CONCEPTUALISING MEDIA LOGIC AMONG ONLINE CLIMATE CHANGE REPORTING IN MALAYSIA

¹ **Tan Kwang Shean**² Mohamad Saifudin Mohamad Saleh

³ Bahiyah Omar
School of Communication, Universiti Sains Malaysia
¹tankwangshean@student.usm.my, ²saifudinsaleh@usm.my, ³bahiyah@usm.my
Tarikh dihantar: 14 Februari 2022 / Tarikh diterima: 14 Jun 2022

Abstract The initial focus of media logic has populated the spectrum of political communication for almost two decades. However, with the growing interest in climate change reporting in Malaysia, media logic can be used to connect both the ideas of online media content creation and their aftereffects. Thus, this conceptual paper aims to examine the interrelationship between online climate change content production and the impact that is produced by it. This paper addresses the issues, concepts and objectives covering the forthcoming study through the various interdisciplinary works of literature. The significance of this paper is that it can be a supplementary reference for academics for their future research. Besides, the results of this future research may contribute insights into the media outlets in Malaysia concerning varying and strengthening climate change reporting. It will also be relevant to media providers and policymakers, who produce and draft the frameworks and schemes, to deliver climate change awareness and educate the public.

Keywords: Malaysia, climate change, media logic, online media, reporting

INTRODUCTION

According to the report of Climate Risk Country Profile, Malaysia in line with the World Bank Group and the Asian Development Bank in 2021, remains one of the most biodiverse countries globally that constantly battles with degradation of its ecosystems. This aspect has obligated Malaysia to keep up with sustainability and environmental concerns, where supports and ratifications of various policies and agendas have been made, such as Agenda 21 during the United Nations Conference on Environment and Development (UNCED), the Paris Climate Agreement in 2016, and the Malaysia's Eleventh (2016-2020) National Plans that have targeted on climate resilience enhancements (Mohamad Saifudin et al., 2018; Tan & Mohamad Saifudin, 2018; Tan, 2018).

Before studying the Malaysian context, this idea of battling one of humanity's challenges has been ongoing globally since the last decades; with the topic of climate change being globally emphasised and reported in the news media, scientists and environmental activists have been called to take initiatives and actions (Appelgren & Jonsson, 2021). With the global context giving extra spotlight on climate change, Malaysia's government has also started its agenda by restructuring the ministry since 2018. The whole catalysation has occurred when the Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC) is introduced in 2018 and is followed up with the changes, switching to the Ministry of Environment and Water in 2020.

This change of Malaysian governmental directions has given a clear cut of the rising awareness level within the institution. Therefore, environmental issues such as climate change may have their high and low on public interest over time, yet the peak is always referable towards the interest of institutions and policies that are being addressed with targeted focus (Torres, Vargas & Paavola, 2020). Without the interest of institutions, the media could not have given attention to climate change easily, especially when it comes to the discretion of the policymakers as well as developmental directions.

Aside from the institution's discretions, natural phenomena such as rising temperature and rainfall irregularities in Malaysia for the past two decades have provided solid reasoning for the studies of climate change to be conducted extensively (Tang, 2019). This has boosted the interests and motives of researchers and the public to seek further explanations within the existing climate change reporting in Malaysia.

Hence, it is critical to know that media outlets and journalists have been the key actors when it comes to engaging a sustainable society with a particular responsibility to educate and inform the public (Berglez, Olausson, & Ots, 2017; Hackett et al. 2017). The studies by Painter et al. (2018) and Bahiyah (2015) have shown that without a doubt the hike in the growth of the Internet has shifted the media landscape. This has also resulted from the public's attention and knowledge of climate change that are obtained from the news media itself (Schäfer & Painter, 2020).

Hansen's study in 2018 has also explained that climate change news will attract more media attention when (1) it is only event-oriented, (2) possesses a strong and attractive visual appeal, and (3) suits the nature of 24-hours news cycle. With this saying, the emergence of the online media has given the best choice for the public to fulfil its duty as a platform to disseminate information in a time saving and maximisation of audiences' reach out. Online media coverage as in reporting is expected to address the public's curiosity in terms of (1) how we come to know and (2) to know about environmental issues such as climate change which will be addressed, contested and, perhaps, resolved (Hansen, 2018, p.4).

With all the contexts mentioned, this study is here to examine the logic of media among the selected online media in Malaysia focusing on climate change reporting. This study will also give another perspective on the ways of climate change reporting being produced and introduced through Malaysia's point of view.

ISSUES WITH CLIMATE CHANGE REPORTING

Studies on climate change communication specifically in Malaysia have been conducted in a stagnant manner throughout the years whilst researchers from other countries have been actively engaging and dissecting the notion of climate change. From their studies, they have found that climate change reporting is to be seen as a policy agenda-setting (Carmichael & Brulle, 2016) as well as to deliver and impact the public's perceptions regarding climate change.

This has concluded that media reporting of climate change should be the key area of study in environmental communication. However, most of the studies were being spearheaded by western researchers and the context of the media coverage was still being revolved in the developed countries, e.g., in the US, the UK, Australia, or in European countries (Keller et al., 2019; Painter, 2014; Schäfer & Schlichting, 2014). This should have the same attention in Malaysia irrespective of developed, developing or underdeveloped countries, climate change is still penetrating their respective ecosystem, subsequently affecting the wellbeing and living situation of the public.

The study from Reis and Ballinger (2020) has also highlighted that climate change is a serious matter that has been affecting the global modern society. This can be further strengthened with regular reports that are released from The Intergovernmental Panel on Climate Change (IPCC) over the years, providing concrete analytical data those human activities are contributing 1.0°C of global warming above the pre-industrial level in 2018. Such data may not spike up any interest of the public, as Schäfer (2015) have explained the reason is that climate change is not easily observable firsthand (p. 853).

The content of climate change reporting in Malaysia can be meant to educate the public about the seriousness of it or the other way around, which can be a particular hidden political agenda. The public would not have the required thinking cap to determine the intention of such reporting released by the Malaysian media. Not to even mention, the sufficient information provided to the public for comparisons and verifications. The intentions of Malaysia's government can be appraised when the ministry reforms and emphasises on the environmental issue such as climate change. On the contrary, if the public is not equipped with the necessary knowledge on climate change issues, everything will be deemed to be ineffective with the goodwill of the government's initiatives. Therefore, the above discussion entails that Malaysia's audiences are often lacking the resources and information to understand the logic of media in climate change reporting.

MEDIA LOGIC AND ITS CONTEXT

Media logic started off in the realm of political communication where it is being commonly used as guidance to understand the context that is shared through the media. The initial notion of Altheide and Snow (1979) was to set a series of principles that come within the commonsense of the media institutions' intention of content delivery.

The media logic that is proposed by both Altheide and Snow (1992) is a process of media presenting and transmitting its information through various components such as (1) format and (2) characteristics of the interpret phenomena (p.11). Hence, Mazzoleni has studied and further elaborated that the proposed media logic by both of the pioneered researchers is a way of seeing and analysing social affairs (2008).

The aforementioned formats can be broken down into various elements such as (1) organisation, (2) style of writing, (3) focus or emphasis, and (4) grammar used in the media deliverance (Altheide & Snow, 1992). These elements were the essence of understanding the media production and context delivered. Media logic can be used to understand the patterns of how information and news are steered towards the public, where the media will gain the most of the logic's influences (Van Dijck & Poell, 2013).

Following recent years, Altheide has redefined media logic as a general framework for understanding the nature, impact, and relevance of media and information technologies for social life (Altheide, 2016, p. 1). This can be further utilised in understanding environmental reporting as the basic principle of media logic including events, actions, and the actors' performances that reflect information technologies, specifically the media that has been stated by Altheide in 2016.

The functionality of media logic goes along with the flow of social actors shaping online climate change reporting in Malaysia knowingly and unknowingly. Furthermore, with the new technologies that can reflect, refine, and contribute to social interaction, the communication order has been altered (Altheide, 2013). The importance to understand media logic in online climate change reporting is further explained by Altheide (2013) on the occurrence of media mediation to adjust the social and political context.

RESEARCH QUESTIONS

The conceptual paper intends to identify the links between the media logic and the climate change reporting among selected online media in Malaysia. As such, the research questions to be addressed are:

- a) How can the norms and standards be identified in the climate change reporting among selected online media in Malaysia?
- b) Are there implications of climate change reporting among selected online media in Malaysia?

SIGNIFICANCE OF STUDY

The answers to the above research questions can contribute data and the background of the issue to the Malaysian government. This can ensure that the government can amend and update its national policies with proactive steps to combat climate change. The reason is said to be due to the long-outdated policy Malaysia has for over 10 years, i.e., the 2010 National Policy in Climate Change.

Besides, the conceptual paper may contribute to the growing literature by offering insights into past literature and assessment of studies that have been conducted abroad and locally. As mentioned earlier, the booming internet has sped up the whole process of information dissemination. With minimal cost, online media can optimise the impact of information sharing especially when it comes to climate change matters. It is hoped that this can attract more attention and increase the awareness of climate change among Malaysians (Nor Jijidiana et al., 2015).

Various past studies on mainstream Malaysian media, for example, the studies by Mohamad Saifudin (2016), Nor Jijidiana et al. (2015), and Nik Norma (2007) have been carried out and analysed both quantitatively and qualitatively, yet there are few in-depth studies on the online media platforms of online climate change communication in Malaysia. With the information shared above, it will be a key factor to have studies addressing both reporting trends of online climate change reporting and further understanding of it happening in Malaysia. Studies done by past researchers only focuses on the traditional media whilst the transformation of media has gradually shifted towards online. Hence, this conceptual paper will be able to give an outlook of what can be done for future research and investigations by shedding the spotlight towards online media. This may ensure that the effectiveness of online climate change communication can be elevated and succeed in tackling the low consciousness of climate change awareness among Malaysians.

DISCUSSION OF LITERATURE

Climate Change Reporting

Generally, climate change reporting has always been the western researchers' attention point, where numerous past studies have been highlighted by them, such as those by Schäfer and Painter (2020) and Hansen (2018).

In recent years, numerous studies on climate change information is being framed and discussed in new media organisations. According to Saunders, Grasso and Hedges (2018), the researchers studied local British printed newspapers including the *Guardian*, *The Daily Telegraph*, *The Times* and *The Daily Mail* in reporting climate change articles. A total of eleven years of news coverage have been collected and analysed from 1997 to 2017 among the four selected printed newspapers. The study has successfully contributed to the literature on climate change reporting in two ways, which are the empirical data of news prompts on climate change media coverage and a comparison of the differential take-up of news prompts across left- and right-wing newspapers individually. However, only empirical data are provided in this study without any further justifications on the intention of local British newspapers in environmental news coverage.

Furthermore, the study by Emenyeonu and Bahtiar (2017) has examined the impacts of news authorship and news sources on environmental coverage in four printed Nigerian press; *The Guardian, Daily Trust, This Day*, and *Business Day* have been selected to undergo a quantitative content analysis. The study has also stated that officials and government sources are the dominant sources in environmental coverage. However, the study did not explain nor investigate further on official and government sources as the main reference in Nigerian Press. The study has also recommended that environmental journalists should be diversifying their sources to authenticate and balance their stories, and to give them different angles and perspectives other than those of the government officials.

Even so, in Malaysia's context, studies were often conducted by western researchers such as the 2016 study by Manzo and Padfield. The study collected data from five English language newspapers ranging from 2009 to 2011 with the aim to understand how climate change affected the development in Malaysia. This has given substantial narratives towards the local development and researchers to have the need to address climate induced change issues happening in Malaysia.

In Malaysia, Mustafa (2012) discussed the precise conflicts on environmental degradation. The study has debated on the Malaysian state and media freedom which relate to media ownership and political influence in news coverage. The findings of this study posit that low consciousness of environmental degradation has resulted from the conflict between competing interests over scarce resources of the authorities. Hence, the media did not play its role as an educator and communicator to inform the public on environmental degradation. The case study of mainstream press coverages including the *Star*, *New Straits Times*, and *Utusan Malaysia* from April 2011 to March 2013 on the Lynas Project in Pahang, Malaysia suggested that the mainstream media did a fairly good job on providing editorial spaces for the grouses, fears, and concerns of the local communities. Despite that, the mainstream media failed to provide a much-needed platform or space for discussion in the public domain. This showed that the media did not play its role and had not utilised this case although there were a few suggestions from the study for future journalists.

In addition, within Malaysian context, Ummi Nur Asyiqeen and Kesumawati (2017) discussed the climate change issue by analysing local newspapers' reporting, i.e., *The Star Online* and *New Straits Times*, from July to December 2016. Within that period, a total of 20 articles have been coded and analysed accordingly. They have found that scientists and professors are the primary news sources on climate change reporting, as both are considered the experts in climate change issues. In addition, the outcome of their study has also depicted that both newspapers have focused on the discussion of the cause and impact of climate change. To ensure that the information regarding climate change is conveyed accurately and is comprehensible, both newspapers have used simple language and sentences in their news writing.

From the reviewed literature, there is a pattern of analysis of content among the selected climate change reporting irrespective of international or local Malaysian context. The structure and content of the climate change reporting have been studied and are taken as a guideline of how it will influence the public with the possibility of a hidden agenda. By looking at the mentioned literature review, the research contents were very much focusing on traditional and printed media. Nevertheless, our current media has gone online globally with a wider outreach and faster pace of climate change information dissemination. The public no longer relies on sole information source which used to be the traditional media. On the contrary, different voices and sources can be found and verified with online media. This has given the golden opportunity of climate change communication to rise and attract the public's attention.

Media Logic Shaping Climate Change Reporting

Although the aforementioned media logic was often used in political communication, with the integration of multiple disciplines available in recent years, researchers managed to understand the media logic and had utilised it in the context of climate change reporting. This can be seen where media logic was not being put into good use in examining the news content production where the previous attention was emphasising on political communication. They have missed out the interesting part of media logic which relies on the process of news content creation to the staging of impacts brought by the communicated information.

As Denzin (2004) stated that the symbolic interactionism paradigm – including the process of news reporting and deliverance to public – can be understood as a form of social interaction which refers to the manifested meanings arose out from the processes of social interactives (p. 82). This has been aligned by Altheide's ideation of media logic's context in 2013 where he argued that the role of media technologies and communication formats have successfully shaped the spontaneous nature of communication and social interaction (p. 224). The reflexive nature of media communication can be dissected in terms of the content characters, interactions, forms, formats, etc. Therefore, media logic holds merit of shaping the interaction process, routinising the standards and institutional orders which then reflected in the media communication processes (Horlick-Jones & Farre, 2010).

In 2017, Brüggemann and Engesser utilised the norms and standards in media logic to study about climate change reporting. There was a total of 936 news samples from 2011 and 2012 among five selected countries- Germany, India, Switzerland, the United Kingdom, and the United States involved in the study. Accordingly, the content analysis method was conducted to analyse the specific period of climate change coverage in both stated years. Hence, the analysis justified the rationale of media events affecting the level of topic coverage intensity where climate change news was being primarily produced during the stated period.

Throughout the extensive study that has been conducted in 2017, the norms and standards have been identified as national bias, organisational bias, and institutional bias. The conclusion can be found when journalistic practices are a part of the media logic which relies on the journalist to interpret rather than having objective coverage. The news formats involving norms and standards can highly influenced the public discourse where the producer of news here – journalist – will determine the "way of seeing and interpreting social affairs" (Altheide, 2017, p. 73).

OPERATIONALISING NORMS AND STANDARDS

Table 1: Norms and Standards

Norms	Divided into two segmentations which are (1) independence and (2) objectivity (Asp, 2014).
	(1) Independence has been operationalised as the matter of how news media relates to social actors, institutions, and interests of the society (p. 261).
	(2) Objectivity can be understood as the obligation of fairness where the news journalist should be unbiased, and no views are being favoured and discounted; the news journalist should be informative, whereby the reports need to be accurate and relevant (p. 261).

Standards	Can be seen in two different sets of rules in producing news which constitute the news media logic. News is everything about content and form which rely on technology and grammar (Meyrowits, 1993).
	(1) Crafting rules is designed to understand how the news media processes news by facilitating and routinising them.
	(2) Forming rules that are utilising the notion of media technology in the making of content that fits a specific format such as text- based, visual, and digital media.
	(3) Grammar checking is concerned with the temporal (e.g., rhythm and deadlines), formative rules (e.g., article length), narrative rules (e.g., the inverted pyramid writing style), and composition of news media (e.g., domestic-foreign news) (Asp, 2014, p. 262).

CONCEPTUAL MODEL DEVELOPMENT

This conceptual paper attempts to determine the links between the media logic and the climate change reporting among the selected online media in Malaysia, namely, when it comes to media production by journalists up to the stage of releasing the news to the public. With the prior framework by Enli and Simonsen (2018) on their study of social media logic and professional norms together with the outline by Brüggemann and Engesser (2017), this study has proposed a research model for the context of online Malaysian media, as shown in Figure 1:

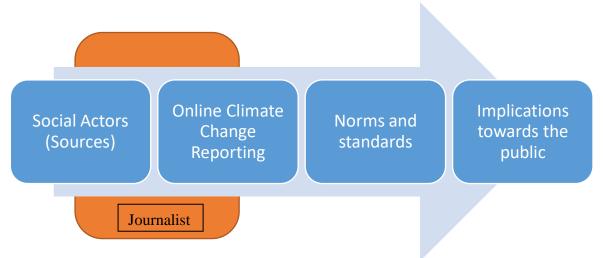


Figure 1: Proposed Conceptual Framework (Own Source)

The propositions for this study are as follows:

- P1: There is a positive influence on the norms used and practised by the journalists on producing the online climate change reporting.
- P2: There is a positive relationship between the standards acquired from the online climate change reporting and the news delivered to the public.

Based on Figure 1, the proposed conceptual framework illustrates the starting point of the social actors, which acts as a source to provide information and insights for the online climate change reporting. According to Das, Bacon and Zaman (2009), the political actors were

deemed to be major sources of news reporting as they were regarded as highly credible, and thus were obligated to voice their opinions on specific issues. This can further be shown in local studies, such as those by Tan and Mohamad Saifudin (2018), Ummi Nur Asyiqeen and Kesumawati (2017), Mohamad Saifudin (2016), and Lacy et al. (2013), whereby the conclusion is that the top frequently cited and referred source has either been the politicians or the scientists.

The study by Enli and Simonsen in 2018 has explained that the association of media logic with politics is not something new in the field. It plays a role in shaping the news product before sending it out to the public. Subsequently, there is a relationship between the news content and political actors when it comes to the news that is constructed by journalists (Habler, Maurer & Oschatz, 2014). This can further explain and show that in recent years political actors have been the key focus of analysis in climate change communication (Enli & Simonsen, 2018).

Notably, the framework of media logic can be seen as the norms and standards that are used in the construction of online climate change reporting that can result in specific implications for the public. Figure 1 has given an overall idea of the initial stage of news sourcing from the involvement of journalists and social actors to the stage where it feeds the public's curiosity. Throughout this process, the norms and standards that have been structured within the online climate change reporting content can be evaluated and analysed to further understand their implications.

CONCLUSIONS

The findings of this conceptual paper will provide a gateway to the study of the relationship between journalists' media logic and the Malaysian online climate change reporting. To proceed with the study, it is suggested to have mixed methods research to cross-check the data that have been obtained from online media and the notion of media production.

A wider and more extensive range of literature needs to be explored and obtained to gain a deeper insight into the proposed knowledge. Through this conceptual paper, it is hoped that it can contribute, and supplement works of literature for the reference of future researchers as well as to give an outlook to media providers and policymakers upon the full completion of the research.

ACKNOWLEGEMENT

This conceptual paper is a part of the master's degree thesis of Tan Kwang Shean under the School of Communication, Universiti Sains Malaysia co-supervised by Dr. Mohamad Saifudin Mohamad Saleh and Associate Professor Dr. Bahiyah Omar.

REFERENCES

- Altheide, D. L. & Snow, R. P. (1979). Media Logic. Beverly Hills, CA, USA: Sage.
- Altheide, D. L. & Snow, R. P. (1992). "Media Logic and Culture: Reply to Oakes." *International Journal of Politics*, Culture and Society. 5(3): 465-472.
- Altheide, D. L. (2013). Media logic, social control, and fear. *Communication Theory*, 23(3), 223-238.
- Altheide, D. L. (2016). Media Logic. *The International Encyclopedia of Political Communication*, 1–6.
- Altheide, D. L. (2017). Terrorism and the Politics of Fear. Rowman & Littlefield.
- Appelgren, E., & Jönsson, A. M. (2021). Engaging citizens for climate change—challenges for journalism. *Digital Journalism*, *9*(6), 755-772.

- Asp, K. (2014). News media logic in a new institutional perspective. *Journalism Studies*, 15(3), 256-270.
- Bahiyah, O. (2015). Teori media baru: Remediasi. *Antologi Esei Komunikasi: Teori, Isu dan Amalan (Penerbit USM)*. Penerbit USM.
- Berglez, P., Olausson, U., & Ots, M. (2017). What is sustainable journalism. *Integrating the environmental, social, and economic challenges of journalism New York: Peter Lang.*
- Brüggemann, M., & Engesser, S. (2017). Beyond false balance: How interpretive journalism shapes media coverage of climate change. *Global Environmental Change*, 42, 58-67.
- Denzin, N. K. (2004). Symbolic interactionism. A companion to qualitative research, 81-87.
- Emenyeonu, O. C., & Mohamad, B. (2017). News Authorship and News Sources: Impacts on Environmental Coverage in The Nigerian Press. *Jurnal The Messenger*, 9(2), 110-119.
- Enli, G., & Simonsen, C. A. (2018). 'Social media logic' meets professional norms: Twitter hashtags usage by journalists and politicians. *Information, Communication & Society*, 21(8), 1081-1096.
- Hackett, R. A., Forde, S., Gunster, S., & Foxwell-Norton, K. (2017). *Journalism and climate crisis: Public engagement, media alternatives*. Taylor & Francis.
- Hansen, A. (2018). Environment, media and communication. Routledge.
- Horlick-Jones, T., & Farre, J. (2010). On the communicative constitution of risk objects in mediated times. *Catalan Journal of Communication & Cultural Studies*, 2(2), 131-143.
- Keller, T. R., Hase, V., Thaker, J., Mahl, D., & Schäfer, M. S. (2020). News media coverage of climate change in India 1997–2016: Using automated content analysis to assess themes and topics. *Environmental Communication*, 14(2), 219-235.
- Manzo, K., & Padfield, R. (2016). Palm oil not polar bears: climate change and development in Malaysian media. *Transactions of the Institute of British Geographers*, 41(4), 460-476.
- Mazzoleni, G. (2008). Media logic. The international encyclopedia of communication.
- Meyrowitz, J. (1993). Images of media: Hidden ferment-and harmony-in the field. *Journal of communication*, 43, 55-55.
- Mohamad Saifudin, M. S. (2016). Environmental Communication among the Media and Environmental Non-Governmental Organisations (ENGOs) in Malaysia: A Roller Coaster Ride? (Doctoral dissertation, Universitätsbibliothek der Leuphana Universität Lüneburg).
- Mohamad Saifudin, M. S., Shaidatul Akma, A. K., Rani Ann, B., & Sharifah Nadiah, S. M. (2018). The Current Progress of Malaysian Media and Environmental Non-Governmental Organisations (ENGOs) in Environmental Education: An Evaluation. *Jurnal Komunikasi Borneo (JKoB)*, 38-49.
- Mustafa, A. K. (2012). Reporting the environment: Human rights, development and journalism in Malaysia. *Asia Pacific Media Educator*, 22(2), 253-262.
- Nik Norma, N. H. (2007). The representation of environmental news: a comparative study of the Malaysian and New Zealand press. New Zealand: University of Canterbury.
- Nor Jijidiana, A., Nor Azikin, M. O., Safawati Basirah, M. Z., Zanirah, W., & Akmah, Y. (2015). Media portrayal on global climate change: An analysis of Malaysian mainstream newspapers. *Studies in Media and Communication*, *3*(1), 73-78.
- Painter, J. (2014). Disaster averted? Television coverage of the 2013/14 IPCC's climate change reports.
- Painter, J., Kristiansen, S., & Schäfer, M. S. (2018). How 'digital-born' media cover climate change in comparison to legacy media: A case study of the COP 21 summit in Paris. *Global Environmental Change*, 48, 1-10.
- Reis, J., & Ballinger, R. C. (2020). Creating a climate for learning-experiences of educating existing and future decision-makers about climate change. *Marine Policy*, 111, 1-11.

- Saunders, C., Grasso, M. T., & Hedges, C. (2018). Attention to climate change in British newspapers in three attention cycles (1997–2017). *Geoforum*, *94*, 94-102.
- Schäfer, M. (2015). Climate change and the media. In *International encyclopedia of the social & behavioral sciences* (pp. 853-859). Elsevier.
- Schäfer, M. S., & Painter, J. (2020). Climate journalism in a changing media ecosystem: Assessing the production of climate change-related news around the world. WIREs Climate Change.
- Schäfer, M. S., & Schlichting, I. (2014). Media representations of climate change: A meta-analysis of the research field. *Environmental Communication*, 8(2), 142-160.
- Tan, K.S. & Mohamad Saifudin, M. S. (2018). Pemaparan Berita Perubahan Iklim Dalam Malaysiakini, The Malay Mail Online Dan Free Malaysia Today. *Jurnal Komunikasi Borneo*, Vol 6, 28-40.
- Tan, K.S. (2018). Online Media and News Sources: A Study of Climate Change News Reporting in MalaysiaKini, The Malay Mail Online and Free Malaysia Today. In Junaedi, F. & Prabowo, A. (Eds.), New Media in Disruption Era: A Challenge for Communication Research, Media, and Multiculturalism (1st ed., pp. 17-31). Indonesia: ASPIKOM.
- Tang, K. H. D. (2019). Climate change in Malaysia: Trends, contributors, impacts, mitigation and adaptations. *Science of the Total Environment*, 650, 1858-1871.
- Torres, A. B., Vargas, P. L., & Paavola, J. (2020). The systemic and governmental agendas in presidential attention to climate change in Mexico 1994–2018. *Nature communications*, 11(1), 1-11.
- Ummi Nur Asyiqeen, Z., & Kesumawati, A. B. (2017). Analisis Wacana Kritis terhadap Isu Perubahan Iklim di Malaysia. *Jurnal Linguistik*, 21(2), 36–47.
- Van Dijck, J., & Poell, T. (2013). Understanding social media logic. *Media and communication*, *I*(1), 2-14.