Analyzing The Factor and Work Model of Environmental Journalist in Renewable Energy

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Abstract. This quantitative research aimed to analyse environmental journalists' factors and work models in renewable energy. This study found that circumstance factors and the media agenda determine journalistic work. In presenting environmental topics, it is influenced by how the decision factor editors and journalists determine whether this coverage will be explored. The deadline time and the target given by the editor make in-depth environmental news coverage rarely applied by journalists on common media platforms. In environmental news coverage, technical factors such as understanding the topic, data accuracy, reliability, and confirmation statement from expert sources influence the journalists' in-depth coverage.

Keywords: Environmental communication, Science and media, Science communication: theory and models

1. Introduction

Media has a vital role as the agent in information disseminator, such as environmental issues. The media will point out the attention, persuade the opinion and assumption, influence the attitude choices choice, provide status and legitimation, define and build the realistic perception (MacQuail, 2001). It can be achieved if the media has qualified journalistic coverage. In this context, the role of journalists in media is crucial. Environmental journalism has become a critical review based on various topics and journalism scope. It occurs since the apprehension and environmental problems are improved globally. Meanwhile, the Sustainable Development Goals (SDGs) as the guidelines to establish future development that still pays attention to aspects of environmental sustainability and adjustment (United Nations, 2021).

Factually, environmental journalism's scope is same as other news products, namely a series of news making such as collecting, processing, and publishing the news information. Meanwhile, its topic focuses on many environmental issues and living environmental continuity (Abrar, 1993; Bast, 2000). Thus, the environmental coverage is not getting notice as much as the popular topics. It is considered the media to have a big impact on the public, like an economic issue, the general political and

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35 social dominate the news. It is in line with this research, not many journalists have an understanding of environmental issues. In fact, environmental topics will increase and develop rapidly in the future.

Based on the media coverage study, Sigit's findings stated that not all journalists in Indonesia who mainly write related the environmental problem, which has become global notice. Even if there is, it is generally still in the form of straight news or

40 because there is news material based on a third-party press release (Sigit and Napitupulu, 2020). Meanwhile, the Sociologist Communication expert named Triyono Lukmantoro gives an overview of why environmental journalism does not get a good position in the media; he argues that environmental coverage requires particular skills and knowledge about non-human aspects such as water, air, and land. Based on an environmental perspective, all of them have low quality (Kementerian Lingkungan Hidup dan Kehutanan, 2012).

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Furthermore, one of the critical environmental issues in two decades is the climate change caused by the greenhouse gas effect and fossil fuel. Then, several people mention that the term climate change has change into a climate crisis contextually (Carrington, 2019). In addition, there are several strong environmental changes such as the increasing level of CO2, frequency of extreme weather, and the rising of global temperatures. Therefore, the world has found the alternative way to change the

50 conventional fossil energy. It becomes the most significant threat of ozone depletion, the mantle layer of the earth's protective atmosphere, with renewable energy-based energy sources. It is inseparable from the fact that renewable energy sources are cleaner in releasing carbon emissions. Meanwhile, the public perception regarding environmental problems is frightening. It is caused by increasing air pollution, decreasing quality and groundwater reserves, a limited number of people who care about the environment, and many violations of spatial planning and land (Palupi, 2014).

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Then, the climate journalism is needed since it has good knowledge and insight related environment overtime. It will help the people and other parties in delivering the information related environmental issues. Despite the fact that an early poll of US journalists revealed significant gaps in their knowledge of climate change, subsequent studies have demonstrated that journalists' (average) awareness of the topic is greater than that of decision-makers, NGO representatives, and others. In

60 addition, new research indicates that the majority of "climate journalists" share the IPCC's perspective on climate change (Schäfer, 2015).

Nowadays, Indonesia still depend on fuel oil and coal; both are non-renewable energy (Syahni, 2018). Besides, Indonesia's annual greenhouse gas emissions were 2.4 billion tonnes of CO2 equivalent (GtCO2e) in 2015, representing 4.8 percent of

65 total global emissions (Dunne, 2019). The government has built the map of the energy fulfilment roadmap. Inside the National Energy General Plan (NEGN), it can be seen as the desired future development direction. In that document, the government supports increasing renewable energy as an essential element of the energy mix to promote a low-carbon and sustainable green economy system.

Commented [M1]: The strong environmental change we are experiencing

Commented [M2]: Public perception related environmental problems

Commented [M3]: Why climate journalism could help

70 Gradually the direction of the policy began to appear. If in 2015, the contribution of renewable energy is still around 5%, it will move up. In 2025, the renewable energy mix's target will reach 23 percent; and will continue to increase to 31 percent by 2050 (DEN-RI, 2014). Nevertheless, the fact in the field is different; renewable energy projects often find stalled due to the lack of a technology ecosystem's development, human resources, and equipment spare parts that are always available. Thus, from the user's sight, the community needs time to adapt to accept to be fully receptive to this renewable energy. Thus, it is

75 known by the public through the news made delivery by journalists. Furthermore, journalists have essential role as the spearhead of news products. They must carry out journalistic coverage and work that demands insight and writing skills. A journalist must also have ethical and moral responsibilities for each of his journalistic activities (Fadli, 2018).

Meanwhile, in the 144 nations and territories surveyed by the 2018 Wellcome Global Monitor, public trust in journalists varies

80 significantly. From 12% in Greece to 93% in Uzbekistan, the proportion of global citizens who express at least some trust in journalists varies. The median level of trust in journalists throughout the world is 59%, the same as in the United States. In democratic and non-democratic nations, the median level of trust in journalists is approximately 60 percent. Nonetheless, sentiments within these types of political systems vary significantly (Ritter, 2019).

> **Commented [M4]:** The level of trust public have in journalist

85 In supporting the success of their duties, the work environment formed by economic, social, politic, and technology connected with the component of commercial ethics, regulation, and culture influence the journalists (Simon, 2009). Whereas in studying environmental journalism, there is a strong influence of socio-political factors and the effect of political and industrial interests (Anderson & Anderson, 2009; Boykoff & Luedecke, 2016). Thus, the factors of public interest and response will encourage the media crew such as journalist and redaction to produce more news and coverage of aspects that are increasingly attracting

90 the attention of media readers. Further, the environmental journalism and science journalism have an interrelated relationship. This is because environmental topics are included in science. It involves writing informative summaries of relevant findings, consulting expert scientists and researchers and conveying information in a way that non-specialist audiences can understand. Writers must be able to simplify complex ideas and jargon without losing accuracy (Jones, 2019).

> **Commented [M5]:** The relationship of environmental and science journalism

In answering the research problems above, thus this research aims to (1) identify the factor which influences the journalist's

95 work in covering the environmental news, particularly renewable energy topics, (2) mapping the journalist's position on environmental topics through four-dimensional models.

Besides, the advantage of this research is a public reference for getting, digesting, and deciding the best way for nature
100 management and the environment in the future. Sudibyo, (2014) stated that environmental journalism will encourage the public
to environmental journalism as follows:

1. Gain social awareness related to the environment,
2. Help the society in obtaining adequate information to determine attitudes in environmental cases,
3. Motivate the community to act,
105 4. Urge the government to consider environmental information as the basis for actions and policies, and
5. Provide recommendations to the government regarding efforts to preserve and control the environment.

2. Research Method

2.1. Data Collection and Analysis Method

The data collected in this research used the survey method to collect respondent information through online questionnaires.
110 This survey is exploratory to understand the problems faced by journalists in covering environmental topics. The questions
made in this survey are divided into two types: the type of closed question, which provides answer choices for the respondent,
and the type of open question, which provides a response based on the understanding and experience of the respondent. In this
survey, there are two types of questions: the type of closed question, which provides answer choices for the respondent, and
the type of open question. It provides a response based on the understanding and experience of the respondent.

115 The data obtained to identify the main factors considered necessary in the proposed topic. The online questionnaire was applied
because it has accessible data collection and access to information, including processing quantitative descriptive data and
further analysis. Meanwhile, the question in the circumstances or a situation where there is a process of attraction and causation
(Keraf, 2010). Thus, the logical action is needed for justifying the logical principles.

In analysing the position, this research will use a model approach by Stocking & Holstein, (2009) that investigate four-
120 dimensional position of a journalist as follows:

1. Disseminator: Journalists have prominent roles as a conduit of facts directly and quickly to the public. Its task is
   reporting the accuracy information through the informant. Besides, it also provides the opportunity for the public in
   deciding the information.
2. Investigator: Journalists as the role of the 'truth-of-fact investigator' performs functional interpretation and context.
125 They, conduct independent investigations and reject facts by the scientists, the government, and the private sector
   without sufficient verification.
3. Mobilizer: Journalists as the role of including many large audiences, voice concerns about one topic, push and set
   political agendas, and act as campaigners and messengers.

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4. Adversary: Journalists as 'parties are constantly skeptical' of parties' interests, such as officials, the private sector, and scientists. They place the other party's statement as a claim that needs to be dealt with.

2.2. Research Objective

This research is implemented to reach around 60 media journalists who have a minimum of 2 years of work experience as a journalist. The journalists involved in this survey live in three provinces, namely East Java, West Nusa Tenggara, and South Sulawesi. They are selected as the adaptive province representative in utilizing renewable energy through indications of policies and regulations at the local government level, support for international cooperation from world development agencies (BIRU, 2021). There has been the implementation of infrastructure development in renewable energy, both initiated by the government project and or private sector.

3.   Results and Discussions

3.1. Quantitative Descriptive Data Result

Based on (Table 1) showed that male dominates the respondent survey as many as 70% of females. Meanwhile, there were 40 journalist of online media who has filled out the questionnaires. Besides, there were 55% never cover renewable energy. Then, 58% of journalists cover renewable energy through the private initiative. Meanwhile, the journalist ever heard about renewable energy by 78% of journalists' responses. Besides, as many as 98% of the journalists are interested in covering the report about the renewable energy issues.

3.2. Qualitative Data Result

In this survey, the researcher shared the open question which can be filled by respondent, which is: 'What do journalists need to encourage coverage of renewable energy?'. The analysis which used to adopted the model of (Stocking & Holstein, 2009) implemented through clustering of respondents' answers (Table 2).

Next, the respondent answer which grouped to every group (total respondent = 54 peoples) for each position shows Disseminator (33 percent), Investigator (43 percent), Mobilizer (20 percent), and Adversary (3 percent). The weight of the percentage of respondents for each group can be seen in (Figure 1).

The Factor of Journalist Work in covering Renewable Energy

The news topic of living environmental is not the regular topic covered by media journalists working in the mainstream media. It shows that the result of respondent answer which is not covering the environmental report, specifically renewable energy. The researcher argues that the value of journalists' news, insight, and background taking part and factor that encourages coverage to become an environment where journalists do not widely work. Nevertheless, based on the survey answered by

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respondent, initiative and motivation of personal journalist also become more important push in order environmental topic become media news. This survey shows that more than half of respondent which answer said that making news on environmental topics was based on the journalists' wishes, more than the assignment of editors.

From the observations made on articles produced by journalists, the researchers found that the straight news writing style is the news choice. It seems to have reporting targets and assignments given by the editor to journalists, including attending press conferences or invitations for coverage from other parties. The news of events in the form of short report, timely and focus on what happened demand from the media where journalists work to fill out daily news reports. With the mandatory number and deadline for writing a number of incident news reports, which are usually used as an assessment of the work performance of journalists in the media, the time for exploration of journalists to explore specific issues is limited.

In depth-interview with several media journalists in this research, it was found that the main obstacle to environmental coverage felt by journalists was the limited number of sources and references in the coverage plan. The story which is constructed by journalist determined by the discourse that is formed, including network by journalist with interviewee (Lau, 2012). Journalists who have contact sources, background or work in institutions dealing with renewable energy, will usually have a lot of material and complete stories. Relationships that are built with government agencies, local governments, academics/lecturers and non-governmental organizations (NGOs), thus become a necessity.

This problem is interviewee as the source which can be cited by journalist at limited area level. Thus, journalist becomes difficult to implement the further analysis in the story or implement the confirmation about event that occurs. Sometimes when encountered, the job security despite having competence and authority, government or local government officials are not willing to provide an explanation when asked. Thus, based on 98 percent of journalist's respondents mentioned that they do not know about the renewable energy (EBT) policy made by the government or local government. In this condition, the renewable energy topic is not become knowledge and discourses in the public level. It also encourages that existing stakeholders have not put in place an agenda to create and invite journalists to be involved in disseminating this topic.

A similar phenomenon is found in various implementation initiatives at the community level. As change agents, there are not many stories that NGOs or other activists can offer for journalists to pick up. Based on the survey, 98 percent of journalist respondents said they did not know until they only knew vaguely about conditions and realities on the ground in the topic of renewable energy. In fact, there are many kinds of coverage that can be raised and have the potential to have high news value.

In this survey, it found that high internal motivation from journalist, where 98 percent respondent stated interested to know renewable energy topic and 90 percent stated willing to attend workshops or trainings in this theme to learn the systematic topics in this issue more systematically. It must be appreciate realizing the environmental subject such as the theme of sustainable development and in particular the topic of sustainable energy, covers broad issues involving economic, social, cultural and scientific dimensions of science that need to be studied comprehensively in story elements.

Further, the selection and special interests as above have to do with the background or experience they have. Journalist who has the proximity factor with the theme, whether driven by location, issue or background factor (such as educational background, having joined as environmentalist/personal hobby, spirit of activism and advocacy) will encourage material exploration and more complete news coverage. It is related with how the content of renewable energy should be created; the survey shows that this theme should be presented with more data and information on field conditions (investigation and fact disclosure). For journalist it is needed to implement observation and research, extracting information, conducting analysis, and making in-depth coverage. It is not just getting information from a third party, thus the base of problem (if there is an impact) and the fact of the benefits become important object to investigate.

On the other hand, the respondent argues that the journalist role is important as dissemination agent. Information about the important thing related with renewable energy must continue to be reported to public and the stakeholders. Journalist has a role as the socialization actor, giver of understanding and center of knowledge of important information (Patterson & Donsbagh, (1996).

Meanwhile, the minor result from this survey, depict opinion that journalist will have an important role in the driving and mobilization of discourse. Such as innovation actions and solutions that exist at the level of actors (government, private sector, and grass-roots). Journalists can be a moderating role in networking among stakeholders involved in the development of renewable energy. In a narrower choice of roles, this survey shows that the role of journalists as opponents of counter policies for practices that are not environmentally friendly and have the potential to threaten the future of people's lives. Journalists through their writings and analysis can act in a position as argumentative opposition.

It is also supported by data delivery and result's analysis which presented as counter discourse. As the part of news ethic, data objectivity, instead of information and data manipulation, in the context of reporting that is advocating is necessary compare with PALEN (1999). The researchers argue that in this context, the adversary position is medium. Meanwhile, realizing existence the topic related the renewable energy is not a controversial topic, otherwise, it should be encouraged. It is in line with the respondent answer of the importance of journalists in the role of disseminator.

3.3. Journalist Position Mapping in Environmental Topic (Renewable Energy) by Four-Dimensional Model

This research aims a new relational continuum in the axis of social practice (public outreach-field research) and the ordinal axis which represents the social transformation (praxis-discourse) compare with Roderick, (2018). For the purpose of model, this quadrant is added to the four-dimensional positions of journalists offered by Stocking and Holstein (2009).

In addition, the researchers add an exploratory narrative space (note the axis of the quadrant). The journalists do not only act as 'messenger' through quotes obtained from sources, which are written into news. Furthermore, through reflective narratives and discourse searches, journalists become transformative change agents. In this concept, the journalist role as the opening perspective and thinking, can be explored through communities formed by environmental journalists independently,

workshops facilitated by training associations, media and institutions that have concerns and interest in raising this issue. In addition, there is the groups of civil society organizations, observers, communities, and NGOs who care about this theme, a more in-depth search can also be carried out.

The deepening of the topic will ultimately provide reporting objectivity. By understanding the issues at hand, journalists can integrate and build storylines on the data, observation of facts, and the results of interviews they collect. In terms of activity (see ordinate in quadrant), we argue that journalists have a scope of work that only discloses, but extends from investigating problems (field work), to the ability to present and express issues in public (outreach work).

In this model, the 'cum' journalist activist will spend more time in 'investigator' and 'mobilizer' position. In conducting an investigation of necessary fact, which will ultimately be conveyed to the public by media. On more collaborative themes, the researchers argue journalists and editors can also choose the adversary position. It can be proven by review literature from Giannoulis and Botetzagiaz who stated that environmental journalism mostly covers various complex problems related to economic politics which causes the environmental problem. Previously, the environment journalism only raises traditional issues involving conservation. Nowadays, it turns into more contemporary issues related to pollution, environmental destruction, the human health and living creatures that live in earth (Giannoulis et al., 2010).

4. Conclusion

Based on the explanations above, it can be concluded that journalist work is determined by environmental factors and media agendas. Meanwhile, the presentation of environmental topics is influenced by how the trust factor in the news values. Then, the coverage will be explored by journalists. Besides, in the work of covering environmental news, in-depth journalistic analysts are influenced by technical factors such as understanding of the topic, accuracy and reliability of data, and confirmation from expert sources. In addition, mapping the journalist position, through the concept of existing theoretical models finds that journalist can move dynamically as investigators, disseminator, mobilizer, and adversaries. This model can be compared with the quadrant in the basic premise development. It related to social practice and social transformation described in the model as axis and ordinates. Thus, the researchers suggest that this model will be developed in the future studies.

Declaration of interests

The authors declare that they have no conflict of interest.

250 **Acknowledgments**

 The authors would like to say thanks to the university and other parties who supported this research.

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Table 1. Result of Respondent's Answer

Statements	Criteria	Amount	Frequency (%)
Gender	Male	38	70%
	Female	18	30%
Classified Journalist	Print media	6	11,1%
	Television media	1	1,9%
	Radio	7	13%
	Online	40	74%
Observed Data	Never Covering Environment (Renewable Energy)	30	55%
	At Least Once Cover Environment (Renewable Energy)	24	45%
At Least Once Cover Environment (Renewable Energy)	Personal Initiative	14	58%
	Editor's Assignment	9	38%
	Energy-Company Invitation	1	4%
The Journalist's Understanding about Government Policy related to Renewable Energy	Never heard	11	20%
	Heard but vaguely	42	78%
	Know it in detail	1	2%
Interest in Covering Renewable Energy	Interest	53	98%
	Not Interest	1	2%
The Journalist's Reason in Covering Renewable Energy	Interest if there were training or workshops related to renewable energy	49	90%
	Not Interest	5	10%

Table 2. Result of Respondent Answer

No	Position	Submitted Keywords
1	Disseminator	Information giver, public education agent, agent of socialization practice, promotor of advantages and benefits
2	Investigator	Root cause finder, observer & field study actor, data analyzer, in-depth coverage & investigation actor, information digger from key stakeholders, benefit fact finder
3	Mobilizer	Driving discourse on innovation and solution action, becoming a network actor & moderator
4	Adversery	Opponents of counter policies, argumentative opposition actors

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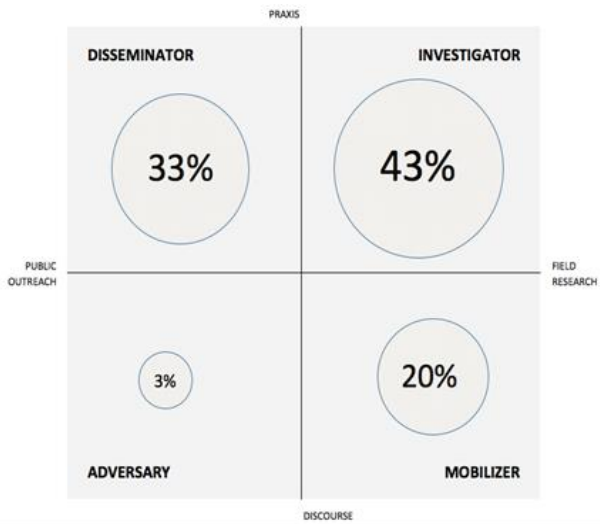
Figure 1. Journalist Position Quadrant (Percent) Based on Respondents' Answers

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