PROF. DATO' SRI DR. SYED ARABI IDID

THE RATIONALE FOR THE COVER PAGE

The globe in this planet is fully occupied with human activities which are all well connected. The magnifying glass amplifies the communication process initiated by the sources to the audiences via various communication channels. The mode of channels varies from the traditional print and broadcast media to the relatively newer digitized networks. Active audiences are always in hunger for information and hence their need to cope with the current transforming mediascape which led to the changing news diffusion process as emphasized in this publication. This phenomenon is explained by its connection to the human mind and thus explicated the famous quote of Walter Lippmann (1889-1974), "The world outside and the pictures in our heads."

News Diffusion Studies:
Malaysian Cases In A Global Context

Editors
Farizah Jaafar
Ali Salman

School of Media and Communication
Studies (MENTION)
Faculty of Social Sciences and Humanities
Universiti Kebangsaan Malaysia

Media and Democracy Research Group
Politics and Security Research Niche
Universiti Kebangsaan Malaysia

INTRODUCTION

I remember browsing, in the dingy library room of the University of Wisconsin, Madison, an article on News Diffusion written by Delbert Miller (1945) in the *American Sociological Review.* On skimming through the article, I saw another aspect of journalism, namely about the flow of information of a significant event. It was a fascinating piece of research on how news on the death of the American President, Roosevelt, was made known to a campus community.

So when news was received several weeks later on the death of the then Prime Minister, Abdul Razak Hussein, the findings by Miller crept into my mind. I suddenly thought it would be a good idea to conduct a similar study in Madison, Wisconsin. Thus began my long research journey on the diffusion of news. My research on news diffusion is one of several academic areas that I have devoted myself to since then, others being Agenda Setting, the Third Person Effects, political communication and the history of public relations.

A total of nine news diffusion studies were conducted from 1976 to 2015. Six of them were conducted while I was with Universiti Kebangsaan Malaysia (UKM) and another three when I was with the International Islamic University Malaysia (IIUM). Several other crisis events happened during the period but being in administration, perhaps, prevented my full attention to this field of research.

The diffusion studies conducted during the past 40 years ranged from the deaths of Malaysian leaders (Abdul Razak Hussein, 1976; Malaysia's Sovereign Ruler, the Yang DiPertuan Agong, 1981; Hussein Onn, 1982 & 1992), on the death of a prominent personality (Endon Mahmood, 2006), the death of a foreign dignitary (Anwar Sadat, 1983) to the report of an event (UMNO Election, 1990) and the tragic air disasters of MH370 and MH17 (2015). Except for the Madison study, all the other cases were studied in Malaysia (see Appendix 1). The research probed the role of the media in disseminating news of significant events. Were the sources providing the information from television, radio or interpersonal communication? What was the speed of transmission? And later, to probe on the reaction of the audience to these crises news events.

It was an exciting series of studies but I did not work alone. I should mention scholars who were involved, ranging from Mohd Safar Hasim to Ahlam Abdul Aziz and Azlinawati Ngainon, Chang Peng Kee, Major Bakri Musa. Later on Mazni Buyong, Zeti Azreen Ahmad and Aini Maznina A.Manaf were involved in the study on MH370 in Kajang, 2014. All the academic staff members and my students in UKM and later in IIUM were involved in the various studies. My Research Assistants, Azrul Hisyam and Hartini from the Wakichan family coordinated the IIUM studies on the two aviation tragedies. Muhammad Shawal Abdul Rashid helped in the collection of data on MH17.

The first known study on news diffusion by Delbert Miller in 1945, investigated the flow of news on the death of the President of the United States, Franklin Roosevelt. Miller found a two-step flow of information emanating from the source to the media (then radio) and then to the majority who passed it on to the others. The news spread fast. "Within a half hour later, 91 percent of the sample cases reported that they were informed" (Miller, 1945: pg. 695). The majority learned it from word of mouth while the initial news was from radio.

The first Malaysian diffusion study was reported in 1976 (Idid, 1976) some 40 years ago, on the death of the second Prime Minister, Abdul Razak Hussein, who passed away in a London hospital. The story was conducted in Madison, United States, among Malaysian students. The news was first relayed by radio and then transmitted among the students immediately. Like the Miller study, the study on the death of the Malaysian Prime Minister, spread fast by word of mouth.

Since the first report in 1945, which DeFleur (1987) credits as the launching of a research tradition on News Diffusion, studies have been conducted in several other non-Western countries (Japan, India, Malaysia), but they remained exceptions to the number conducted by Western scholars. Tokinoya (1994) mentions three Japanese diffusion studies in Japan, two relating to the state of health and the death of the Japanese Emperor. The Emperor was reported in ill health on October 20, 1988 and was announced dead on January 7, 1989.

There are relatively less studies on news diffusion compared to other areas in communication research. A total of six news diffusion studies were reported in the 1950s (Deutschmann & Danielson, 1960). Adams,

Mullen and Wilson (1969) mention that by 1969, some 30 "significant studies of news diffusion" had been undertaken. Bantz, Petronio and Rarick (1983) mention 15 studies on the diffusion of information on life-threatening events involving the U.S. political leaders. There were more studies conducted on less newsworthy events. One study was conducted on news diffusion in the 1940s, with three in the 1950s and 16 in the 1960s, mainly on the assassination of President Kennedy (Rogers, 2000; DeFleur, 1987). A total of 13 studies was evident in the 1970s, another 13 in 1980s and the number tapered off in the 1990s. In the 2000s, four books (three edited) reported the September 11 tragedy and two reports on the Malaysian air disasters in 2015. One could rather estimate the number to be about 70 articles and books written on news diffusion worldwide.

The number of research on the diffusion of news is less compared with that on Agenda Setting. At the last count in 2014, a total of 400 articles was reported on Agenda Setting, and not more than 70 on News Diffusion. Agenda Setting was first written in 1972 by McCombs and Shaw compared to the first News Diffusion that was written by Miller in 1945.

I thought it appropriate to see how studies on news diffusion in Malaysia could contribute to the global knowledge on the subject matter both in their theoretical insights and methodologies.

DEFINITIONS

There are several definitions on news diffusion or, on its related concept, diffusion itself One set of definitions regards news diffusion to have its own identity (Miller, 1945), while another accepts it to be part of a diffusion of innovation (Rogers, 2003; Severin & Tankard, 2001). DeFleur (2010) defines diffusion as spreading by word of mouth fresh and timely information about recent news events through a number of individuals. He regards studies on news diffusion to be entirely different from the studies on diffusion of innovation.

Other scholars regard news diffusion as part of the diffusion studies (including diffusion of innovation) (Trent & Friedenberg, 2008). Diffusion is therefore regarded as the process by which news as an innovation (like an idea, practice, or object perceived as new) is communicated through certain channels over time among members of a

social system. The form of innovation, which is the news event, is defined as a newsworthy topic attracting widespread public attention. Unlike the ordinary diffusion of innovation, news diffusion, to Rogers (2003), is only at the knowledge stage.

Lowery and De Fleur (1995) recount diffusion as a break from the tradition of strong media effects. The direct effects of the media were modified by the introduction of an intermediary element, thus challenging Lasswell's mechanistic principle of the strong effects of the media (Mattelart, 1995). Two leading works of research marked the emergence of the new theory of intermediary: the "People's Choice" and "Personal Influence" (Katz & Lazarsfeld, 1955).

The primary notion of ideas flowing from radio and print to opinion leaders and from them to the less active sections of the population was the premise of the then limited effects of the media, with the opinion leader as the intermediary (Katz & Lazarsfeld, 1955). Word of mouth may still be the most significant source of learning about an event. Even news diffusion as part of the early study challenged the powerful effects of the media (that is the hypodermic Needle and the Bullet Theory models) prevailing among communication researchers during the 1940s.

Rosengren (1983) locates news diffusion within two broad areas of research: the general study of adoption and diffusion in the humanities and social science, and the traditions of research with the flow of ideas and values from the mass media to and between individuals.

Another perspective relates news diffusion studies to media content, especially to news, in which diverse items of information were made for the selection of the audience (McQuail, 2010). People learn and become better informed from the news received. News diffusion is biased towards "hard news" which has a high degree of unexpectedness.

The discussion on news diffusion, if taken from the Miller study in 1945 indicates acceptance of the limited effects of the media, from the stage of hypodermic model to being part of the contemporary social influence model. It acknowledges the importance of interpersonal communication to the dissemination of information.

The media development after the death of Kennedy in 1964 enabled a more immediate and more intensive coverage of significant and crisis events (Cohen, 2002). Questions posed would include the roles of the

online and the traditional media given the development of technology in the study of news diffusion. Would the development of technology determine the characteristics of the media? In the first phase from 1945 to 1964, the significant events were relayed more by interpersonal communication, from 1965 to 2000, significant events were made known through television. What would be the characteristics after 2000 with the advent of the online media? These are pertinent issues that would add literature to our understanding of news diffusion studies worldwide.

STUDIES ON NEWS DIFFUSION

A review of news diffusion studies, including the news diffusion in Malaysia, is needed. The objective is to take stock of the findings, the trend of the findings, the methods used, and the future of diffusion studies in developing societies, if Malaysia could be the example. The findings on news diffusion studies were mainly reported in a booklet entitled "News Diffusion Studies in Malaysia" published by the Department of Communication, Universiti Kebangsaan Malaysia, in 1997. The booklet contains six articles on news diffusion that were published or presented in conferences. The last reported study was in 1994. In 2006, a study on the death of Endon Mahmood, the wife of the then Prime Minister, was presented at the Asian Media Information and Communication Centre (AMIC) Conference in Penang (Idid, Ahlam & Azlinawati, 2006). The latest study on the diffusion of news related to MH370 was presented in Dubai (Idid, 2015) while another study on news diffusion on MH17 was presented at the Asian Network for Public Opinion Research (ANPOR) Conference in Bangkok, in November 2015 (Idid, 2015).

Rather than take a chronological approach, an analysis by types of events, will allow for generalizations to gain a better insight into the studies in Malaysia. A similar approach was made, though not that explicit, by Rosengren (1972) who categorizes events by the degree of significance and expectedness. He brought in two categories, salience and minor events to account for the rapid flow of news diffusion in a given society. An event may be a major newsworthy event but another event would be considered as minor, classified as being non newsworthy. Greenberg (1964) conceptualises events as being instrumentally important or has received

attention from readers. Rogers defines "salience" as the degree to which a news event is perceived as important by an individual. Adam, Mullen and Wilson (1969) listed three different audience reactions with O'Keefe and Kisser (1971) adding visual impact of identification to draw in a response.

News diffusion studies can be grouped as Unexpected or Unanticipated Significant Events; while the second category would be Expected or Anticipated Significant Events. A subset of the two categories would be to divide them by Day Time or Night Time occurrence. Examples of significant events would be deaths of political and eminent personalities. The second category of Expected events includes organised events with the results to be announced at an expected time. Audience members would already know the time of the event and would wait for the event to happen.

A final category would be an analysis based on the interests of sub-groups. News events are considered worthy by the interests they generate. Some events may be well received by one sub group while another sub group would not give it much attention. Greenberg (1964) terms such events as 'of little importance' but have been given due attention by some segments of the population as they are instrumentally important to them or salient to the sub-group.

A.   Unexpected Significant Events (Day Time)

A major portion of news diffusion studies focusing on significant events involved studying the deaths or murders of political leaders. The death of President Roosevelt in 1945, the assassination of President Kennedy in 1964, the death of the Malaysian Prime Minister Abdul Razak Hussien in 1976, and the attempted assassination on President Reagan in 1981 are examples of significant events that drew a gush of studies on these events. The September 11, 2001 tragedy in the United States is, by far, the best recorded study, detailed and extensive in coverage, conducted by American and international scholars. In Malaysia, the missing plane, MH370, in March 2014 with its mystery, can be grouped under the Unexpected but Significant event.

The news diffusion on the death of Roosevelt (Miller, 1945), Kennedy (Banta, 1964; Greenberg, 1964), the death of the Malaysian Prime Minister, Abdul Razak Hussien (Idid, 1976), and the attempted

assassination on Reagan, (Bantz, Petronio & Rarick, 1983) illustrates how fast news is spread via interpersonal communication. Within 60 minutes, 93 percent of the people in Dallas heard of the incident, only a minority heard the first news directly from radio or television sources (Banta, 1964). This was comparable to the speed in which the news on the death of Roosevelt was transmitted in the campus community of Kent State University. News on the death of Abdul Razak was also diffused fast via interpersonal communication. Significant events spread fast by interpersonal communication and was received by people, regardless of gender, education and occupation.

The study on the death of the second Prime Minister, Abdul Razak Hussein, found that the news was transmitted fast from personal contact among Malaysians (Idid, 1976). There were two news announcements on the death in the radio of Wisconsin, at 8:00 a.m. and 8:45 a.m, but it was not well conveyed or highlighted as Malaysia was not visible to the Americans. The following day, the Wisconsin State Journal reported the event in its inside pages. The Evening paper, The Capital Times, did not carry the report. The news of the death spread by word of mouth, with 75 percent having heard of it on the first day.

The assassination attempt on President Reagan was another newsworthy event. A study by Bantz, Petronio & Rarick (1983) finds 82.6 percent knew of the attempted assassination within four hours and interpersonal communication was the first source of information among the majority of respondents (57.6%) and the others learned of it through television and radio (41.2%). Quarles, Jeffres, Sanchez-IIundain and Neuwirth (1983) found 90 percent of respondents learned of the news within 90 minutes, 25 percent heard the news from the radio, 34 percent from television and 40 percent from interpersonal communication. Gantz (1983) found nearly all his 309 respondents in Indianapolis knew of the attempted assassination in the morning; 45 percent learning it from word of mouth, 33 percent from television and 23 from radio. The attempted assassination of President Reagan recorded more dependence on interpersonal communication when events are highly newsworthy as is the case with the deaths of Kennedy and Roosevelt.

The death of the Agong, the sovereign ruler, was not considered a major event as he did not hold a political position. Furthermore, the delay

in making an official announcement (due to protocol), made news dissemination very slow and by the time the decision was made to announce the death of the Sovereign Ruler, the transmission of news had already taken its own course of action. This rapid spread by word of mouth signifies a degree of significance and spelt out that, in the absence of media playing its role in making an announcement, social networking would spread the news instead. The event made itself newsworthy through interpersonal means of communication bypassing the media. It could reflect the working pattern of rumour transmission on a national basis if news of a significant event were kept from the media.

Diffusion news on unexpected significant events that happened during the day had certain characteristics. The news was initially conveyed by the mass media, then by interpersonal communication. This suggested the dynamics of interpersonal communication in spreading the news of significant events and the limitation of the media in playing such a role. Scholars refined the Regularity Hypothesis by adding that news, to be significant, must appeal to the human side, that the greater the news event is accepted by the readers, the more likely it would be spread by interpersonal communication rather than by the media (Banta, 1964; Hill & Bonjean, 1964; Rosengren, 1973). The pattern of the diffusion of significant events brought out the role of the intermediary in the spread of news, although media would be the initial source. Thus by the Regularity Hypothesis on significant events, the news would spread fast by word of mouth than by the media (Deutschmann & Danielson, 1957; Rosengren, 1983).

Later studies on the spread of news on significant events did not provide this evidence on the role of interpersonal communication. The subsequent events, September 11, 2001 and the Missing Malaysian plane, MH370 were significant events that happened during the day but studies do not suggest interpersonal communication to be the primary source for the speedy transmission of news.

There were several studies conducted on the September 11, 2001 incident. The study by Rogers (2003) on the spread of the significant event indicates that people still rely on the media for news. Rogers (2003) found in Albuquerque, New Mexico, that 99 percent of the 127 respondents surveyed were aware by noon (within 3 hours) of the event. A total of 32

percent and 27 percent obtained their news from TV and radio respectively. Person-to-person accounts for 26 percent and telephone another 14 percent. In short, as a first source of information, 59 percent were accounted from media sources and 40 percent from word of mouth.

Greenberg, Hofshire and Lachlan (2002) find interpersonal communication to be the first source of news, while another 33 percent obtain their news from television and 15 percent from radio. The news was diffused fast, with 22 percent knowing of the event within 15 minutes, and 99 percent within 2 hours and 15 minutes.

A study on the use of media sources including the Internet, was conducted by Stempel and Hargrov (2002) a month after the incident (Oct. 20 to Oct. 31, 2001) on 1,131 respondents nationwide. Slightly different from the findings by Greenberg but similar to that of Rogers (2003) was that respondents cited television as the primary source of information (49%), followed by interpersonal communication (30 %) and then by radio (17 %).

The various studies on September 11 indicate the heavy reliance on the traditional media, especially on television for news and for reinforcement of information. In their nationwide study, Jones and Rainie (2002) find that the high use of internet was more to supplement the news that they had initially obtained from television.

An example of an unexpected significant news event is the Malaysian Plane MH370 that went missing on 8 March, 2014 with 227 passengers and 12 crew members on board. It departed from the Kuala Lumpur International Airport (KLIA) at 12.41 am and was reported to have disappeared from the radar screen about an hour later over the South China Seas. The plane is yet to be recovered (Idid, 2015).

In the Malaysian diffusion research, the case of the Missing MH370 plane could be considered a significant event. The initial announcement that the plane had lost contact with the ground control made it to appear as a non-tragic event until several hours later when Malaysians realized that something tragic had happened. MAS had announced in the morning that the plane had lost contact with the ground crew. Many Malaysians (and other audience members) could not comprehend, when the announcement was first made, that the plane had gone missing. The audience realised that a tragedy had happened when the

plane did not land in Beijing at the scheduled time. The announcement and the circumstances might be factors that news of the missing plane did not spread that fast considering it to be a highly significant event. Within three hours, a total of 47 percent of respondents had heard the news, and the primary source cited was television (46 %).

An important characteristic for the spread of news is that the event must have a clue. In this instance, the announcement that the plane had lost contact with the ground crew made many Malaysians assume that it was just another failure of communication between the plane personnel and the ground crew. The lesson to be learned from the MH370 incident is that any announcement on the incident should be clear if diffusion is to move fast. The audience must be informed, for them then to decide on the significance of the event and for the transmission of news among friends.

The news was first publicly announced at 8:00 a.m. on Saturday that the Malaysian plane had lost contact and was missing from the radar. It was not mentioned that something of a tragedy had happened. But before 8 am, 5 percent had already learnt of the news through their Twitters. A total of 18 percent had heard the news between 8:00 a.m. to 9: a.m. By noon, a total of 45 percent had already learned about the missing plane. By Saturday midnight when some 63 percent of adult Malaysians had heard about the news, Malaysians began to be apprehensive as the plane had not landed in Beijing. The total who had learned by Sunday was nearly 100 percent.

The majority of respondents learnt of it for the first time from the electronic media (54%), with 46 percent learning about it from television. A total of 9 percent read it in the newspapers on Sunday. Thus, a total of 63 percent learnt of the missing plane incident from the mainstream media.

A total of 18 percent learnt of the news from the social media (Twitters and Facebook). Person to person contact was only 12 percent, with 7 percent of them talking to one another, while others made phone calls or sent short messages.

Table 1: First Source of News MH370

Items	Frequency	Percentage
Television	286	46
Radio	51	8
Newspapers	54	9
Facebook	85	14
Twitter	29	4
News Online	39	6
Phone calls	10	2
SMS	20	3
Word of mouth	42	7
No response	3	1
Total	619	100

Other significant unexpected events were the downing of MH17 Malaysian plane over Ukraine, the death of the Swedish Prime Minister, Olof Palme and the assassination of the Israeli Prime Minister, Iszhak Rabin. But, since the news was received late at night it would be discussed under a different sub category.

B.   Unexpected Significant Events (Night Time)

Another category in studying news diffusion is of unexpected significant events that happened or were reported at night. The time of day, therefore, places constraints on the speed of an event, even though the event can be termed as significant.

A news event on another head of state, the death of the President of Egypt, Anwar Sadat, was the subject of the diffusion study in 1983. The news was received at night and the respondents in the study were the campus community (students, academics and the general staff). The news was transmitted fast among the students who were studying for their examinations but who had their radio turned on. The academics and the general staff of the university were to learn of the news the following day on listening to the radio, television and from the newspapers.

A total of 43 percent heard of the news within 90 minutes from the time of announcement and by five hours, 72 percent had learned of the

shooting incident. Television was the main source. There was hardly any oral transmission of news of the event.

The death of the Swedish Prime Minister, Olof Palme, was a case in point. He was assassinated near midnight on 28 February 1986, and by that time, the electronic media stations were closed. The news desk at the Swedish Broadcasting Corporation was said to have closed down around 11.30 p.m (Weibull et al., 1987). The news of the death of Olof Palm was released by the Swedish News Agency an hour later.

The news on the death was announced the following day on television and in the newspapers. So, the matter of the case is that for the event to be made known, it has to be carried by the mainstream media. A total of 30 out of Sweden's 94 newspapers entirely missed the story on Saturday, the following day. It took more than 10 hours for the news of Palme's murder to disseminate to 98 percent of the population. It is not that the event was not newsworthy but the media system in Sweden prevailing at that time, inhibited a speedy flow of information. A total of 88 percent heard of Palme's death 26 hours after the event. News diffused entirely via mediated channels of communication, with the majority citing television as their first source.

The Swedish media were not able to get the news across. The news desk at the Swedish Broadcasting Corporation closed down at about 11:30 p.m. but the radio news was not transmitted until after 1.00 a.m. TV closed down at 0:45 a.m. "having said nothing about the matter." (Weibull, Lindahl & Rosengren, 1987: 154). Thus, the event that happened at night made it not possible for the people to wake up to listen to the news. The rate of news diffusion is a function of media availability and general social habits precluding in this case exposure to the media at the time when the news of the event was unfolding.

The study on the death of the Swedish Prime Minister, Olof Palme in 1986 at 11:15 p.m. was contained in a special issue on news diffusion of the *European Journal of Communication* (1987) on the assassination of Sweden's Prime Minister, Olof Palme. Rosengren (1987) termed it as a comparative study with articles contributed from scholars, including one from Hiroshi Tokinoya, Japan.

Comparative studies indicate a slower diffusion on the news of Olof Palme in the United States or in Japan (Gantz & Tokinoya, 1987), in

the Nordic states of Iceland, Norway, Denmark and Finlad (Heraldsen e.t al., 1987) and differential but slow speed in England, Germany, Hungary and Italy (Kepplinger et al., 1987). The various studies on how the death of Olof Palme was transmitted in the Nordic states (Haralden et. al., 1987) and in the United States and Japan (Gantz & Tokinoya, 1987), in the four European countries, found the diffusion to be slower. Several factors were given including the relative salience of the event, the media system prevailing in the different political entities and the time the news was able to be transmitted to the audience (Rosengren, 1987; Weibull, Lindahl & Rosengren, 1987).

The assassination of Itzhak Rabin, Prime Minister of Israel on November 4, 1995 at 9:44 p.m. was a different scenario from that of the death of Olof Palme of Sweden although he was shot at night. It was a different media system found in Sweden and Israel. The first announcement came at 9:50 pm on Israel Radio and Television carried the news at 10:10 p.m. Cohen (2002) reported that 75 per cent heard of the news within one hour of Rabin being shot. A total of 39 percent heard the news from television, 27 percent from radio and 18 percent from friends and neighbours. There was no control on the release of news about the death of Rabin enabling the rapid transmission of news. The media system in Israel was used for emergency and crisis news announcements and the people accept the transmission on the death of their Prime Minister.

Another incident happened to yet another Malaysian plane in 2014. On July 17, the Malaysia Airlines Flight 17 (MH17) on a scheduled flight from Amsterdam Airport Schiphol to the Kuala Lumpur International Airport (KLIA) was downed over East Ukraine by a BUK surface-to-air missile. All 282 passengers and 15 cabin crews on board perished.

The tragic news of the MH17 plane was conveyed to Malaysia close to midnight when most Malaysians were asleep. The news event was reported in clear terms that the Malaysian plane was downed in Ukraine. But many could not believe that another air disaster could have struck another Malaysian plane again in the same year. In most of the characteristics, diffusion of news of the MH17 plane was similar to the news event of the murder of the Swedish Prime Minister, Olof Palme, who was shot at 11:21 p.m. on 28 February and pronounced dead at 00:06 a.m. The news was received late and many citizens were asleep. The media

system in Malaysia, however, was different from the then system in Sweden as TV was on 24 hour service.

The flow of information was tracked from the time of incident. The line graph below shows the twenty-four-hour timeline after MH17 was shot down in Donetsk, Ukraine against the news coverage by the media channels in Malaysia. According to the Dutch Safety Report, the incident happened at 9:20 p.m. (Malaysia time, UTC+8.00). One hour and 45 minutes later, Reuters, an International news agency, flashed the first news at 11:05 p.m., followed by a news posting by Malaysian on line newspaper, The Star at 11:20 p.m. and New Straits Times (NST) at 11:31 p.m. Five minutes later, Malaysia Airlines tweeted a confirmation about the incident, followed by news coverage by Astro Awani (Web) at 11:49 p.m. and BERNAMA at 11:58 p.m. The television version of Astro Awani also ran a live news coverage starting from 11:50 p.m. onwards, alongside constant news and Twitter updates throughout the night.

After midnight, Malaysia's Prime Minister, Mohd Najib Abdul Razak, tweeted about the incident (12:04 a.m.), also running at the same time was the TV3 midnight news edition, Nightline. According to the data, after midnight, 7.6 percent of the respondents had heard about the news, but the numbers declined for the following three hours due to the fact that the news came at midnight. The diffusion rate went up again after 5:00 a.m., coinciding with Muslims' local *sahoor* time and Najib's first press conference. The highest rate of news diffusion was locked from 6:00 a.m. to 9:00 a.m. (29.8%), as Malaysians were heading to work and reading the news updates while on their way to work. Local newspapers sold throughout the day featuring the incident as front-page news, printed in black and white as a sign of mourning for the victims (see Picture 1). Throughout the day, despite news updates by the Malaysian media, the number decreased slowly but rose again at 8:00 p.m. (3.3%), alongside the primetime news programmes run by mainstream television channels in Malaysia. Therefore, throughout the first 24 hours, 81.1 percent of the respondents had heard the news regarding MH17 tragedy and the following 18.9 percent heard about it the following days.

Line Graph 1: 24-hours timeline of MH17 and the diffusion of news
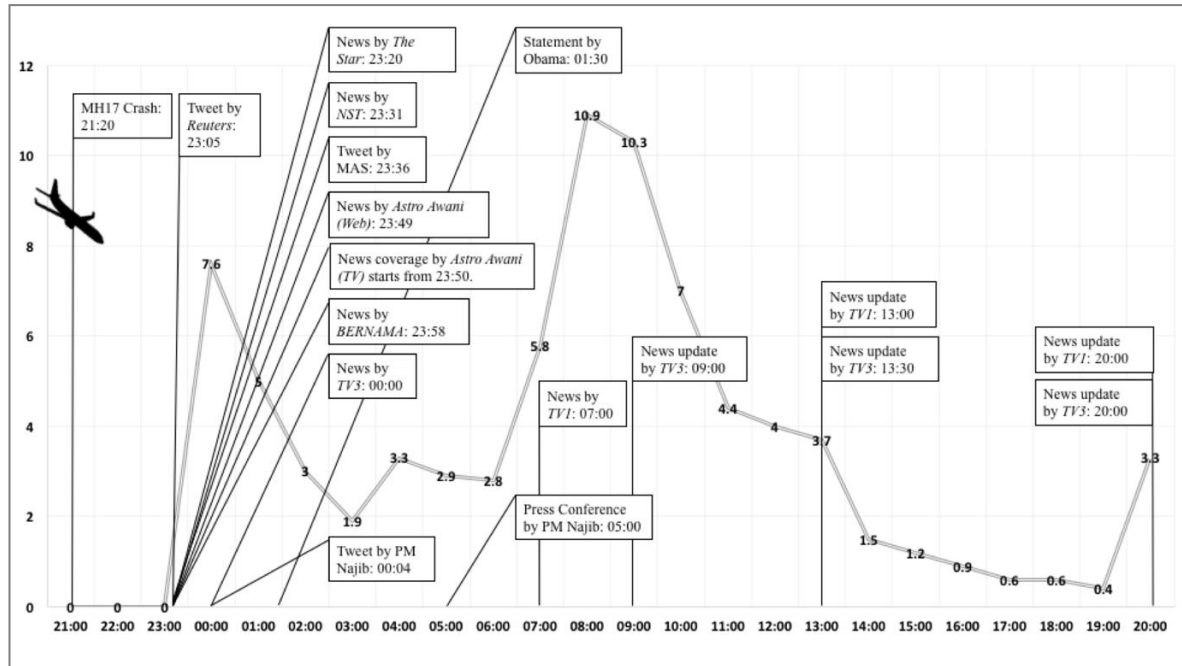
Picture 1: Front-page of some major newspapers in Malaysia on July 18, 2014

The hypothesis of this study posited that initial information about MH17 crash came from mainstream media rather than from other sources. Table 2 details the sources of information on the MH17 crash among the respondents. Among the mainstream media, television (30%) was the primary source of information for a majority of the respondents, followed by newspapers (11%) while radio was the least source mentioned (7%).

Table 2: Source of information on MH 17

Items	Frequency	Percentage
Television	288	30
Radio	66	7
Newspapers	103	11
Facebook	177	18
Twitter	42	4
Blog	16	2
News Portal	38	4
Phone call	8	1
SMS	7	1
Word of mouth	95	10
WhatsApp application	138	14
Total	**978**	**100.0**

Conversely, Facebook (18%) was the primary source of news among the new media, followed by WhatsApp (14%). Short Message Service (SMS) (1%) was the least primary source of information about MH17 crash. Word of mouth accounted for 11 percent. On the aggregate, the mainstream media was the dominant primary source of information. This agrees with the findings of news diffusion studies where mainstream media function as the first to scoop information about tragic events. The pre-eminence of television as a primary source of information on MH17 crash is not surprising given the antecedent of the medium as societal information trail blazer but on closer look, the heavy presence of the new media or online media has been felt. Some 35 percent of the respondents cited the online media as their first source of information which was more than those that cited by television (38%).

What can we make of the studies on news diffusion in Malaysia? There have been significant events similar to the assassination of Kennedy, the assassination of Rabin, the murder of Olof Palme and the attempted murder of Reagan. The MH370 missing plane and the MH17 downing incident were also significant events yet the news event was not released with speed as it should have been, like the other significant events. Both incidents were highly reported by the Malaysian and the world media. It had also drawn the attention of world leaders.

The case of the missing plane MH370 is being investigated by several countries. Millions of Ringgit are being spent by the Malaysian Government to locate the whereabouts of the plane. Many find it hard to believe that such a huge plane could have gone missing.

The news on both the cases was engulfed in circumstances that inhibited the rapidity of news flow. Weibull et. al. (1987) and Rosengren (1987) say that if significant events were not diffused fast then reasons can be traced to situational factors. The time of day, media habits of the people and the capacity of the media channels are some of the situational factors that are the given reasons.

The Malaysian media system allowed for the transmission of the news on the two incidents as TV stations in Malaysia provide a 24 hour service. The newspapers were able to come out with the story on their front pages the following morning despite receiving the news late in the night about the shooting down of MH17. The nature of the announcement about the missing plane did not create that anxiety among the people to cause them to seek for more information which was normal in significant news events such as on the death of Kennedy or the attempted murder on Reagan. It was only when the announcements on the missing plane were repeated that anxiety built up among the people. Yet there was still no clue that a tragedy had happened. No official source could provide a statement about the case of the missing plane. The press conferences came out with conflicting statements that added confusion to the entire scenario. Basically, there was no clue and until today, we have still no idea about the missing plane.

In the case of MH 17, the first news that reached Malaysia was near midnight. Like the situation in Sweden, when Olof Palme was murdered, Malaysians had already gone to bed. Despite that, a total of 25

percent of Malaysians had heard the news within one hour. It was the role of the online media that provided input into the transmission of news. Twitter played its role in the diffusion at the early stage, including the tweet from the Prime Minister past midnight relaying information of the new tragedy,

The MH17 incident highlighted the changing media landscape in accounting for the diffusion of news. Over the years, the new media would play a greater role in being cited as the first source of information. In some ways, this premise was true. The picture was emerging early. During the event on the death of Hussein Onn in 1994, more people learned of the news from television than the newspaper but in 2006, a decade later, on the death of Endon Mahmood, more respondents were getting information from their handphones than previously. By 2014, the online media had surfaced to be playing a vital role in the diffusion of news.

C.   Expected News Event

Another category on news Diffusion was on the Expectedness of the Event. Some events, announced by the media, are organised events that would occur at a certain place and time. The announcement on the impending boxing or sports event would arouse interest among the audience members. Another sort of an expected event is on deaths of persons who have been in ill health for some time.

In the anticipated category, the Malaysian study could identify four events, two death events and the results of two elections. In the Kelantan By-Election, the voting ended at 6:00 p.m. and the official announcement on the outcome of the election was made at 8:40 p.m. The announcements over radio and television were made by 9:00 p.m. The two candidates sponsored by Semangat 46 won the by-election and the two former state assemblymen who stood under a new party banner, lost. But the flow of news was not fast as the event happened at night and only half of the people were interested in the event.

In the 1990 UMNO election (Idid & Safar, 1990), the event was known immediately through live telecast by 25 percent of the respondents studied and it was known by 79 percent four hours later. The event was broadcasted live and television was reported to be the first source of

information. There was strong publicity about the party election as UMNO, the dominant political party, was the backbone of the government.

Tokinoya (1994) records low personal contact in the spread of news about the ill health and the death of the Japanese Emperor. The news was probably anticipated as the Emperor had been ill since October 20, 1988 (four months). He was pronounced dead at 6:30 a.m. on January 7, 1989.

A total of 18 percent learned of the Emperor's ill health, within the first hour and 97 percent within 24 hours, while on the death of the Emperor, 50 percent were informed within the first hour and 100 percent learned of it within 7 hours. News on both the events was spread by television, 81 percent heard about the ill health and 88 percent learned of the death from TV. Any anticipated event, therefore, will not be relayed at a high speed by word of mouth. The Emperor had been ill for some time and his death was not totally unanticipated.

The Sony-Liston boxing match in February 1964 was another example of an expected news event. The fight between the two well-known boxers was announced widely months before the event. The live broadcast captured a large audience. A telephone interview made on 291 respondents in Northern California found the majority had heard the news. A total of 77 percent learnt of the event from radio (live), 8 percent each from television and from interpersonal sources, 4 percent from newspapers and 3 percent from various sources. Greenberg, Brinton and Farr (1965) say interest in the event is drawn from pre-event activities leading the audience to listen to the programme live. People who were not interested in the event were more inclined to obtain information from others. This illustrates that interpersonal communication was activated among those who had the least interest in the event.

Another event is on the third Prime Minister, Hussein Onn, who passed away after being in ill health for some time. When his death was announced, 51 percent heard it from the broadcast media (26 percent radio and 25 percent over television) and 26 percent by word of mouth. Another 21 percent read the newspapers the following day (Idid, 1992). The spread of news was slow. A total of 14 percent heard it within one hour, and 48 percent within 11 hours.

The study on the death of the wife of the fourth Malaysian Prime Minister, Endon Mahmood, can be classified as an anticipated and significant. Endon had been ill for several years and when she was brought back to Malaysia after receiving treatment in the United States, many had expected the worst. When her death was announced in the morning, 55 percent of Malaysians heard it within two hours and 79 percent in four hours (Idid, S. A, Ahlam, A. A. & Azlinawati, N. (2006). A total of 33 percent cited interpersonal communication as their first source, 23 percent cited television and 15 percent cited radio. Another 17 percent received their information through sms and phone calls. Personal communication appears to be dominant.

The death of President Eisenhower (O'Keefe & Kissel, 1971) would come under this category as he was in ill-health since 1965 before he succumbed to his death in 1969. A total of 22 percent learnt of the death from other persons. A total of 40 percent learnt of it from television and 34 percent from radio. The news was diffused slowly.

Overall, the spread of news of expected events was fast; activated more by the mass media than by interpersonal communication. As a factor, interest might have attracted the audience to watch over television or listen to the radio as the event had been announced before. Was the flow of information news of anticipated but significant news affected by the advent of technology? One can see a pattern on the news spread by television for anticipated but significant news events such as the death of the Japanese Emperor, death of Hussein Onn, and the Sony-Liston fight in the 1990s when the new media were not significantly present. But on the death of Endon Mahmood in 2006, interpersonal communication was dominant and 17 percent was recorded using sms and telephone as their first source of information.

DIFFERENTIAL LEARNING OF EVENTS BY SUB-GROUPS

A characteristic of news flow is its salience by the audience. Is it newsworthy that the audience should feel a need to be concerned? Is the news salient to some segments of the audience? Events that are of salience to some members of the audience are spread faster and diffused more (Rosengren, 1986). Relevant salience to the audience means that the news must be of concern

to them, must directly or indirectly affect them, and has local or family implication to make them feel the need to share the event in a conversation or to tell others.   Another point made by Rogers (2000) was that the audience must acknowledge that the event concerns a celebrity.

This category would invite a study on differential learning. Adams, Mullen and Wilson (1969) categorise news events in three ways: 1) Events that are of little personal relevance and essentially unemotional; 2) either relevant or emotional, and 3) both relevant and emotional. News events that are personally relevant had more knowers requiring more attempts to verify the reports.

An analysis by Levy (1969) on knowledge of the assassinations of six political leaders in the United States find that sub groups differ in their access to sources and their level of information. A source that is important for a particular group may differ among subgroups.

Three studies on news diffusion illustrate the differential acceptance of the events, one being on the death of the Second Malaysian Prime Minister, the death of Senator Taft and the third on the shooting attempts on President Reagan and Pope Paul in different population groups. The newsworthiness of an event is relative to the population subgroups. Some groups would perceive an event as being newsworthy or instrumentally important (Greenberg, 1964) while others may not perceive it as such.

An early study on the diffusion of news of a major event was on the death of the Second Prime Minister, Abdul Razak Hussein, an incident suggesting that news events can be relatively considered significant in two different societies. The study on the death of Abdul Razak Hussein, who passed away in a hospital in the United Kingdom on January, 14, 1976, (Idid, 1976) for example, found that the news on the death of the Malaysian Prime Minister was significant among Malaysians studying in Madison, Wisconsin, but the event had no significance to the Americans.

A study conducted on Pope Paul VI's March 1967 Encyclical found that it was well   received among the Catholics who felt the news most personally relevant to them (Adams, Mullen & Wilson, 1969). Other studies found that relevance and salience would predict the diffusion of news in a given community, meaning the section of the public that found the event to be of higher interest and importance would learn more of it

(Hanneman & Greenberg, 1973). How subgroups learned differently depend on the nature of the events, the level of education of the receivers, their interest and also on the source of media information (Levy, 1969).

A similar finding was obtained in the United States as the assassination attempt on President Reagan was also differently spread among the Americans compared to the news on the shooting of Pope John Paul II but the spread was different for the two events in Mexico (Quarles, Jeffres, Sanchez-IIundain & Neuwirth, 1983). Pope Paul II was regarded as significant to the people in Mexico, a dominant Catholic country, compared to the Americans in Cleveland, Ohio, who were non-Catholics by faith. The diffusion of news on Pope Paul II was fast in Mexico but relatively slow in the United States. But the diffusion of news about the shooting of Reagan spread faster in Ohio than in Mexico. Another interesting finding was that in both the events in the two different locations, the majority of respondents obtained the news by word of mouth, although the news significance was less to the people in Mexico. Another study on the different knowledge of two events in the same community was undertaken by Weaver-Lariscy, Sweeney and Steinfalt (1984) namely on the attempted murder on Reagan and the death of Pope Paul. News of the Regan's attempted murder diffused faster than the news on Pope Paul in the United States.

The death of the well-known athlete, Prefontaine, in May 1975 was heard faster and in a greater number by the Track Group while the general population was not that aware of the event. Almost 92 percent of the Track Group was aware while only 52 percent were aware among the general population. Gantz, Trenholm and Pittman (1976) in analysing the event said the concept of altruism or interest in the person affected the early knowledge of the death while those not altruistic were less aware.

An early study by Larsen and Hill (1954) on the death of Senator Taft also shows differential learning of the event with the White labouring class knowing the news more than the others, the reason cited was that the Senator being a pro labour champion. The faculty community learnt earlier than did the labouring class. The respondents learned of the event from the media rather than interpersonal communication.

Different news value in a different setting also invited differential learning. The resignation of the Russian Prime Minister, Khrushchev and

the arrest of Walter Jenkins, Presidential Assistant on October 14 and 15 1964 respectively invited differential learning where knowledge on the Jenkins case was higher than the resignation of the Russian leader. Respondents from Iowa City learned from the electronic media more than from the interpersonal sources (Budd, MacLean & Banes, 1966). The interviews were done nearly in the same week as the incidents happened one day after. While some scholars may have classified the news event on Khrushchev to be of a higher value than the arrest of Walter Jenkins, yet on perspective it could be that the Jenkin's case was more salient to the American community than the resignation of a foreign Prime Minister.

DISCUSSION AND CONCLUSION

At the start of this paper, it was mentioned that diffusion studies had departed from the tradition of the Lasswellian idea of a strong direct effects of the media, and had entered the post Hypodermic Needle concept of the limited effects of the media. The notion of an intermediary (that is the opinion leader) as in the Rogers Diffusion Model was found to be one of the characteristics unsuitable for adoption in the News Diffusion studies as direct media impact of information was seen in nearly all studies. News diffusion did not entertain the concept of the opinion leader as the flow of crisis information was from the media to selected individuals who then passed it on to others rather randomly. Opinion leaders under the Diffusion of Innovation had certain attributes which the followers of news diffusion did not possess.

Relatively few news events went comparative, such as the studies on the death of the Swedish Prime Minister, Olof Palme, (Rosengren, 1987) and more recently, the September 11 tragedy (Greenberg, 2002; Grusin & Utt, 2005; Monahan, 2011 and Noll, 2003). Shoemaker, Cohen Seo and Johnson (2010) accept news diffusion studies as a limited comparative communication research. But recently, there has been a steady interest among non-American scholars on studying news diffusion of significant events. Certain interesting aspects of the news diffusion studies can be highlighted.

A.   Theory

Studies on News Diffusion from the perspective of theory have been commended and commented upon. DeFleur (1987) observes the research tradition on news diffusion has grown frail over the years but Rogers (2000, 2003) expresses optimism that the tradition would grow. Rosengren (1987), writing several years earlier, is hopeful provided more comparative research can be conducted. It has been 71 years since the Miller study or 40 years in Malaysia since research on news diffusion was made. Various approaches have been taken,   its impact has been felt, and studies have been conducted in several societies to understand the flow of significant (and non-significant) news during the day and during the night. Different topics have been touched dealing with deaths of kings and emperors, presidents and prime ministers and on events ranging from elections, sports to air tragedies and one touching on "Gods are Drinking Milk!"

   Not many well-known researchers have conducted research or have written on news diffusion compared to the involvement of renowned scholars in other fields. Such names as DeFleur, Rogers, Rosengren have been constant in dealing with the subject but other scholars like Budd, O'Keefe, McCombs, Bantz made their mention and left. Miller wrote one piece in 1945 and that was the only piece.

   Researchers agree that the Diffusion of News is characterised by its replication and repetition rather than by any systematic advances in theory and methodology (Rosengren, 1983: 227). The replication and repetition are seen, at times, as an inherent strength for the studies in Diffusion of News are able to draw the "potentialities of comparative research" (Rosengren, 1983: 226). The study on the death of the Swedish Prime Minister, Olof Palme, by scholars in 12 countries was an instance of a comparative research showing that speed of news transmission was affected by time and by the different media systems operating in the different societies. The comparative study discussed basic theoretical and methodological problems, sighting the overall pattern, the characteristics of the event, and the different media systems prevailing in the different countries.

   The collection of studies on the September 11 tragedy, recorded in four books, symbolises a great effort in studying more than the diffusion of

news. It records rate and amount of diffusion, and goes on to record the coverage by the media, the reaction of the people, the authorities involved and the role of the various media. It is extensive.

Rogers (2000) expresses optimism in the cumulative growth of news diffusion studies suggesting that future studies would link themselves with other theoretically driven areas such as knowledge–gap, social cognition theory or the role of self-efficacy in news diffusion behaviour. Other theoretical linkages could also include Uses and Gratifications, Agenda Setting and Audience Analysis but it could also grow on its own, building up its own paradigm (DeFleur, 1987; Rogers, 2000).

Overall, there has been little development in theory compared to the growth in other communication fields. One is not aware whether news diffusion has been conducted for theses and dissertations in the universities. Limitations in the use of varied concepts and conceptualisations may have precluded the writing among students pursuing their post-graduate dissertations.

Miller (1945) started with a model, curiously asking the question on the flow of news on the death of President Franklin Roosevelt in a campus community. He did not pose a theoretical question in his study. The nature of his research work was conducted within the context of a two-step flow of information, that is, news would flow from the media and then would spread to the audience. But the proponents of the powerful effects of the media would have posited the flow to be from the media to the audience. Miller found the media to reach the minority who then spread to others. It was the majority who spread the news by word of mouth. It was the first study styled the diffusion of news rather than accepted as a two-step flow in the absence of any Opinion Leaders. The early diffusion studies before 1960 had no scientific paradigm. To Rogers, the diffusion of news event is a discrete mass communication function, and its study sheds light on the complex process through which the mass media convey news stories to audience members. Individuals then interacted with each other to give meaning to the news. It appears that individuals gave significance to a news event as they exchange meaning among themselves. It is not media that sets the salience of news.

Diffusion studies rarely broadened or extended the scope affected, especially on cognition or behaviour. Studies continued to focus on crisis

news events, the relative roles of interpersonal and mass communication in the dissemination process and the rate at which information is diffused through the population. In short, the model rarely expanded as some political and mass communication scholars had hoped that it would (Trent & Friedenberg, 2008: 136). It was only in 2015 with the report on MH370 and MH17 that diffusion studies in Malaysia included responses and reactions from respondents over the two incidents. The two studies on the aviation tragedies also charted new areas by looking at events beyond news diffusion. There were questions asked on the audience response to the tragedies, their understanding of the events, their assessment on the credibility of government agencies in handling the disasters, and their perception of online and traditional media credibility.

B.   Methodology

A frequent critique by scholars was that the methodology used was very limited, served a very specific purpose, the sample was small and it suffered an inbuilt weakness of being a Fire House Research (Deutschmann & Danielson, 1960; Rogers, 2000; Greenberg, Hofshire & Kachlan, 2002). Researchers had to be on standby and move to the research ground once an announcement was made of a significant event. As the nature of the research was characterised by speed, the size of the sample was small and the number of questions posed was limited. The speed in which research had to be mounted was done at the expense of context. The inadequacy was expressed by one scholar. "Investigators cannot adequately prepare a survey instrument, train interviewers and gather data from audience individuals, let alone apply for a research grant" (Rogers, 2000: 560).

News diffusion studies have focused on the sudden and the dramatic but such events rarely happens. The speed in which significant events happened as in the case of the assassination of Kennedy, the attempted assassination on President Reagan or the MH370 missing plane and MH 17 left scholars little time to be prepared to move to the ground once the signal had been given. This calls for preparedness in efforts and time and action as an immediate signal is required for the further development of the news diffusion studies. Such a suggestion was made by

Rogers over the study made by Deutschman and Danielson (1960) who provided a paradigm for later research. The elements of this paradigm were:

(1)   A pre-planned methodology to enable researchers to conduct research within a few days;

(2)   Data gathering about multiple news events at multiple sites; and

(3)   Focus on the rate of diffusion, mass media and interpersonal channels of diffusion.

Sampling size was another issue in Malaysian or worldwide studies. The samples were small because of the need for preparation, to design the study, ready the enumerators and to get everyone down to the field. The study on the arrest of Presidential aide Jenkins had only 30 respondents and the resignation of the Russian Prime Minister, Khrushchev had 76 respondents from East Lansing (Danbury & Berger, 1965), and there were 143 student respondents for the Miller study in 1945. The attempted assassination on Reagan on 309 respondents was conducted by phone two days after the event (Gantz, 1983). Even recent studies had small samples. Studies that conducted the September 11 incident had samples ranging from 314 (Greenberg et. al. 2002) to 1,130 conducted nationwide.

The speed in which the study was carried was well noticed. Larsen and Hill (1954) carried out their study on the death of Senator Taft, 24 hours after the announcement. Budd, Maclean and Barnes (1966) carried out the diffusion study on the resignation of the Russian Prime Minister, Khrushchev, within one hour after the announcement, and 17 hours after the Presidential Assistant, Walter Jenkins was arrested. Bantz, Petronic and Rarick (1983) carried out the research on the attempted death of President Reagan within two hours using a non-probability survey. The study on the death of Kennedy by Hill and Bonjean (1964) was conducted one week after the event on 212 residents of Dallas Major Metropolitan.

The sample size and time taken to conduct the study in Malaysia also varied, some were conducted within hours of the incident. The sampled population ranged from 28 (Idid, 1976) to 1,400 (Idid 2015). The study on the death of the Malaysian King was conducted on the same day on 174 respondents, one day after in the case of the death of Anwar Sadat (Idid, 1983), or on Hussein Onn's Resignation (Idid, 1982); or within one week

of the event in studying the UMNO Election (Idid & Safar, 1990) or on the death of Endon Mahmood, (Idid, S. A, Ahlam Abdul Aziz & Azlinawati Ngainon (2006), or on Hussein Onn's death (Idid, 1992). But it took Idid (2015) two weeks to mount the study on the air disaster of MH370 in Kajang, Selangor. Another study was conducted nationwide on MH17 but it was conducted three weeks after the incident.

There were campus community involvement as in studying the death of Abdul Razak Hussein (Idid, 1976) on the death of Anwar Sadat (Idid, 1983); or the Miller study in Kent State or in the campus of University of Washington (Larsen & Hill, 1954). Several studies were done at one urban location as the study on the death of the Malaysian King (Idid, 1981), Hussein Onn's Resignation as Prime Minister (Idid, 1982), or on MH370 in one urban town (Idid, 2015). In Japan, Tokinoya (1994) did his study in Setagaya-Ward, Tokyo.

Randomly arranged studies were lacking. There were nationwide studies such as on MH17 involving 1,003 respondents (Idid, 2015) or as done by Jones and Rainie (2002), the first survey had 2,039 respondents in September 2001 and another had 1,029 respondents in September - October 2001.

Phone was normally used but some studies conducted using face-to-face interviews (Danielson, 1956; Fine, 1975). O'Keefe (1969) used the mailed questionnaire for his study on the first recorded human transplant performed by Dr. Christian Bernard from a hospital in South Africa. The respondents were medical doctors and the study took place four days after the event. Budd, MacLean and Barnes (1966) interviewed 320 residents from Iowa City by phone on the resignation of the Russian Prime Minister, while Larsen & Hill (1954) interviewed the academics and the labouring class on the death of Senator Taft face to face. On the tragedy of September 11, Greenberg conducted interviews by phone on 314 respondents.

Bantz et al. (1983) conducted a face-to-face non-probability study on 289 respondents in a Mid-West Metropolitan within two hours of the incident. In another study, Quarles, Jefres Sancez and Neuwirth interviewed 261 respondents in Cleveland, Ohio, by random dialling within 48 hours after the announcement. A total of 105 respondents were interviewed in Jerusalem and Tel Aviv on the death of Itzhak Rabin on November 4, 1995 four days after the incident.

In the case of Malaysia, all the diffusion studies were carried out using the questionnaires administered face to face except for the study on the death of the second Prime Minister, Abdul Razak Hussien, when the interview was made through the use of telephone.

Bantz, Petrnio and Rarick (1983) comment that event proximity (measured in terms of time away from the event) and Interview Time (Time of Day study was conducted) may cause an artifactual study. Event proximity as postulated by Bantz et. al. (1983) would predict that the event would be relayed by interpersonal communication because nearer to the event, the respondents would continue to report in sound memory that their fist source of information was through interpersonal communication. Studies have shown that event proximity did not affect the findings on diffusion studies (Rogers, 2003); Weaver-Lariscy, Sweeney & Steinfalt, 1984). The Malaysian studies did not find a difference whether field work was conducted nearer the date of the event or slightly away from the event. For this discussion, two studies need to be conducted, one near the time of the event and another   time distance away to evaluate memory recall.

In diffusion studies, media become integral to an understanding of the whole process. It is from media that time would be measured for the rate of diffusion. In 1945, time was measured when news of the death of President Roosevelt, was announced over radio (Miller, 1945). Media announcement was considered in measuring the rate of diffusion on the death of Kennedy (Banta, 1964); on the death of the Japanese Emperor (Tokiyona, 1994) or on the death of the Swedish Prime Minister, Olof Palme. A contribution that was made from the Malaysian research on news diffusion was on the death of the Malaysian King. If news was important, it was difficult to be sealed. News would spread and indeed it spread by word of mouth, hours before an announcement was made on the death of the sovereign ruler over the official media. Hence diffusion studies must be seen within the context of the media landscape.

Several media landscapes could e classified on the development of news diffusion studies. The first phase 1945 to 1964, (from death of Roosevelt to Death of Kennedy), from 1965 to 1990 (Reagan; Hussein Onn) and from 1991 to 2000+ (Death of Endon Mahmood; September 11; MH370 and MH17) marked several changes in the media landscape. The first phase saw the importance of Radio. Television was showing its power

in the second phase but significant events that happened in the day were reported fast by word of mouth. In the third phase, television showed its importance but the online media was showing its marked contribution. But in the later years, especially so after 2000, one must take into account the role of the online media. Hence, in the study on the Malaysian plane that was downed over Ukraine, tweeters became the carrier of information earlier than the media. In the later studies as reported over the September 11 tragic event and the Malaysian air Disasters, there were some evidence on the role of the online media but television continued to remain strong as the majority appeared to cite television as their first source of information. Online media became more visible during the MH17 incident and one would expect this role to be more significant in the years to come.

The study after 2000 must also understand that fragmentation of the media and the audience due to the presence of a variety of media in society. Besides the new media, the traditional media itself has taken many forms, and radio stations have increased while newspapers have taken the print and the online forms to reach their audience. So the audience members have better ways of knowing the event than their predecessors.

A study on the audience should also be given more space by scholars. Time in knowing the event was important but equally important was what meaning the audience members obtained from learning about the event. There is a need to use more in depth interviews to get a grounded feel on why people learn and change. There were researches done that studied the reactions of the audience toward the event. Larsen and Hill (1954) studied the reaction of the people toward the death of Senator Taft, as much as there were investigations on the reactions of the people on the attempted assassination on Reagan based on gender and demographic factors (Bantz, Petronio & Rarick, 1983). Studies on the assassination of Kennedy (Banta, 1964; Greenberg, 1964) and on the murder of Swedish Prime Minister, Olof Palme (Rosengren, 1987) also investigated the reaction of the people toward the tragic events. The study by Singhal et. al. (1999), using the triangulation method, provide more information than the ordinary diffusion of news study by the inclusion of audience reaction using personal interviews and focus group discussion.

In studying the MH17 incident, we had broadened the scope to include audience perception of the media system based on the information

they received of the plane that was shot down in Ukraine. There are also other items that could be included to widen the scope, including the need to study audience news seeking behaviour. The future looks promising on news diffusion studies if the scope can be broadened.

The news diffusion studies have focused mainly on the time (when), what and how in line with the tradition set by the Miller study. Hence, scholars have focused on when the audience heard the news, on whether the event was an important, significant or minor event.   The audience was then probed on how they learned about the news, whether from the media or interpersonal communication. The how was then elaborated to link with the location at the time they were receiving the news. What they learned was on the questions that were of interest to the researcher, namely the time the news was received. There was hardly the question of why. The audience were not questioned in depth as to why the news was regarded as significant, the meaning of significance and in what ways the significant events would affect their lives, their community or their government. The future would perhaps emphasize on the reasons for the acceptance of the event by the audience. In some ways, it would mean less haste in carrying out the research but more thinking in the complexities of the elements involved in news diffusion. The why has to be given prominence over the when, the how and the what.

REFERENCES

Adams, J. B., Mullen, J. J., and Wilson, H. M. (1969). Diffusion of a "minor" foreign affairs news event. *Journalism Quarterly, 46*, 545-551.

Banta, T. J. (1964). The Kennedy assassination: Early thoughts and emotions. *Public Opinion Quarterly, 28*, 216-224.

Bantz, C. R., Petronio, S. G. and Rarick, D. L. (1983) News diffusion after the Reagan shooting. *Quarterly Journal of Speech, 69*, 317–327.

Baran, S.J., & Davis, D. K.and Davis, D. K. (2014). *Mass communication theory: Foundations, ferment and future.* Boston: Wadsworth.

Chaffee, S.H. (1975). The diffusion of political information, In Chaffee S.H. (ed.), *Political communication: issues and strategies for research.* pp. 85–128. Beverly Hills, CA.

Cohen, Y. (2002). Broadcast news diffusion in crisis-ridden democracies: Israel and the Rabin assassination. *Harvard International Journal of Press/Politics, 7,* 14-33.

Danielson, W. (1956). Eisenhower's February decision: A study of news impact. *Journalism Quarterly, 33* (3), 433-442.

DeFleur, M. L. (1987). The growth and decline of research on the diffusion of news, 1945-1985. *Communication Research, 14*, 109-130.

DeFleur, Melvin L. (2010). *Mass communication theories.* New York: Allyn & Bacon. *European Journal of Communication.* (1987). Special Issue: News Diffusion, 2 (2).

Fine, G. A. (1975). Recall of information about diffusion of a major news event. *Journalism Quarterly, 52*(4), 751-755.

Funkhouser, C. R. and McCombs, M. E. (1971). The rise and fall of news diffusion. *Public Opinion Quarterly, 35*(1), 107-113.

Grusin, E. K., & Utt, S. (eds.) (2005). *Media in an American Crisis: Studies of September 11, 2001.* New York: University Press of America.

Gantz, W. (1983). The diffusion of news about the attempted Reagan assassination. *Journal of Communication, 33*, 56–66.

Greenberg, B. S. (ed). (2002). *Communication and terrorism. Public and media responses to 9/11.* Cresskill, NJ: Hampton Press.

Greenberg, B. S. (1964). Diffusion of news of the Kennedy assassination. *Public Opinion Quarterly, 28*(2), 225 – 232.

Greenberg, B. S. (1964). Person-to-person communication in the diffusion of news events. *Journalism Quarterly, 41*(3), 489-494.

Greenberg, B.S., Hofschire, L. and Lachlan, K. (2002). Diffusion, media use and interpersonal communication behaviours. In Greenberg (eds).

Communication and terrorism. Public and media responses to 9/11. pp. 3-26. Cresskill, NJ: Hampton Press.

Hanneman, G. J and Greenberg, B. S. (1973). Relevance and diffusion of news and major and minor events. *Journalism Quarterly, 3*, 433-437.

Henningham, J. (2000). The death of Diana: An Australian news diffusion study. *Australian Journalism Review, 22*(2), 23–33. Retrieved from http://espace.library.uq.edu.au/view/UQ:10739.

Hill, R., & Bonjean, C. (1964). News diffusion: A test of the Regularity Hypothesis." *Journalism Quarterly, 41*, 336-342.

Idid, S. A. (1976). The death of Tun Abdul Razak: How Malaysians in Madison learned the news. *Akademika, 8*, 65 – 71.

Idid, S. A. (1981). The death of the King: How one Malaysian society knew about it. *Media Asia, 8*, 162 – 165.

Idid, S. A. (1982). Datuk Hussein's Resignation: A study on news diffusion. *Jurnal Komunikasi, 1*, 89-91.

Idid, S. A. (1983). Sadat's death: A study of news diffusion in a Malaysian community. *Media Asia, 10*(3), 225 – 232.

Idid, S. A. (1994). Tun Hussein Onn's Death. Another consideration of the diffusion hypothesis. *Jurnal Komunikasi, 10*, 123-136.

Idid, S. A. (1997). *News diffusion studies in Malaysia*. Bangi: Jabatan Komunikasi.

Idid, S. A. (2015a). The missing Malaysian plane: A news diffusion study. Paper presented at the AMIC Conference, organised by the Asian Media Information and Communication (AMIC), Dubai, UAE, 10-13 June 2015.

Idid, S. A (2015b). The Malaysian plane shot down in Ukraine. Paper presented at the ANPOR Annual Conference, organised by the Asian Network for Public Opinion Research, Bangkok, Thailand, 25-28 November 2015.

Idid, S. A & Hasim, S (1990). UMNO election 1987: A diffusion study of an expected major news event. *Jurnal Komunikasi*, 73-79.

Idid, S. A, Ahlam Abdul Aziz & Azlinawati Ngainon (2006). The news on the death of Endon Mahmood: Diffusion of news within a new information technology environment. Paper presented at AMIC Conference, Penang.

Katz, E. (1996). Diffusion research at Columbia. In Dennis, E. E and Wartella, E. (eds). *American Communication Research Remembered*. pp. 61-69. New Jersey: Lawrence Erlbaum.

Katz, E. and Lazarsfeld, P. F. (1955). *Personal influence*. New York: Free Press.

Larsen, O. N., and Hill, R. J. (1954). Mass media and interpersonal communication. *American Sociological Review, 19* (4), 426-433.

Lazarsfeld, P. F., Berelson, B., and Gaudet, H. (1968). *The people's choice*. New York: Columbia University Press.

Levy, S. G. (1969). How population subgroups differed in knowledge of six assassinations. *Journalism Quarterly, 46* (4), 685-698.

Miller, D. C. (1945). A research note on mass communication. American Sociological Review, 10, 691-4.

Mattelart, A. and Mattelart, M. (1998). *Theories of communication.* London: Sage.

McQuail, D. (2010). *McQuail's mass communication theory.* Los Angeles: Sage.

Monahan, B. A (2010). *The shock of the news. Media coverage and the making of 9/11.* New York: New York Press.

Noll, A. M. (2003). *Crisis communications: Lessons from September 11.* Lanham, Md: Rowman & Littlefield.

O'Keefe, M. T (1969). The first human heart transplant: A study of diffusion among doctors. *Journalism Quarterly, 46* (2), 237-243.

O'Keefe, M. T & Kissel, B. C. (1971). Visual impact: An added dimension in the study of news diffusion. *Journalism Quarterly, 46*(2), 298-303.

Park, D. W. (2008). The two-step flow vs the lonely crowd: Conformity and the media in the 1950s. In Park, D. W. and Pooley, J. (eds). *The history of media and communication research.* pp. 251-265.New York: Peter Lang.

Perloff, R. M. (2014). *The dynamics of political communication.* New York: Routledge.

Pooley, J. (2008). The new history and mass communication research. In Park, D. W. and Pooley, J. (eds). The history of media and communication research. pp. 43-69. New York: Peter Lang.

Quarles, R., Jeffres, L.W, Sanchez-Hundainfl. & Neuwirth, K. (1983). News diffusion of assassination attempts on President Reagan and Pope John Paul II. Journal of Broadcasting, 27(4), 387-395.

Rogers, E. M. (2003). *Diffusion of news of the September 11 terrorist attacks.* Noll, A. M. (2003). Crisis communications: Lessons from September 11. pp. Lanham, Md: Rowman & Littlefield.

Rogers, E. M. (2000). Reflections on news event diffusion research. Journalism & Mass Communication Quarterly, 77(3), 561-576.

Rosengren, K. E. (1973). News diffusion: An overview. *Journalism Quarterly,* Spring, 83-91.

Rosengren, K. E. (1987). The comparative study of news diffusion. *European Journal of Communication, 2*(2), 227-258.

Ruddock, A. (2007). *Investigating audiences.* London: Sage.

Schwartz, D. A. (1973-74). How fast does news travel. *Public Opinion Quarterly, 37*(4), 625-627.

Severin, W. J & Tankard, J. W. (2001). *Communication Theories.* New York: Longman.

Singhal, A. & Dearing, J. W. (eds). (2006). *Communication of innovations. A journey with Ev Rogers*. New Delhi: Sage.

Singhal, A., Rogers, E., & Mahajan, M. (1999). The gods are drinking milk. *Asian Journal of Communication, 9*(1), 86-106.

Tokinoya, H. (1994). News diffusion study of important events. Paper presented at the 44 Annual Conference of the International Communication Association, Sydney, Australia 14 July 1994.

Trent, J. S. & Friedenberg, R. V. (2008). *Political campaign communication: Principles & practices*. Lanham: Rowman & Littlefield.

Weaver-Lariscy, R. A., Sweeney, B., & Steinfatt, T. (1984). Communication during assassination attempts: Diffusion of information in attacks on President Reagan and the Pope. *Southern Speech Communication Journal, 49*(Spring), 258-276.

Weibull, L., Lindahl, R., & Rosengren, K. E. (1987). News diffusion in Sweden: The role of the media. European Journal of Communication, 2(2), 143-170.

APPENDIX 1 DIFFUSION STUDY

Event	Year	Location of Study	Form of Collection	Population Size	When	First Source of Information						Rate
						Radio	TV	People	SMS/ phone	Newspaper	New Media	
Death of Tun Abdul Razak	1976	Campus overseas	Phone	28	3 days after	*14%	-	86%	-	-	-	57% morning 75% first day
Death of the King	1981	Urban	F2F	174	Same day	6%	36%	57%	-	-	-	83% first day
Hussein's resignation	1982	One *kampung*	F2F	48	One day after	-	77%	-	-	23%	-	77% 1 hour 23% next day
Anwar Sadat	1983	UKM	F2F	232	One day after	14%	27%	22%	-	-	-	43% 1½ hrs. 72% 5 hrs.
UMNO Election 1987 (with Safar Hasim)	1990	Four selected areas	F2F	175 Malays	One week after	-	100%	-	-	-	-	25% Live 73% 1 hr 15 min
Hussein Onn's Death	1994	Nation-wide	F2F	408	One week after	26%	25%	26%	-	21%	-	14% 1 hr 20% 3 hrs 48%

												11 hrs
Endon Mahmud (with Ahlam Abdul Aziz & Azlinawati Ngainon)	2006	Nation-wide	F2F	308	One week	15%	23%	33%	17%	-	-	55% 2hrs 79% 4 hrs
MH370, 8 March	2015	Kajang	F2F	619	29 - 31 Mac 2014	8%	46%	7%	5%	9%	24%	47% 3 hrs
MH17, 17 July	2015	Nation-wide	F2F	1,003	31 July – 3 Aug. 2014	7%	30%	10%	2%	11%	42%	18% 1 hr 25% 2 hrs 76% 11 hrs

*media combination of radio and TV
**F2F = face to face