strong foundations for optimistic journalism (Sukmono & Junedi, 2018). A completely closed and limited information must be opened so that people can freely access the information they need (Ahmadi, Rachmiatie, & Nursyawal, 2019). Disaster information can be readily spread and known to many parties through rapid reporting assisted by the dissemination of information on various platforms that can be used by the public and journalists.

Based on the background above, we consider it is important to reveal the flow of disaster information of television journalists in West Java who use technology to obtain information and deliver it quickly so that it becomes news immediately known to the public and related officials. Thus, this study aims to reveal the Model of Disaster Information Cycle of West Java Television Journalist.

### **Material and Methodology**

Based on the purpose of this study that is to find disaster information acquiring model of television journalists in West Java, hence this research is based on a constructivist paradigm. The constructivist paradigm in a study takes an approach in the process of building and reconstructing meaning through daily interactions (Leavy, 2017).

A case study method is applied in this research since it has the characteristic of revealing the uniqueness of a phenomenon. As a case study research, this research intensively investigates one case or a small group of cases by paying attention to the details and context (Djamba & Neuman, 2002). Object of this research is the process of obtaining disaster information by television journalists in West Java. Whereas, research subjects consisted of key informants of 33 television journalists in West Java who are members of the Indonesian Television Journalists Association, and the coverage coordinator and head of the television bureau as supporting informants.

According to the characteristics of qualitative research, this study uses data collection

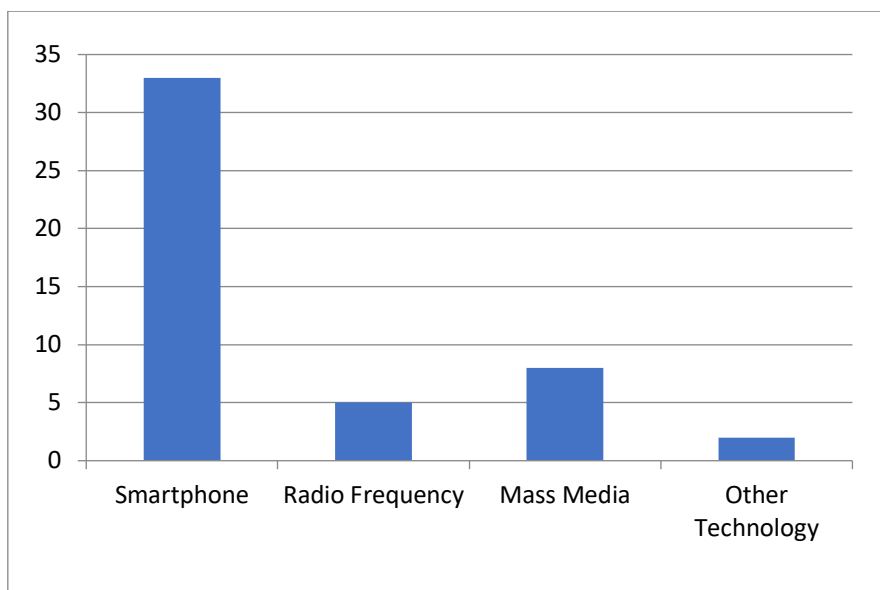
techniques by means of observation, interviews, and documentation (Leavy, 2017). Observational data were collected by directly observing the process of obtaining disaster information by West Java television journalists. Observation on disaster information management process was carried out in stages starting from digging the source of information to news serving. Interviews were held with key informants, namely 33 journalists who are members of West Java IJTI by asking them open questions. Interviews were also conducted with supporting informants, namely television producers, head of bureau, and the coverage coordinator in charge of West Java area. Apart from observations and interviews, the study also collected data from documentation. Documentation collected data sources of information through the technology used to obtain disaster information. Data analysis was performed by categorizing the collected data. As validity, researchers conducted triangulation interview analysis of stakeholders in television news editors. Observation data or certain data can develop into

construction abstracts, which are more descriptive after collecting data and facts in the field (Djamba & Neuman, 2002).

**Result and Discussion**

Knowledge of practice in getting information for disaster preparedness needs to include communication and dissemination of information in social networks. The use of technology in digital era really helps journalists to carry out their journalistic performance and get disaster information quickly (Su, 2017). The technology used by journalists includes professional cameras, smartphone cameras, internet data networks, laptops, radio, and even television as information facilities (Golung, 2019).

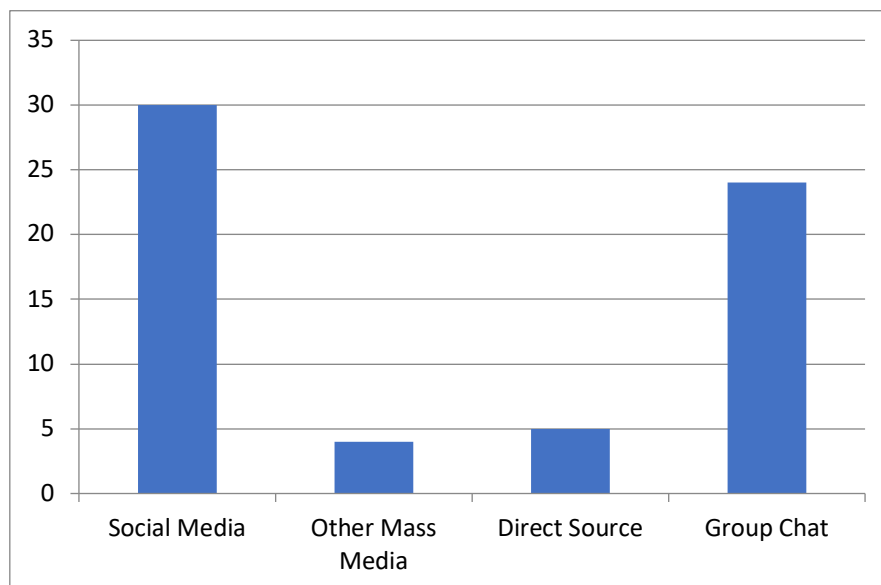
Based on the interviews with 33 journalists in West Java, the technology used in obtaining disaster information is categorized into four types of technology that make it easier for the journalists to get disaster information in the regions, including those illustrated in Figure 1 below.



**Figure 1.** The Use of Technology to Get Disaster Information  
Source: Interview with Television Journalists

Television journalists in West Java use technology to obtain disaster information. Some of the technologies used include smartphones, conventional mass media such as television and radio, amateur or network radio, and other technologies such as laptops or computers with internet networks. According to data being collected, all television journalists in West Java use smartphones to obtain disaster information. Smartphones are also proven to be the technology used to disseminate information quickly

(Nandakumar, 2017). Smartphones help journalists work and there is even genre in journalism called mobile journalism as a form of future journalism (Perreault & Stanfield, 2019). Journalists take advantage of the functions of several channels contained in smartphones to obtain disaster information, including group chat information channels, social media information channels, telephone information channels, and online media information channels.



**Figure 2.** Sources of Disaster Information  
Source: Interview with Television Journalists

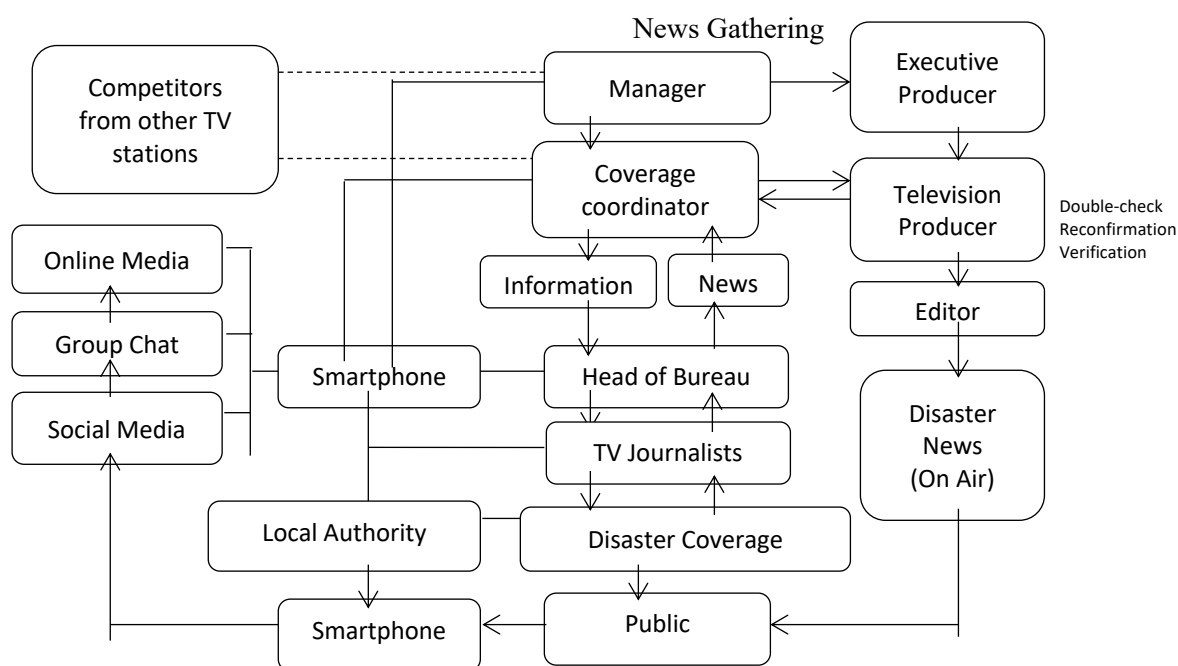
Results of the interviews showed that social media held the highest score as the chosen platform for accessing disaster information with 30 television journalists stating that most of the information on disaster events in the regions came from mass media as initial information. The speed with which social media can easily be accessed by the public often helps television journalists to identify disasters occurred in an area. However, according to most journalists, such information is not used as coverage information because it still requires confirmation and verification. The next source for obtaining disaster information is group chat. Group chat in applications such as WhatsApp and Line is a source to get disaster information. The groups usually consist of journalists, whether television, print or online, who share information about disasters. There are also official group chats of government agencies as channels of communication for journalists and officials such as BNPB (National Agency for Disaster Mitigation), BPBD (Regional Disaster Mitigation Agency), or journalist groups with police and SAR agency. The interview data also gave rise to at least two other sources of information, namely mass media and direct sources. About five journalists stated they still rely on other mass media such as online media as a source of disaster information.

Journalist of CNN Indonesia for West Java area Fathuzzaman explained that it is very important for journalists to immediately get information about disaster events. Since journalists are also in danger when covering disaster events, journalists should know the potential of disasters and how to handle them while on location. Disaster

information, according to him, has news value, such as the potential of disasters during the rainy season that need to be informed to the public so that they will be aware of, be prepared for, and know how to handle it.

*Model of Obtaining Disaster Information for Television Journalists via Smartphone*

In getting disaster information, television journalists have interconnected information flows. The flow of disaster information from television journalists has to go through several stages before it finally circulate in the community, as illustrated in Figure 3 below.



**Figure 3.** Model of Disaster Information Flow of Television Journalist  
Source: Researchers' Analysis

Based on the results of observations and interviews, the flow of disaster information of television journalists in West Java entirely uses smartphone technology to obtain disaster information. Through smartphones, television journalists get disaster information from online media, group chat, and social media. Technology has been predicted to become one of the tools that will always be used in the form of journalism in the future (Ntalakas, Dimoulas, Kalliris, & Veglis, 2017).

However, based on interviews, information in online media and group chat often comes from social media uploaded by the public. There is a correlation between the use of Instagram and visiting interest followers (D. Ahmadi & Adzhani, 2019).

Smartphone technology not only helps people to easily find disaster information, but also facilitates the dissemination of information in disaster situations. The use of smartphones and internet coverage in West Java which is utilized by the community in many areas has made the disaster information spread more quickly. The rapid dissemination of disaster information on social media by the public is accepted and disseminated in journalist chat groups and often directly posted on online media.

Kompas TV journalist Dede Ibin expressed his anxiety which was also felt by other television journalists regarding the speed of online

media and social media which actually made television journalists experience difficulties. Information that rapidly spreads on online media and social media is instantly accepted by the head office so that the coverage coordinator, producer, and manager demand television journalists to quickly produce disaster news. In fact, it frequently happens that instructions from the head office pays no attention to the location of the disaster and the distance that must be traveled by the journalists.

Due to the speed of information spreading, television journalists are required to quickly have information on the number of victims and how the disaster occurred. In fact, according to Dede, many online media take unverified sources and cite unknown sources or they even just grab news from social media that displayed disaster news without conducting a fact check at the real scene. Television journalists who need videos and pictures must be on standby at the scene of disaster for 24 hours. Dede admitted that sometimes information from the head office was inaccurate because they relied on information posted on social media.

Bulletin TV journalist Agus Firman added that television journalists in Ciamis, for example, have contact of residents from various circles. Journalists can get information from that network. If a disaster occurs, for instance, journalists can immediately get the latest video recordings and disaster information. Admittedly, there are times

when some journalists report on the disasters before officers arrive at the location because journalists have already obtained information on the disaster from the public first; or social media reported it in advance so that the officers knew it.

RCTI journalist Asep gave an example that when tsunami hit Pangandaran, Cipatujah area also experienced a quite concerning impact. Unfortunately, none of the journalists visited there to report the incident, so that the aid was only sent to Pangandaran, not Cipatujah. After reporters obtained information and came to the location, then the aid came. This means that media have a big impact and play a very important role in handling disasters quickly because the information spread will soon be found out by the authorized officials.

Inews TV producer Arif Perkasa in the interview explained that disaster information can come from anywhere. Disaster information flow from the field does not always become the main source. According to him, TV producers and coverage coordinators can find out disaster information from disaster monitoring institutions or agencies such as the BMKG or BNPB information center.

Information from online and social media is easy to obtain, but apart from asking field reporters to check location of the incident, producers or coverage coordinators also try to find information and ask for confirmations from the authorized officials or institutions. One of the ways to win the competition in terms of news speed is to broadcast disaster news in advance with confirmation from residents or officers via telephone. Television media compete with each other in reporting news quickly, especially for live broadcasts (Haryanto, 2018). The broadcast news is expected to lure the public and officials to get the latest information and spread it back on social media or confirm to the news.

In the interview, TV One coverage coordinator Windy Herdiawan explained that disaster information was monitored through various accessible platforms. Social network accounts of BPBD SAR Nasional (national rescue) and BMKG always upload information on earthquakes and floods. There is also an application to monitor flood, floodgates, and water levels that can be installed on smartphones. This application welcomes the community to upload videos and photos at the disaster site to help provide information. Although it provides disaster information, it is necessary to check and double check the information first. In Sukabumi flood occurred recently, Windy gave an example there were actually many videos and photos of tsunami in Japan falsely shared as if they were from

Sukabumi which disturbed the public. Therefore, confirmation is crucial to avoid the television to broadcast the wrong video.

The coverage coordinator is responsible for confirming information from both field reporters and the network of information sources. A video that has already spread online can only be broadcast on TV if it has been confirmed. The coverage coordinator uses smartphones to access disaster information sources. While confirming, if the competitor has aired the news on TV, then the superiors (manager and executive producer) will ask the truth of the news. Smartphones are more effective in today's technological era than in the past when people still relied on informants and police networks via amateur radio to get information.

Even now, in Windy's view, the police rarely use amateur radio information channels and tend to use smartphones to coordinate between officers. In addition, smartphones provide facilities for the community to actively get involved in social media by sharing disaster information quickly. The following picture is a sample of application (Pantau Banjir) that monitors floods on smartphone. Smartphone is considered to help complete work with a number of features (Karataş, 2019).

TV One coverage coordinator Herdi Herdiansyah, who is also the Head of West Java Bureau, added that as a former field reporter he had his own network of information sources. He did not always rely on one source, but asked for information from the police and the community. It is quite important to get information from the community because they have a better understanding of what happened. Field reporters can also get the wrong information from social media. This is why the coverage coordinator needs to have a broad network and not merely rely on information on the internet. Television journalists must have informants and networks in remote areas to avoid being trapped by false/fake news spread on social media. When the TV airs inaccurate videos or news and reporters accidentally report the wrong information, it is the responsibility of coverage coordinator and producer to fact-check and immediately make clarifying reports. However, admittedly, when a reporter does a live report, it is quite hard to monitor the information being conveyed.

Head of West Java Bureau of CNN Indonesia M. Asri Rasma explained that through smartphone technology which contain a variety of information, disaster information in the regions can be quickly received by many parties in television stations, including reporter, coverage coordinators, producers, and news gathering managers.

Dissemination of information on social media, online media, and journalist and disaster agency chat groups contain information on disaster events in various regions. People who have a knowledge of how to use social media can help journalists and officers to get information about disaster locations. However, television stations admit that disaster information on social media is mostly inaccurate and incomplete, making it difficult to fulfill the newsworthiness of disaster reporting.

Managers, producers, or coverage coordinators who receive disaster information need to ask field reporter to check and cover disaster sites. The coverage coordinator can contact the West Java bureau or directly asks field reporter in disaster area for confirmation and verification of information spreading on social media or appearing on online media. The head of bureau will contact field reporters in the disaster area and instruct them to do coverage. Television journalists in disaster areas of West Java will immediately go to the location to check the truth of the information. Journalist must be sensitive to disaster. Before visiting the disaster area, reporters need to confirm to local officials or residents about information on disasters that hit the area. (Sukmono, Filosa & Junaedi, 2018).

When journalists cover the disaster, the community also spreads information through social media. They even document journalists' coverage and upload it on social media. Not only residents, but also local governments and agencies disseminate information through social media. Disaster emergency agencies such as the Regional Disaster Mitigation Agency (BPBD) convey information in the form of early warnings to villages and urban villages or to disaster volunteer communities via radio, SMS Gateway, word of mouth, blogs, Twitter and Facebook (Kurniasih, 2017). The actions of government or local officials in dealing with the disaster are not only about disseminating information, but also as documentation and institutional promotion. Dissemination of disaster information by citizens and government agencies as well as authorized officials is monitored by television journalists.

## Conclusion

The results of the study showed that to obtain disaster information, television journalists in West Java mostly use smartphones to access various sources of information, including through group chat, social media, or even online media that has speed in reporting. Based on the resulting research model, television journalists in West Java employ technology and networks to immediately get disaster information before the information spreads

on social media and is reported on online media. Television journalists use a network of local information sources and cooperate with the community in disseminating disaster information.

Information is disseminated through journalist chat groups, which usually have institutions or agencies authorized to provide confirmation. Based on the findings of disaster information flow pattern model, television journalists in West Java obtain disaster information not only from a network of information sources; there is a head of bureau and coverage coordinator at each TV station in charge of monitoring events taking place in the regions.

Field reporters use smartphones with group chat features and access to social media and the internet as a source of information on events including disasters. The flow of information from field reporters is not the only source of news because television media is competing in terms of speed. Although field reporters have not been able to confirm disaster events, producers can broadcast the news by confirming in advance to other sources of information such as institutions, eyewitnesses, or local officials by phone.

Journalists admit that public participation in disaster information cycle is indispensable, especially those who live in disaster locations that are hard to reach. The ease of using smartphones in the community and the expansion of internet network in the regions have made disaster information disseminated faster and easier. The right pattern of disaster information by involving technology and the community will enable disaster mitigation to be quickly implemented in every region in Indonesia.

Nevertheless, television journalists are disturbed by the speed of information published online even though it is not proven valid. Information from social media and online media is only initial information that requires verification and reconfirmation. Television journalists feel bothered by the information on social media whose truth has not been confirmed but has reached their superiors so that they are required to quickly confirm the information even though the location of the incident cannot be quickly and easily accessed.

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## References

- Adiyoso, W., & Kanegae, H. (2017). Tsunami Resilient Preparedness Indicators: The Effects of Integrating Religious Teaching and Roles of Religious Leaders. [https://doi.org/10.1007/978-3-319-54466-3\\_23](https://doi.org/10.1007/978-3-319-54466-3_23).
- Ahmadi, D., & Adzhani, A. V. (2019). The use Instagram with visiting interest: The correlation between the use @littlecollins.bdg Instagram with visiting interest. *Journal of Physics: Conference Series*, 1375(1), 1–6. <https://doi.org/10.1088/1742-6596/1375/1/012055>
- Ahmadi, D., Rachmiatie, A., & Nursyawal. (2019). Public participation model for public information disclosure. *Jurnal Komunikasi: Malaysian Journal of Communication*, 35(4), 305–321. <https://doi.org/10.17576/JKMJC-2019-3504-19>
- Badan Nasional Penanggulangan Bencana. (2016). Risiko Bencana Indonesia (Disasters Risk of Indonesia). *International Journal of Disaster Risk Science*, 9(01), 121–142. <https://doi.org/10.1007/s13753-018-0186-5>
- Çatal, Ö. (2017). New technologies challenging the practice of journalism and the impact of education: Case of Northern Cyprus. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(11), 7463–7472. <https://doi.org/10.12973/ejmste/79975>
- Cottle, S. (2013). Journalists Witnessing Disaster: From the calculus of death to the injunction to care. *Journalism Studies*, 14(2), 232–248. <https://doi.org/10.1080/1461670X.2012.718556>
- Djamba, Y. K., & Neuman, W. L. (2002). Social Research Methods: Qualitative and Quantitative Approaches. In *Teaching Sociology* (Vol. 30). <https://doi.org/10.2307/3211488>
- Folb, B. L., Detlefsen, E. G., Quinn, S. C., Barron, G., & Trauth, J. M. (2010). Information practices of disaster preparedness professionals in multidisciplinary groups. *Proceedings of the ASIST Annual Meeting*, 47. <https://doi.org/10.1002/meet.14504701223>.
- Golung, E.M.A., (2019). Peranan Jurnalis Media Televisi Dalam Proses Pemulihan Korban Bencana Alam di Kota Palu (Studi Pada Palu TV). *Ejournal.unsrat.ac.id*.
- Haryanto, I. (2018). Performa Media, Jurnalisme Empati, dan Jurnalisme Bencana: Kinerja Televisi Indonesia dalam Peliputan Bencana (Kasus Liputan TV One terhadap Hilangnya Air Asia QZ 8501). *Ultimacomm*, 8(1), 77–89. <https://doi.org/10.31937/ultimacomm.v8i1.818>
- Hoey, P. (2017). Evaluating the Role of the Internet and Mainstream News Journalism in the Development of the Northern Ireland Peace Process. *Digital Technology and Journalism: An International Comparative Perspective*, 1–367. <https://doi.org/10.1007/978-3-319-55026-8>
- Juditha, C., (2014). Etika Jurnalisme Bencana dalam Berita Televisi (Bencana Gunung Berapi Sinabung di TVone). *Jurnal Komunikasi*, 6(1). 24–40.
- Karataş, E. (2019). A Case Study on the Positive Effects of Smartphone Usage in Postgraduate Education A Case Study on the Positive Effects of Smartphone Usage in Postgraduate Education. *Lisansüstü Eğitimde Akıllı Cep Telefonu Kullanımının Olumlu Etkileri Üzerine Bir Durum Ça*. (January). <https://doi.org/10.14686/buefad.402975>
- Kurniasih, N. (2017). The Model of Disaster Information Dissemination Based on Volunteer Communities: A Case Study of Volunteer Communities in Bandung Regency, West Java, Indonesia. (4), 285–313. <https://doi.org/10.31227/osf.io/687dv>
- Leavy, P. (2017). *Research Design: Quantitative, Qualitative, Mix Methods*. New York: Guildford Press.
- Marlyono, S. G., Pasya, G. K., & Nandi. (2016). Peranan Literasi Informasi Bencana Terhadap Kesiapsiagaan Bencana Masyarakat Jawa Barat. *Gea. Jurnal Pendidikan Geografi*, 16(2), 116–123.
- Mc Quail, D. (2010). Reading McQuail's Mass Communication Theory.
- Nandakumar, T., (2017). Digital Technology, Journalism and Politics in Sri Lanka's Ethnic Conflict. *Digital Technology and Journalism: An International Comparative Perspective*, 1–367. <https://doi.org/10.1007/978-3-319-55026-8>



- Ntalakas, A., Dimoulas, C. A., Kalliris, G., & Veglis, A. (2017). Drone Journalism: Generating Immersive Experiences. *Journal of Media Critiques*, 3(11), 187–199. <https://doi.org/10.17349/jmcl117317>
- Nugroho, S. P., & Sulistyorini, D. (2018). Komunikasi Bencana: Membedah Relasi BNPB dengan Media. In Pusat Data, Informasi dan Hubungan Masyarakat, Badan Nasional Penanggulangan Bencana.
- Ogie, R. I., & Verstaavel, N. (2020). Disaster informatics: An overview. *Progress in Disaster Science*, 7, 100111. <https://doi.org/10.1016/j.pdisas.2020.100111>
- Örnebring, H. (2010). Technology and journalism-as-labour: Historical perspectives. *Journalism*, 11(1), 57–74. <https://doi.org/10.1177/1464884909350644>
- Panuju, R. (2018). Etika Jurnalistik dan Jurnalisme Bencana pada Pemberitaan Gunung Agung di Portal Berita Balipost.com. *Jurnal Ilmu Komunikasi*, 15(2), 219. <https://doi.org/10.24002/jik.v15i2.1455>
- Pavlik, J. (2000). The Impact of Technology on Journalism. *Journalism Studies*, 1(2), 229–237. <https://doi.org/10.1080/14616700050028226>
- Perreault, G., & Stanfield, K. (2019). Mobile Journalism as Lifestyle Journalism?: Field Theory in the integration of mobile in the newsroom and mobile journalist role conception. *Journalism Practice*, 13(3), 331–348. <https://doi.org/10.1080/17512786.2018.1424021>
- Prajarto, N. (2008). Bencana, Informasi, dan Keterlibatan Media. *Jurnal Ilmu Sosial dan Ilmu Politik*, 11(3), 287–306. <https://doi.org/https://doi.org/10.22146/jsp.10989>
- Prevention, D. (2018). *Postprint*.
- Rochimah, Tri Hastuti Nur., F. J. (2009). Peliputan Dan Reportase Televisi Di Lokasi Bencana: Sebuah Pengalaman Dari Erupsi Merapi 2010. *Nature Geoscience*, 2 (5), 370. <https://doi.org/10.1038/ngeo509>
- Ruswandi, R., Saefuddin, A., Mangkuprawira, S., Riani, E., & Kardono, P. (2008). Identifikasi Potensi Bencana Alam dan Upaya Mitigasi yang Paling Sesuai Diterapkan di Pesisir Indramayu dan Ciamis. *Jurnal Riset Geologi Dan Pertambangan*, 18(2), 1. <https://doi.org/10.14203/risetgeotam2008.v18.12>
- Sanusi, H. (2018). Jurnalisme dan Bencana (Refleksi Peran Jurnalis dalam Liputan Bencana Gempa, Tsunami dan Likuifaksi Palu-Donggala). *Jurnal Jurnalisa*, 4(2), 211–225. <https://doi.org/10.24252/jurnalisa.v4i2.6895>
- Sreedharan, C., Thorsen, E., & Sharma, N. (2019). Disaster Journalism Building media resilience in Nepal. Retrieved from <https://www.aftershocknepal.com/disaster-journalism-book>.
- Susanto, Eko Harry., HH, Setio Budi., A. G.B. Lucinda., Lestari, Puji., Chandra, Ade., Ari, Ahmad., Badri, M., Astuti, Santi Indra., Junaedi, Fajar (2015). Komunikasi Bencana. *Tecnia Research and Innovation*. Retrieved from <http://www.ikasi4education.com/es-es/project.aspx>.
- Sukmono, F.G., Junaedi, F., (2018). Jurnalisme Sensitif Bencana dalam Manajemen Pencarian, Pengelolaan, Informasi dan Pemberitahuan Bencana di Ruang Redaksi. *ASPIKOM*, 3(4), 712–721.
- Steelman, T. A., Nowell, B., Bayoumi, D., & McCaffrey, S. (2014). Understanding Information Exchange During Disaster Response: Methodological Insights From Infocentric Analysis. *In Administration and Society*, 46. <https://doi.org/10.1177/0095399712469198>
- Su, C. (2017). The Roles of Online Alternative Media in Facilitating Civil Society Development in Macau: The Case Study of Macau Concealers and All About Macau Media. *Digital Technology and Journalism: An International Comparative Perspective*, 1–367. <https://doi.org/10.1007/978-3-319-55026-8>
- Sukmono, F. G., & Junedi, F. (2018). Menggagas Jurnalisme Optimis dalam Pemberitaan tentang Bencana. *Jurnal Ilmu Komunikasi*, 15(1), 107–119. <https://doi.org/10.24002/jik.v15i1.882>
- Supartini, E., Kumalasari, N., Andry, D., Susilastuti, Fitrianasari, I., Tarigan, J., Nugri, R. (2017). Membangun Kesadaran, Kewaspadaan, dan Kesiapsiagaan dalam Menghadapi Bencana. *Buku Pedoman Latihan Kesiapsiagaan Bencana*, 1(1), 59. <https://doi.org/10.24198/jkk.v1i1.6031>
- Tandoc, E. C., & Takahashi, B. (2018). Journalists are humans, too: A phenomenology of covering the strongest storm on earth. *Journalism*, 19(7), 917–933. <https://doi.org/10.1177/1464884916657518>
- Tong, J., & Lo, S. H. (2017). Digital technology

and journalism: An International comparative perspective. *Digital Technology and Journalism: An International Comparative Perspective*, 1–367. <https://doi.org/10.1007/978-3-319-55026-8>.

Touri, Maria. I. K. and S. T. (2017). Journalism Culture and Professional Identity in Transit: Technology, Crisis and Opportunity in the Greek Media. *Digital Technology and Journalism: An International Comparative Perspective*, 1–367. <https://doi.org/10.1007/978-3-319-55026-8>