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Assessing the Relationships between Information Seeking, Motives of Using Social Media and Information Sharing on Haze and Air Pollution among IIUM Students

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Abstract: *Haze and air pollution have become a major problem among the Association of Southeast Asian Nations (ASEAN) countries. Haze occurs almost every year, mainly due to activities done by farmers and factories within this region. Little research has been conducted to find out how this issue is addressed by institutions of higher learning such as the International Islamic University of Malaysia (IIUM), especially by linking information seeking and information sharing using social platforms. Therefore, this study was set out to examine the information seeking and information sharing on haze and air pollution among IIUM students. Specifically, this study aimed to determine the relationship between information seeking, information sharing, and the motives for using social media among IIUM students during the occurrence of haze and air pollution. The study utilized the agenda setting theory to explain the relationship between the variables. A total of 389 respondents participated in the study. Based on the quantitative research design and the survey method with questionnaire as a data collection tool, the study found that students normally look for information on haze and air pollution from the Internet. Findings also revealed the existence of a strong significant relationship between all the variables in the study. The results translate that the more the respondents desire to seek information on haze and air pollution, the more they will want to share it on social media platforms. Overall, the agenda setting theory is supported in this study.*

Keywords: agenda setting theory, haze and air pollution, information seeking, information sharing, motives

1. Introduction

Background of the Study

As indicated by the World Health Organization (WHO), more than 7 million deaths or 1 in 8 of the number of deaths worldwide can be ascribed to indoor and open-air pollution, resulting in haze being viewed as one of the most perilous natural causes of cancer-related deaths.

The environment is a crucial part of the lives of human beings in society. Air pollution nowadays has become a serious cause for concern in Malaysia. It is getting harder to control day by day, becoming an immense threat for current and future generations. Haze causes serious air pollution; which Malaysia has been facing for the past 30 years. Haze is traditionally an atmospheric phenomenon in which dust, smoke, and other dry particles obscure the clarity of the sky. In recent years, people have become more interested in knowing the seriousness of haze through social media rather than mainstream media (Wu &

Li, 2017). As noted by some researchers such as Bastide, Moatti, and Fagnani (1989), mainstream media has frequently been used as a primary source of information about haze.

This paper examines the information seeking and information sharing on haze among International Islamic University Malaysia (IIUM) students. Specifically, this study focuses on the relationships of both information seeking and IIUM students' motives for using social media with information sharing.

Statement of the Problem

The haze phenomenon is not a new issue in Malaysia and the surrounding Association of Southeast Asian Nations (ASEAN) countries. Hence, it is not surprising that the issue has been of interest to many researchers in recent years. Haze is mostly caused by environmental degradation activities and industrial wastes from factories.

The signing of the ASEAN Agreement on Transboundary Haze Pollution on 10 June 2002 among ASEAN countries has resulted in increased efforts being exerted on stabilizing these countries and studying how they can further address the issue of haze and air pollution. These efforts include sharing updates of the periodic air pollution index (API) and finding possible permanent solutions to the issue. However, some sectors have not received adequate attention in resolving the issue, such as higher learning institutions. In IIUM, for example, the only solution for haze and air pollution thus far is by closing the university for a specific time period, but students are not provided with adequate information about how haze and air pollution can be prevented. This study views that students should seek information on various platforms about the causes of haze and air pollution, followed by sharing the information that they acquired with others.

Additionally, little research has been done to link information seeking and information sharing to institutions of higher learning, particularly IIUM. Therefore, this paper examines the levels of information seeking and information sharing among IIUM students regarding the haze issue as well as the relationships among information seeking, motives for using the social media, and information sharing on the same issue.

Research Objectives

This study aims to determine the information seeking and information sharing on haze and air pollution among IIUM students. Specifically, this study aims to:

1. Find out the level of information seeking about haze and air pollution among IIUM undergraduate students;
2. Examine IIUM undergraduate students' motives for using social media during the occurrence of haze and air pollution;
3. Ascertain the level of information sharing about haze and air pollution among IIUM undergraduate students; and
4. Investigate the relationships of information seeking and the motives for using social media with information sharing during a haze and air pollution crisis.

Significance of the Study

This study contributes to the existing body of knowledge on information seeking and information sharing through the underlying framework of agenda setting theory. Limited research has focused on institutions of higher learning even though these institutions are always closed whenever haze and air pollution occurs. Hence, this paper attempts to fill the research gaps on information seeking and information sharing on haze among IIUM students.

This study may also broaden the knowledge on the levels of information seeking and information sharing among IIUM students and other institutions of higher learning at large. The ASEAN Agreement on Transboundary Haze Pollution has been instrumental in keeping all the signatory countries alert of the common haze problem affecting those countries. Those countries share information and regular updates of the API statuses in their respective countries to enable them to track the occurrence of the problem. Therefore, this research hopes to help the ASEAN countries close the gaps in information sharing about haze amongst them.

The growing importance of the media as a source of information during times of uncertainty, the increasing popularity of social media, and the decline in global levels of media credibility (Edelman Trust Barometer, 2018) further stress the importance and need for research on the information seeking and information sharing among IIUM students regarding the haze issue.

Concerning practical implications, this study hopes to provide insight to media institutions, government agencies, and higher learning institutions into how information seeking and information sharing on different credible media can help address the haze and air pollution issue among students in higher learning institutions and the public at large. In achieving this aim, this study paves the way for further research by exploring the relationship between information seeking, the motives for using social media, information sharing during a haze and air pollution crisis.

2. Literature Review

Information Seeking on Haze

While information seeking has been studied extensively since the 1950s, the early studies mostly focused on information seeking among researchers and scientists. For the past 20 years, information seeking studies tended to focus on the general population, particularly student groups and communities. In 1983, James Krikelas created the principal model for the study of information seeking among the general population and student groups. This model proposed that the steps of information seeking are (1) seeing a need, (2) the search itself, (3) looking for or searching for the information, and (4) utilizing the information, which results in either satisfaction or dissatisfaction. Krikelas (cited in Weiler, 2005) expressed that "information-seeking starts when somebody sees that the present condition of learning is not ideal as it should be to solve certain issues. The procedure finishes when the perception no longer exists."

The field of information seeking behavior in Information Science can be defined as that which determines users' information needs and looks at behavior and the consequent utilization of information (Julien, 1996). It often seeks to understand how people look for and utilize information, the channels used to obtain information, and the factors that prevent or support the use of information, including consumer behavior, organizational decision-making, health communication, innovation research, and requirements in information design (Wilson, 1997). In this way, there exists a solid acknowledgment among information scientists of the interconnectivity of disciplines engaged with inquiring on all parts of information (Ikoja-Odongo & Mostert, 2005).

However, a growing importance that has been less explored is the circumstances in which situational attributes may present unique conditions for the information seeking behavior. Savolainen (1993) expresses situations as "the time-¬space context in which sense is

constructed" (p. 17). In the system of sense making, this implies circumstances are not objective attributes; however, they reflect people's reaction to a given circumstance.

Vakkari (1997), in expressing the significance of studying the impact of society, called for more consideration be paid to "activities, tasks and situations" that have fundamental powers in forming information behavior. Since the interpretation of a circumstance relies upon individual sense making, it infers that the study of situational components can be vague, since it can lie in a range from passive or reflexive monitoring of a circumstance to seeking answers for a particular issue (Waldron & Dervin, 1988). There are several information-seeking behavior models, for example, Dervi's sense-production approach that recognizes the importance and significance of context and time in the information-seeking behavior. Savolainen (2006) tried to conceptualize time by recognizing three parts of temporality: time connected with social factors to deliver informational behavior, time as a requirement for reducing and creating individual informational behavior, and time as a certain connection for linear activities-related informational behavior.

Allen (2011) provides experimental representations on what time-constrained information behavior can resemble. Such experimental work is crucial and more still needs to be done, and time is nevertheless one aspect of context.

Information Sharing on Haze

Digital media forums such as social networking sites, blogs, and other media tools are becoming part of the present day communication platforms for sharing important information with people's loved ones in a timely manner. This is so because of the wide user coverage and base that they hold in spreading information at a fast speed and in a viral manner. Organizations including governments have also become increasingly part of those that use social media platforms to interact with their people (Asuni & Farris, 2011; Mungiu-Pippidi, 2009) and audiences at large. For example, today, some organizations conduct surveys on social media platforms to obtain feedback from their clients and supporters, to gather opinions about a certain matter or subject of discussion, and to find solutions about how they can improve on a certain product or service (Pingitore, Li, Gigliotti, & Eckert, 2012; Wilkinson & Thelwall, 2012).

Aisha, Wok, Manaf, and Ismail (2015) in their study found that the victims of the 2014 floods in Malaysia were heavily reliant on WhatsApp and Facebook in seeking and sharing relevant information regarding the floods. This scenario further confirms that social platforms are the quickest forms of media that can transfer any kind of information in the shortest period of time during a calamity like haze. This is done through following the different platforms or celebrities that are massively followed for such information. Frequent use of these platforms during a calamity like haze consequently result in the development of sharing behavior of the same information being relayed on the different platforms (Aisha et al., 2015). Hence, social media platforms and advanced new technological communication gadgets play a crucial role during natural disasters like haze and air pollution.

Many users of social media that engage target audiences and share information have reported constructive results (Lewis, 2010; Mergel, 2010). However, they have also mentioned several reservations. The most significant reservation related to the usage of social media is the credibility of both the information shared and its sources. Hence, some organizations and people continue to rely on contemporary means of acquiring information and sharing it. Some governments may prefer fast means of sending out effective communication, which may include using a digital platform. Nevertheless, these governments have the obligation to cater

to their citizens that are still relying on other means of communication such as the newspapers, television and radio station to receive such information. A few people regard these old means as the only trusted sources for sharing and obtaining important information. Santana and Wood (2009) in their study, credibility of information sources was raised as a huge factor that can lead to effective usage of the information that is shared on media platforms. Information credibility can be defined as the ability to verify the information shared on selected media platforms.

Epistemologically, there are three main sources of information, which are, primary, secondary, and tertiary information. This categorization is built on the viewpoint of the information provider. Primary information includes unique resources that are created without going through explanation such as posting about an event, diary entries, telephone dialogues, and text messages. Secondary information refers to the information recorded in published books, journal articles, commentaries, and biographies. This symbolizes the interpretation and evaluation of primary information. Lastly, tertiary information refers to the gathering and or a combination of primary and secondary information such as encyclopedias, calendars, and fact books. Therefore, the shared information on social platforms can be regarded as primary, secondary, or tertiary based on the importance and vitality attached to the information shared.

In recent years, social media and other digital platforms have been increasingly used for responding to crises and forming situational awareness such as the occurrence of haze and air pollution (Qu, Huang, Zhang & Zhang, 2011; Starbird & Palen, 2012). Digital media platforms such as WhatsApp, Facebook, and Twitter have been actively solicited in such emergency situations to enable fast information reach to the intended audiences. These media platforms are often used in emergency situations including disaster occurrences like hazards, haze, and flood. The platforms are also engaged to solicit support and aid for the affected victims. Additionally, sometimes they are used to publicize the pictures, names, and addresses of missing persons so that relatives, friends, or anyone else can find them easily and help with reuniting them with their loved ones.

Other platforms like email, billboards, television, and radio also play the same role, although the rate of their dissemination is slow compared to that of the social media platforms. The sharing of information always depends on people's behavior and attitude towards the subject they want to share (Wang et al., 2018). The importance of information means that information sharing among people is not only a social and enjoyable activity but also a serious activity, in which the actual sharing of information is emphasized along with the quality of the information people share. Members of a certain group may be categorized according to their perceived usefulness and helpfulness of the information they share and select for further interactions in a given society. In addition, information sharing may extend beyond social, familiarity, or genealogical circles to the broader community and other areas of human lives.

Yang and Maxwell (2011) in their study offered a framework for information sharing by identifying a "highly social and pleasant" information behavior in which people store and recall the information needs of others and share the acquired information with others as well. Additionally, the researchers acknowledged that cognitive, affective, motivational, and procedural needs of people lead them to acquiring and sharing information. This is also applicable to the issue of sharing information on haze and air pollution. Some people simply do not know what to do in disasters, including during the occurrence of haze and air pollution. However, the sharing of information triggers their memory of the responsibility they hold over their lives. When a person acquires information about haze and air pollution,

they may feel encouraged to share it with others through other recognizable platforms they have access to that are convenient for them.

Taija and Hansen (2006) reported that people share information with their peers and the general public mainly to maintain a form of connection and sustain social relationships. Awareness about haze and air pollution has risen in recent years, especially after the signing of the transboundary haze agreement between ASEAN countries in 2002. The countries had acknowledged the haze issue for more than two decades and started to officially address the problem in 1995 with the establishment of the Haze Technical Task Force under the ASEAN Senior Officials on the Environment, which also doubles as the ASEAN committee designated to help tackle this regional issue. Solutions that have been implemented include formulating a Regional Haze Action Plan and organizational frameworks to deter, track, and minimize fires and haze, in particular, the possible adverse transboundary effects on neighboring countries and cities.

The ASEAN countries have established a specialized Meteorological Centre, based in Singapore, which supports the tracking of hotspots and haze movements as well as providing periodic forecasts of weather conditions to the member countries across the region. The member countries then embark on the journey of sharing that information with their respective departments, which later distribute it to various media platforms for public consumption.

The governments of the different ASEAN countries have devised the means for alerting the public as and when haze is likely to occur for the avoidance of airborne diseases (Zhang & Xiong, 2017). They introduced more efficient and timely sharing of information by identifying specific locations of land clearance, hotspots, and actual burning areas as well as haze movement among ASEAN member states in order to promote early prevention systems and enhance quick responses, thus contributing to tackling the problems immediately rather than allowing them to go out of control. The major focus here is the sharing of this vital information with the public in a timely manner for better responses to the problem. Additionally, people will share relevant information according to the value they attach to it. If the information is not trustworthy or the bearer of the message does not attach value to it, chances are that they are not going to find time to share the said information.

Motives for Using Social Media

People join a virtual community primarily to seek information, social support, friendship, and recreation (Ridings & Gefen, 2004). Similarly, people may use social networks to gain information, social or emotional support, a sense of belonging, encouragement, and companionship not only from existing social relationships but also from newly developed relationships based on similar interests, tastes, and goals (Wellman & Gulia, 1999).

Urista, Dong, and Day (2011) indicated that social networks are highly popular among the people due to their openness and transparency. Transparency allows people to obtain information on others quickly. They acquire access to personal information about other people through social networks without the other party's knowledge.

Apart from visiting websites for entertainment purposes, people visit these networks primarily for news and information. Norris (1996) noted that watching news and information on television programs was viewed as keeping in touch with the world at large. As such, the consumption of news and information appears to be positively related to increased civic participation and interpersonal trust (Norris, 1996; Shah, McLeod, & Yoon, 2001).

Social media has been characterized as an accumulation or gathering of Web-based stages that enable people to make, expend, and offer content. Through the social media, clients can connect with the creation and transference of data, alongside the plausibility of interfacing with others. Presently, there are various social media stages for social systems administration destinations (e.g., Facebook), microblogging (e.g., Twitter), video sharing (e.g., YouTube), and others.

For McQuail (1987), obtaining information includes finding out about relevant events and conditions in immediate surroundings, society, and the world. The process includes asking for advice on practical issues or on the option of opinion and judgment, which encourages curiosity and personal interest. In addition, reading and self-learning allow people to gain a sense of security; these are the reasons for using social networks to seek information (McQuail, 1987).

Until recently, some studies on social networks concentrate on specific issue with regard to usage (Choi, 2006; Ellison, Steinfield & Lampe, 2007; Lampe, Ellison & Steinfield, 2007) or on a single social network site (Govani & Pashley, 2005; Gross & Acquisti, 2005; Holme, Edling & Liljeros, 2004; Schaefer, 2008). Few studies have been conducted on motives for using social media (Schaefer, 2008). Nonetheless, the factors motivating the patronage of a specific site have remained unclear. This paper thus explores users' motives for using social media. Drawing on this study's findings and existing research, it is hoped that this study could link the motives to the seeking and sharing of information about haze on the different sites that the users patronize. However, during the occurrence of haze in Malaysia, most of the educational institutions are closed to protect students from the adverse effects of haze.

Agenda Setting Theory

Agenda setting theory was introduced in 1972 by two college professors, Maxwell McCombs and Donald Shaw. In their survey of North Carolina voters during the 1968 U.S. presidential election, they found that what people thought were the most important issues were what the mass media reported as the most critical.

Thus, agenda setting theory was born, built on the notion that the mass media sets the agenda for what people should care about. The theory states that news plays an important part in the shaping of issues in the media. The amount of time spent on an issue and the information relayed in a news story, along with the story's position, determine how much a reader learns and the extent of importance of the issue. Additionally, the theory elaborates that when the media reflects on the views of a candidate during a campaign, they are also shaping and determining the issues of importance. This can ultimately set the agenda for a political campaign.

Technological advances have provided a number of avenues for influencing the masses. At the beginning of the agenda setting theory, communication was conducted primarily via radio, print, film, and television. Today, with the advances in technology, communication sources are nearly unlimited, thereby enabling greater public engagement and setting the trend for increased attention on agenda setting.

As recognized by Matsaganis and Payne (2005), agenda setting theory has been widely used after the discoveries of McCombs and Shaw in 1972. During their observations, McCombs and Shaw (1972) in the Chapel Hill study noted that the central ideas of theoretical analogy are a media and public agenda, as well as the transfer of salience on the media agenda to the public agenda. Salience alludes to the unmistakable quality and significance of items in the

news. It means that agenda setting impacts are an accidental consequence of people's utilization of the news media.

Agenda setting is chosen for this study because social media platforms relay messages on a large extent and in a very fast manner. Therefore, these platforms can reach millions of people in a matter of seconds and sometimes, turning an issue viral, depending on its substance. Therefore, the information relayed and shared on social media platforms in most cases set the agenda for the public attention and commentary, which makes this theory fit for the current study.

Conceptual framework

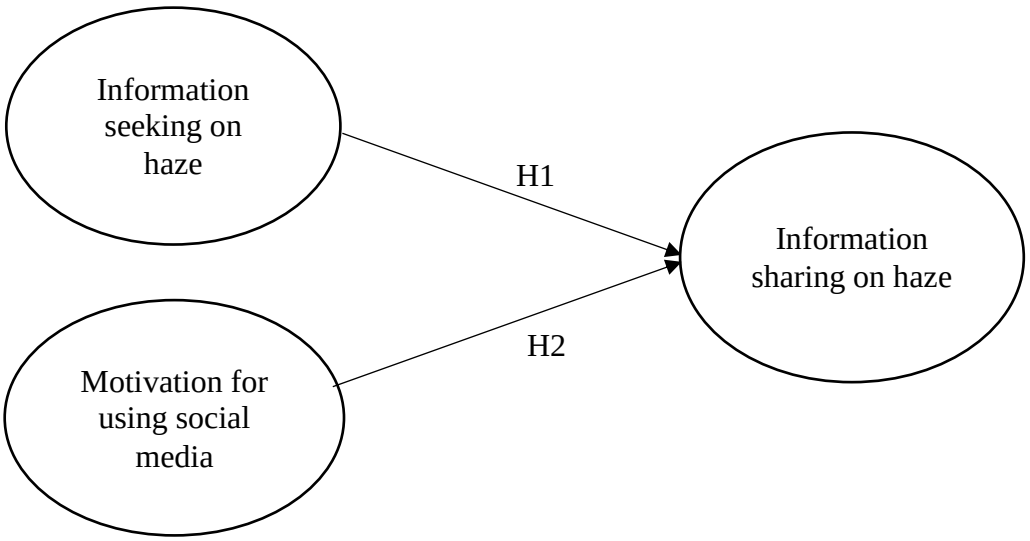

Figure 1: Conceptual framework for information seeking, information sharing, and motivation for using social media on haze

Hypotheses

From the literature review and the conceptual framework, the following hypotheses were formulated.

H_1: There is a positive relationship between information seeking and information sharing on haze and air pollution.

H_2: There is a positive relationship between the motives for using social media and information sharing during the occurrence of haze and air pollution.

3. Methodology

Research Design

The study employed the quantitative research design using the survey method, which is suitable for collecting large sets of data in a short time. Data were gathered using a self-administered questionnaire from November 20 until December 4, 2019.

Population and Sampling Procedure

Responses were gathered from undergraduate students of IIUM in all Kulliyyahs to understand how they were affected by haze and air pollution. Undergraduate students were

chosen under the assumption that they use social media on a daily basis for different purposes and that they may be exposed to the problems caused by haze and air pollution.

A sample size of 389 students was acquired through the stratified random sampling method. The population was divided into subgroups according to their Kulliyyah or faculty, and the respondents were randomly selected from each group.

Instrumentation and Measurement

The instrument used in this study is a survey questionnaire. To enhance the number of responses from the respondents, this study used two self-administered methods for data collection, namely, (1) face-to-face self-administered questionnaire and (2) online survey using a Google form, after which the data were computed for analysis.

Data from both the face-to-face questionnaire and the online Google form were collected at the IIUM main campus in Gombak during a two-week period. A self-administered questionnaire ensures that respondents are free from pressure of impressing the researcher. In addition, a questionnaire helps to save the researcher's time and cost. Moreover, a questionnaire is adaptable and has the ability to minimize bias (Powell, 1999).

The questionnaire used for data collection in this study was structured into four sections. Section One focused on the general demographic data of the respondents, Section Two asked questions on information seeking on haze and air pollution, Section Three assessed the respondents' motives for using social media during the occurrence of haze and air pollution, and lastly, Section Four featured the sharing of information on haze and air pollution. Sections Two and Three represented the independent variables of the study, whereas Section Four focused on the dependent variable.

Multiple questions in Sections 2, 3, and 4 of the questionnaire employed a 5-point Likert-like scale to measure the extent of frequency of the items. The Likert-like scale is in the range of 1–5, where 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always for all sections. Additionally, the overall variable was computed to form a mean score with a minimum of 1 and a maximum of 5. To calculate the overall percentage of an item, the mean for each item was multiplied by 20, and based on the 5-point scale, this is equivalent to 100%. Therefore, an overall percentage is acquired by multiplying the mean score by 100 and dividing by 5 (Wok & Hashim, 2014).

Three variables were considered in this survey, namely, information seeking about haze and air pollution, motives for using the social media, and information sharing about haze and air pollution. Information seeking has 10 items, such as "I seek information about haze and air pollution from the media" and "I frequently look for news on haze and air pollution on WhatsApp." Motives for using social media also have 10 items, such as "I use social media to know the right preventive actions towards haze", "I use social media to help people who are affected by the haze through haze information", and "I use social media to get everyone around me know the severity haze pollution." Both information seeking and motives are the independent variables, whereas the dependent variable is information sharing about haze and air pollution. Information sharing has 10 items, such as "I frequently share information about haze and air pollution with my peers and family through Facebook", "I discuss haze and air pollution prevention with my friends", and "I share information about haze and air pollution on Instagram."

Validity and Reliability

A pilot study (N = 30) was conducted before the actual study to measure the flow and content of the questions, as well as any problems faced by the respondents. The questionnaire was also reviewed and approved by an expert in the field. Internal reliability test was conducted using Cronbach's alpha. The data collected from the pilot study indicated that all the items for the three variables were significant and exceeded the minimum Cronbach's alpha value of 0.70, thus indicating the reliability of the variables. Table 1 shows that the results of the pilot study confirm internal cohesiveness and consistency of the variables with the Cronbach's alpha values of α = .898 for the motives for using social media, α = .737 for information seeking on haze and air pollution, and lastly, α = .735 for information sharing on haze and air pollution. For the actual study, the motives for using social media obtained α = .916, information sharing on haze and air pollution recorded α = .897, and information seeking on haze and air pollution achieved α = .851. Based on these results, the variables are reliable enough to be used in the actual study.

Table 1: Mean, standard deviation, and reliability values of variables in the study

No.	Variables (N = 30)	M*	SD	Number of items	Reliability (Cronbach's α)		
					Pilot study (N = 30)	No. of items	Actual study (N = 389)
1	Seeking information on haze	3.164	0.683	10	.737	10	.851
2	Motives for using social media during haze	3.553	0.731	10	.898	10	.916
3	Sharing information on haze	2.860	0.805	10	.735	10	.897

*On a 5-point Likert scale ranging from 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always

Data Analysis

Data from the study were compiled and analyzed using SPSS Version 23. Then descriptive and inferential statistical analyses were carried out. The descriptive analysis includes frequencies, percentages, means and standard deviations, whereas the inferential analysis includes one-sample t-tests and zero-order correlation. Specifically, for research objectives 1, 2, and 3, the data were analyzed using one sample t-test with a test value of 3, while question 4 was tested using correlation. Additional analysis was done using Hierarchical Regression Analysis.

4. Findings and Discussion

Demographic Characteristics of the Respondents

The study analysed a sample of 389 respondents from the target population. Table 2 shows that the proportion of male (45.5%) to female (54.5%) respondents is about the same. About three-quarters of the respondents were within the age group of 21–25 years old (74.8%), followed by 19.3% who were less than 20 years old, and the least number of respondents were in the 26–30 years old age group (5.9%). In terms of their highest level of education, approximately a third of the respondents had a foundation education (31.1%), followed by college/diploma (24.7%), and degree (24.4%), while the least number of respondents were those with STPM/A-Level (19.8%). Malaysian students (73.3%) formed almost three-quarters of the respondents and the rest (26.7%) were international students. The levels of study are well represented: first year (22.1%), second year (27.8%), third year (26.0%), and fourth year (24.2%).

Table 2: Demographic characteristics of the respondents

Demographic characteristic	Category	Frequency	Percentage
Gender	Male	177	45.5
	Female	212	54.5
	Total	**389**	**100**
Age	Less than 20	75	19.3
	21–25	291	74.8
	26–30	23	5.9
	Total	**389**	**100**
Highest education	Foundation	121	31.1
	STPM/A-Level	77	19.8
	College/Diploma	96	24.7
	Degree	95	24.4
	Total	**389**	**100**
Nationality	Malaysian	285	73.3
	International	104	26.7
	Total	**389**	**100**
Year of study	First	86	22.1
	Second	108	27.8
	Third	101	26.0
	Fourth	94	24.2
	Total	**389**	**100**

One Sample *t*-test

Information Seeking on Haze and Air Pollution

Table 3 shows that overall, most of the respondents sought information on haze and air pollution (63.2%), with the mean value of 3.164 (SD = 0.683) and t = 4.752 (p = .000). They sought information on haze and air pollution from various platforms, namely, from the Internet (74.9%), the media (73.5%), government media platforms (67.9%), WhatsApp (64.0%), government websites (63.5%), television (63.3%), and Instagram (63.1%). However, the respondents hardly spent much of their free time looking for information about haze and air pollution reduction (51.5%) and asking medical practitioners (e.g., doctors, pharmacists) on how to keep healthy during the haze occurrence (51.3%).

The findings imply that most of the respondents had high levels of information seeking on haze and air pollution and they sought information regarding haze and air pollution on various platforms. Therefore, research objective 1 is answered.

Table 3: One sample *t*-test for information seeking on haze and air pollution

No.	Information Seeking (*N* = 389)	*M**	*SD*	%	*t***	*df*	*p*
1	I normally look for information on haze and air pollution from the Internet.	3.745	0.991	74.9	14.822	388	.000
2	I seek information about haze and air pollution from the media.	3.676	0.988	73.5	13.489	388	.000
3	I search for information about haze on the government media platforms.	3.398	1.104	67.9	7.116	388	.000
4	I frequently look for news on haze and air pollution on WhatsApp.	3.200	1.077	64.0	3.671	388	.000
5	I look for haze updates on government websites to be informed.	3.179	1.076	63.5	3.298	388	.001
6	I seek important information about haze and air pollution on television.	3.169	1.092	63.3	3.064	388	.002
7	I search for reliable source of information about haze and air pollution on Instagram.	3.159	1.084	63.1	2.899	388	.004
8	I look into the newspapers about the haze and air pollution.	2.974	1.049	59.4	-0.483	388	.629

9	I spend much of my free time looking for information about haze and air pollution reduction.	2.575	1.172	51.5	-7.138	388	.000
10	I ask medical practitioners (e.g., doctors, pharmacists) on how to keep healthy during haze	2.568	1.285	51.3	-6.625	388	.000
	Overall Mean for Information Seeking	**3.164**	**0.683**	**63.2**	**4.752**	**388**	**.000**

*On a 5-point Likert-like scale, where 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always. ** test value = 3

Information Sharing on Haze and Air Pollution

The one sample t-test results for students' level of information sharing about the occurrence of haze and air pollution are presented in Table 4. The results show that, on the whole, the respondents hardly shared information on haze and air pollution ($t = -3.407$, $p = .001$). They shared information on only certain attributes such as to discuss with their house/dorm mates about haze and air pollution (67.9%), to alert family members about haze and air pollution through their WhatsApp daily chats (66.7%), to discuss haze and air pollution prevention with their friends (64.2%), and to discuss haze and air pollution in their daily conversations with friends (63.1%). Other than that, they did not share information about haze and air pollution in their classroom or on Instagram, Facebook, Twitter, Snapchat, and e-mail. These findings revealed that the respondents did not share information on haze and air pollution that much. When they did, they used only selected medium and they preferred to share information on haze and air pollution on a face-to-face basis and through WhatsApp. Therefore, research objective 2 is answered, albeit in a negative manner.

Table 4: One sample *t*-test for sharing information on haze and air pollution

No.	Information Sharing ($N = 389$)	*M**	*SD*	%	*t***	*df*	*p*
1	I discuss with my house/dorm mate about haze and air pollution.	3.395	1.140	67.9	6.844	388	.000
2	I alert my family members about haze and air pollution through our WhatsApp daily chats.	3.339	1.092	66.7	6.125	388	.000
3	I discuss haze and air pollution prevention with my friends.	3.210	1.016	64.2	4.091	388	.000
4	I discuss haze and air pollution in my daily conversations with friends.	3.159	1.033	63.1	3.043	388	.003
5	I share information about haze and air pollution in my classroom.	2.868	1.175	57.3	-2.199	388	.028
6	I share information about haze and air pollution on Instagram.	2.812	1.192	56.2	-3.105	388	.002
7	I frequently share information about haze and air pollution with my peers and family through Facebook.	2.622	1.134	52.4	-6.569	388	.000
8	I convey information about haze and air pollution through Twitter.	2.622	1.249	52.4	-5.966	388	.000
9	I actively post information about haze and air pollution on Snapchat.	2.341	1.309	46.8	-9.911	388	.000
10	I post information about haze from government's daily updates through e-mail.	2.236	1.262	44.7	-11.929	388	.000
	Overall Mean for Information Sharing	**2.860**	**0.852**	**57.2**	**-3.407**	**388**	**.001**

*On a 5-point Likert-like scale, where 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always. ** test value = 3

Motives for Using Social Media

The motives for using social media during the occurrence of haze and air pollution are presented in Table 5. The respondents' motives are significantly positive with the mean values ranging from 3.321 to 3.786. The overall mean value is 3.553 (SD = 0.731) with $t = 14.914$ ($p = .000$). The motive with the highest mean is "to use social media to get the official information on air pollution index (API) that is published from the Malaysian department of

environment" whereas the lowest is "to use social media to help people who are affected by the haze through haze information". Hence, it can be said that they used the social media for various purposes of seeking and sharing information on haze and air pollution. The results show that the respondents had positive motives regarding the seeking and sharing of information on haze and air pollution, thus answering research objective 3.

Table 5: One sample *t*-test for motives for using social media during haze and air pollution

No.	Motives for Using Social Media (*N* = 389)	M*	SD	%	*t***	*df*	*p*
1	I use social media to get official information on Air Pollution Index (API) published from Malaysian Department of Environment before doing my daily routines.	3.786	0.929	75.7	16.690	388	.000
2	I use social media to know the right preventive actions towards haze.	3.640	0.954	72.8	13.224	388	.000
3	I use social media to spread relevant and right information about the haze from official source.	3.599	0.981	71.9	12.042	388	.000
4	I use social media to get the help of friends and care through haze information.	3.591	0.987	71.8	11.815	388	.000
5	I use social media to get right information on medical treatment if my health got affected by haze.	3.588	1.055	71.7	11.001	388	.000
6	I use social media to get everyone around me know the severity of haze pollution.	3.545	0.995	70.8	10.798	388	.000
7	I use social media to know and improve air quality by doing Go-Green and ride eco-friendly transport.	3.542	0.947	70.8	11.287	388	.000
8	I use social media to make sure I wear the right mask provided by government during haze.	3.537	1.038	70.7	10.201	388	.000
9	I use social media to exchange ideas with friends in relation of haze issues.	3.380	1.032	67.6	7.267	388	.000
10	I use social media to help people who are affected by the haze through haze information.	3.321	1.087	66.4	5.828	388	.000
	Overall Mean for Motives	**3.553**	**0.731**	**71.0**	**14.914**	**388**	**.000**

*On a 5-point Likert-like scale, where 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always. ** test value = 3

Correlation

The Relationship between Motives for Using Social Media, Information Seeking, and Information Sharing on Haze and Air Pollution

Bivariate correlation was obtained to measure the relationship between the variables (Table 6). Results indicate that all the tested variables emerged significant. There was a significant strong positive relationship between information seeking and information sharing regarding haze and air pollution ($r = .640$, $p = .000$). Meanwhile, the relationships between information seeking and the motives for using social media ($r = .486$, $p = .000$) as well as between the motives for using social media and information sharing ($r = .519$, $p = .000$) were both moderate and statistically significant. Therefore, all the hypotheses are supported by the study. Specifically, it can be generalized that with an increase in information seeking and with good motives, there will be an increase in information sharing. In other words, the more the respondents desire to seek information regarding haze and air pollution, the more they will want to share it on the social media platforms.

Table 6: Bivariate correlation between information seeking, information sharing, and motives for using social media

Variable	Mean	*SD*	Information Seeking	Motives for Using Social Media	Information Sharing
Information seeking	3.164	0.683	1		
Motives	3.553	0.731	r = .486 p = .000	1	
Information sharing	2.860	0.805	r = .640, p = .000	r = .519, p = .000	1

The subsequent analysis is to test the relationship between the independent variables (information seeking and motives) and the dependent variable (information sharing) of the study. The results yielded moderate and strong relationships. However, the hierarchical regression analysis (Table 7) revealed the presence of a significant moderate relationship between information seeking and information sharing where F = 168.367 (p = .000) and β = .598; t = 11.931 (p = .000), as well as a weak but statistically significant relationship between information sharing and motives for using social media, where β = .299; t = 6.392 (p = .000). These findings translate that information sharing is a crucial factor between the two variables and that the more the respondents tend to seek information, the more they desire to share it with others using social media as their preferred platform. The regression results answer research objective number 4 and support all the hypotheses of the study because all the relationships are significant.

Table 7: Hierarchal regression for information sharing with information seeking and motives for using social media

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	*t*	*p*
		B	Std. Error	β		
1	(Constant)	.477	.149		3.203	.001
	Seeking	.753	.046	.640	16.378	.000
F (389) = 268.249, *df* =1, 387, *p*=*.000*, *R*=.640, R^2=.409, Adj R^2. = .408; *F* change =268.249, *df1*=1, *df2*=387, *p* = 0.000						
2	(Constant)	-.095	.168		-.564	.537
	Seeking	.598	.050	.508	11.931	.000
	Motives	.299	.047	.272	6.392	.000
F(389) = 168.367, *df* =2, 386, *p*=*.000*, *R*= .683, R^2=.463, Adj R^2. = .463; *F* change=40.858, *df1*=1, *df2*=386, *p* = 0.000						

5. Conclusion

The study's respondents consisted of a total of 389 IIUM students, who were mainly Malaysian adolescents and almost equally representing the male and female gender. They came from various levels of study with different levels of educational achievement. The results of the study show that the students tended to have positive motives for seeking and sharing of information regarding haze and air pollution. They tended to seek rather than share information. However, they did not seek information on haze reduction and they did not ask questions to medical practitioners. They hardly shared information but when they did, they mainly used WhatsApp to share with their family members while preferring to discuss face-to-face with friends. They did not use Facebook, Twitter, Snapchat, and email to share information.

The general relationships between information seeking, information sharing, and motives for using social media during haze and air pollution were significant, between moderate and

strong. These findings support the study by Erickson (2011), which claimed that people tend to share information with their friends to maintain a form of connection and to sustain social relationships. The level of using social media during haze and air pollution was high and most of them used it for information seeking rather than for sharing such information.

The main objective of this paper is to assess information seeking and information sharing among IIUM students using the framework of agenda setting theory. The findings reflect that during the occurrence of haze and air pollution, students always use social media platforms to look for information on how to avoid being affected by haze. Additionally, the results also imply that some students tend to share the information acquired on haze with their friends, colleagues, and family members through the different media platforms accessible to them. However, they were not fully aware of the causes of haze and how to avoid it whenever it occurs. Therefore, the objective of the study was achieved.

The study also confirms the suitability of using the agenda setting theory, which suggests that the media sets the agenda for the public to follow especially in critical times like the occurrence of haze and air pollution. Thus, the study has proven that social media is instrumental in shaping the debate on haze and air pollution whenever it occurs.

Limitations and Suggestions

This study focused on undergraduate students from all Kulliyyahs at the IIUM Gombak main campus. For future research, it is suggested to widen the population for a better representation, perhaps to the national level to cover various learning institutions because they are all affected by haze and air pollution whenever it occurs and remain closed to avert the effects on students. Another limitation is related to the study's measurement of social media usage alone during the haze and air pollution occurrence. However, there are other mediums that people use to quickly disseminate and/or acquire information on haze and air pollution.

This study only considered IIUM students as its population. Future studies should consider incorporating other learning centers to have a more detailed and clear picture on how students are affected by the occurrence of haze and air pollution and the framework of seeking and sharing information about it.

Lastly, the study was guided by the agenda setting theory, which states that the media sets the agenda for the public to follow especially in critical times like the occurrence of haze and air pollution. Further research should explore other theories and see whether media functions such as setting the public agenda should be ignored and people just look for the right information from credible sources, especially in this era of widespread fake news circulating all over the web.

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