Scientific Research

Digital Readiness of Malaysian Journalists

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Abstract

Digital technology, also known as new media technology, has become an influential tool in this era. This technology is no longer an option anymore but it is a necessity in many fields. As one of the areas that are inextricably linked with technology, the media industry including journalism, cannot escape from being impacted upon by any technological development and changes. In this era, media organizations and journalists have to confront an important challenge which impacted them strongly in the mass media, namely the advent of Internet journalism. With that in mind, this paper will discuss the changing nature of Malaysian newsrooms and identify the digital readiness among them in accordance with the needs of the digital media era. With a questionnaire designed to determine how news organizations try to meet the latest demands from the convergence of the newsroom as well as the readiness of the journalists in facing the challenges of the new technologically driven newsrooms, the findings have provided insights into the leadership styles of Malaysian media organizations and the readiness of Malaysian journalists in facing the current technological complexities, the retraining of employees, and other skills needed in the twenty first century media organisations.

Keywords

1. Introduction

Media and technology have a close relationship and the emergence of new technology has a direct impact on the media industry. Technology has been seen as the driving force of the media. With the Internet as the main platform in this digital era, the emergence of all kinds of new media technology provided us with more choices to use the easiest and the most effective tool in any activity or tasks. Therefore, digital or electronic readiness is a must for almost all media related activity, including journalism that will strengthen the supply and production of high-quality news. Practitioners who are unwilling to extend their abilities or feel that the demands of conver-

gence are too difficult to be met may resist the change and become the proverbial ostrich with its head in the shifting sands.

Digital readiness or e-readiness always has always been seen as the ability to use information and communication technology (ICT) to develop one's economy. It is a measure of the degree to which a country, nation or economy may be ready, willing or prepared to obtain benefits which arise from ICT (Dada, 2006). According to GeoSINC International (2002), beyond e-readiness, players may look for "e-efficiency" which is the use of ICT to reach more quickly, the development goals specific to a country or economy. E-readiness involves three preparation area: skills, participation and access. And the countries or organisations which are the most successful in creating a favourable climate for the use of ICTs are those that make it a priority.

With the advent of the new media, new demands are put on newspaper owners and employees. There are new expectations of journalistic skills which mean that there will be new demands on the journalistic profession and the performance of their routines. And the effect of new media can be seen through the changing of information channels from traditional media to online media. This allows the immediacy of updating information that exceeds the traditional media. In other words, the Internet can outrun the printed media where it needs to print out the news on the next day while TV news and programmes need to operationalise a great deal of preparation before they can be aired. For iPressroom (2003), "The good news is that organisations are serious about social media engagement and new media communication".

2. Literature Review

Survival in the new media era depends on each company's ability to transform and initiate organisational creativity which is related to the product, process, person, and situation (Woodman, Sawyer, & Griffin, 1993; Cook, 1998). Creativity is regarded as a key input and a fundamental challenge in leadership and, for Cook (1998), it is not something that can be "forced" through creativity "techniques". Therefore, Horth (2009) indicated that innovative thinking is a crucial element because it allows new ideas and innovation into the organisation. For Amas (2011), present journalism is different according to the platform, be it paper, web or smartphone and suggest that news organisations need to continuously allow readers to influence journalism and recruit new readers through social media.

2.1. Technology and Organisations

In this digital era, ICT is a crucial enabler in almost all the organisations activities. Therefore, much effort has been made toward e-readiness to adopt and use ICTs to achieve beneficial outcomes. This involves the improvement of use and participation as well as improvement of access (Bowles, 2011). Economist Intelligence Units (2004) describes e-readiness as "... essentially a measure of its e-business environment, a collection of factors that indicate how amenable a market is to Internet-based opportunities. E-readiness is not simply a matter of the number of computer servers, websites and mobile phones in the country, but also things such as its citizen's ability to utilise technology skilfully, the transparency of its business and legal systems, and the extent to which governments encourage the use of digital technologies."

Technology actually has always been a central variable in organisational theory. Therefore, early studies assumed technology as an objective and external force that have an impact on the organisation as well as determining the structure. For Orlikowsko (1992), the concept of technology had to be seen from two important aspects, namely, the scope—what is defined as comprising technology—and role—how is the interaction between technology and organisation defined. Apart from being seen as the "hardware" and "social technologies", technology is also regarded as the external forces that have an impact which is driven by the human actors and the organisation context.

Taylor and Katambwe (1988) proposed two main theories on how the implementation of new communications technology which may impact on the organisational structure, namely the contingency theory and the transactional theory, which differ significantly in conceptualisation of communication. Contingency theory is essentially rationalistic, in that it postulates and is adaptive in nature, and fits into the organisational structure and environmental constraints while the transactional theory looks at the organisation network as a system of social commitment and understanding continually in the process of being renegotiated. Organisational and technological realities are understood as an interrelated work system which should be modified and oriented towards the needs of all parties (Wulf & Rohde, 1995).

However, political clout is seen as important by Taylor and Katambwe (1988), in this case, it referred to decision making within the organisation, strategies, and opportunities. Pfeffer (1978) and Slack (1984) also emphasized that the choice of technology is political, with its goal to increase management control. However, computerisation has been seen as a technological organisation that refers to the process of transforming inputs to outputs (Carter, 1984). In Khandwalla's (1997) conceptualisation, the technology is distinguished into three aspects: work flow, operations technology, and information technology.

2.2. ICT Usage in News Organisation

New media technologies have changed and multiplied the ways in which news can be accessed. Nowadays interest in news are greater and Internet users spend more time than ever reading newspapers online, while blogs, community website and citizen journalism enter the field as challengers to the established titles. Readers are better educated and they crave in-depth analysis, insight and reliable news and information. The technologies also give opportunities for users to be part of the news process through so-called user-generated content (UGC) which can provide a quick and cheap way of getting information. However, media technology, including online news has been seen as supplemental, not substitutive (Amas, 2011; Kawamoto, 2003). While news media have always had commercial interests, recent developments challenge the traditional business model of news media and have even questioned the core of journalism: the value of news (Witschge, 2011).

Some studies raised a debate around the future of news due to the technological changes. Lloyd and Seaton (2006), for instance, suggest that the nature of news and the way it is produced is turned on its head as technology alter how journalists exchange and evaluate information and views while Weaver (2009) and Deuze (2009) raised the decline of journalism quality and quantity of investigative journalism as well as managerial intervention in newsroom and the changing practices and altered journalistic work. Witschge (2011) found that UK journalists are "trapped" in an "administrative" news culture, where many journalists are desk-bound and stories "recycled" from existing material rather than stemming from independent journalism. This is a result from journalists spending a great deal of time monitoring other media, the wire, user-generated content, and material produced within the organisation.

Media organisations are clearly adopted convergence most prevalent in its ownership and tactical forms. Some new kinds of job have been created and new ways of doing things adopted, including in information gathering and storytelling. For Pavlik (2003), various information technologies play an important role in the dissemination of news and information and wireless mobile communication are among the most important, especially during a crisis. For Gordon (2003), the journalist who best understand the unique capabilities of multiple media will be the one who are most successful, drive the greatest innovations and become the leaders of tomorrow.

Besides structural changes, news production also changes with the presence of new media technologies. Mass media is gradually giving way to a more interactive, narrowcast or multicast (DeUze, 2007). Development in new media is leading to the development of new storytelling techniques that engage the audience in more navigable news reporting. News reporting is more interactive with a wide range of communication modalities (text, images, video, and graphics) as well as non-linear writing or hypermedia which offers the possibility for customization and audience involvement. News nowadays is more fluid than in the past because the updating of the information can be carried out continuously with this technology. This shows that new media, especially Internet-based technologies are capable not only in embracing the old media but also offers new capabilities, including interactivity, on-demand access, user control, and customization (Deuze, 2009).

With the Internet becoming one of the popular news platforms, management of news organisations need to consider this new media as their tool and resources. This is due to the changes of people's relationship to news where news are now becoming portable, personalized, and participatory. Research by Purcell et al. (2010), showed that 33% of phone owners now access news on their cell phones; 28% of Internet users have customized their home page to include news from sources and on topics that particularly interest them and 37% of Internet users have contributed to the creation of news, commented about it, or disseminated it via postings on social media sites. It is clear that new media is able to offer new possibilities for live reporting with the potential of making the "breaking news ideology", and this is why speed and immediacy are now prioritized characteristics of news production (Kautsky & Widholm, 2008).

Furthermore news has become omnipresent in this era where people can access it in multiple formats on multiple platform on myriad devices. For Hermida (2010), this has intensified the presence of "ambient news", because non-linear, many-to-many digital communication technologies have transferred the means of media pro-

duction and dissemination into the hands of the public and are rewriting the relationship between the audience and journalists. News has become a social experience or participatory activity as people contribute their own stories and experiences and post their reactions to events, especially with the rise of social media such as Twitter. This media has been used to filter, assess and react to news and become a place where citizens play active roles in the process of collecting, reporting, analysing and disseminating news and information.

Harper (web.mit.edu) thinks that the Internet and the Web cannot set an agenda in journalism like print and broadcast media because many publications depend on major brand names as the primary sources of information, but, still, online journalism has altered the traditional role of the reporter and editor. For instance, its places far more power in the hands of the user, allowing the reader to challenge the traditional role of publication as the gatekeeper of news and information. Online journalism also opens up new ways of storytelling, through the technical components of the new medium—text, audio, video and photographs. Knox (2007) also declares that while there are not too many changes in the practices of newsgathering and writing for online news but the impact is more keenly felt on the packaging, distribution, delivery and reception of news in newspapers.

Furthermore, the changes in the new media technologies alter the expectations toward journalist as well as the journalists' work routines and professional images. The audiences expect them to offer more than just printed news and wish to be taken more seriously as participants (GeoSINC International, 2002). Even though, the Internet and computer-assisted reporting (CAR) has been used regularly by a vast majority of journalists in their work in news reporting process and further investigation, studies by Singer (1998) shows that many of them felt nervous and concerned about the omnipresence of the Internet in daily reporting, as well as the increased technical element in newswork caused by it. There are some questions as how to deal with online communication such as e-mail, posts in newsgroup and Internet Relay Chat (IRC) in an environment where the verification of information is difficult due to the anonymous senders (Singer, 1998).

3. Objectives

This research aims to analyze the readiness of Malaysian journalists to meet the challenges in the new environment and the state-of-the-art technology that operates inside major newsroom media organisations in Malaysia. The objectives of this research are as follows:

1) To identify the present technology in Malaysian news media organisations.

2) To describe the expectation of journalists especially in their ability to perform their tasks in the digital newsroom.

3) To identify the (new) processes of news gathering in the face of rapid development of technology and

4) To determine whether Malaysian journalists are ready to adjust to the new situation.

4. Methodology

The instrument selected for this research is a questionnaire consisting of a mixture of open-ended and closed questions that has been designed in accordance to the currently applied news gathering process. The questionnaires are distributed to 29 major media organisations in Malaysia and most of the respondents are employees and policy makers in the newsroom. The pre-determined media organizations include Malaysia's top media organisations such as TV3, BERNAMA, NTV7, TV9, RTM, *New Straits Times*, *Sin Chew Daily*, *Berita Harian*, and other media organisations in Malaysia.

After collecting the questionnaires, their responses regarding processes in the newsroom can be identified; specifically, the news gathering methods driven by the technological advances in the media and communication world. Primary data collection is performed by doing the direct survey through questionnaires answered by respondents and direct interviews with the people involved in news-making. In order to achieve maximum accuracy from the data processing of questionnaire results, the research team utilized the SPSS 19 computer programme.

5. Findings

The news-making process usually starts from the editorial meeting which is also the heart of news media operations. Editorial meetings are routine activities that are important for the development and control as well as enhancement of the news quality and production. In the editorial meetings, reporters, cameramen and editors can

propose their topics for coverage. The proposal can come from many sources. For example, coverage invitation from outsiders, press conferences, press releases, news already covered by other media, personal observations from journalists, input from informants and many more.

Based on **Figure 1** descriptive data states that 64% of the respondents have the opinion that in Malaysian media organisations, the standards of the media equipments and technology is very good, while, 29% and 7% indicated that the state of the technology is good and moderate. These are the results acquired from questionnaires disseminated to 29 major media organisations in Malaysia and as stated above, the respondents are the journalists who work in the newsroom.

Table 1 presented the readiness of Malaysian media industry pertaining to questions that try to gauge the readiness of journalists to face the virtual studio. Questions include an attempt to see whether there is enough allocation for the purchase of ICT. Some questions tried to gauge the number of training sessions for journalists and cooperation between industry and university. The percentage of journalists that are ready to use the virtual studio is 52.3%. Similarly, funding for technology, training for journalist and cooperation between industry and university is also very high in the scores. The research found that in the Malaysian media industry, 43.2% of the media organisations are very ready and are provided with huge funding for the technology to improve the quality of media itself.

5.1. State-of-the-Art Equipment

Based on the findings, the main device used in the newsroom is the computer. Besides that, there is also audio, script and visual software. Several respondents answered others as an alternative from the main devices in the news room. From **Table 2** and **Table 3**, it can be seen that those devices are crucial for the process of news production in the newsroom. The respondents firmly stated that the computers are still the main equipment compared to the others.

Table 3 shows that the news gathering devices that are normally found in the Malaysian newsrooms are computera, mobile phones, e-mail and Smartphones. Others become the alternative answer given by respondents when a suitable option is not provided. Majority of the respondents chose the computer as the main device in the
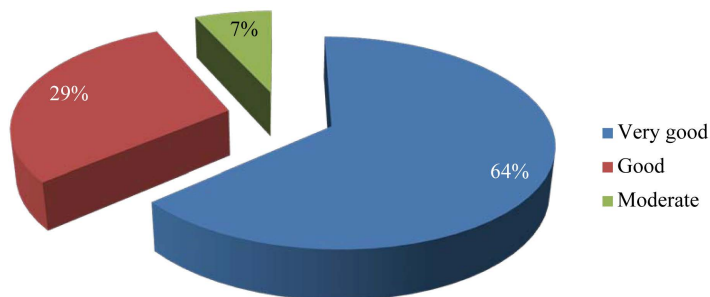

Figure 1. Technology in Malaysian media industries.

Table 1. The readiness of Malaysian media industry.

	Journalist ready for virtual studio		Fund for technology		Training for journalist		Cooperation between Industry and University	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Very unready	3	6.8	2	6.8	0	0	0	0
Unready	4	9.1	4	13.6	2	4.5	0	0
Sometimes	7	15.9	12	27.3	2	4.5	2	4.5
Ready	23	52.3	6	13.6	26	59.1	25	56.8
Very ready	7	15.9	19	43.2	14	31.8	17	38.6
Total	44	100.0	44	100.0	44	100.0	44	100.0

Table 2. Writing and production software in the newsroom.

Softwares	Frequency
Script Software	19
Audio Software	23
Visual Software	20
Computer	44
Others	4

Table 3. Devices for news gathering.

Equipment	Frequency
Computer	39
Mobile phone	21
E-mail	22
Smartphone	22
Equipment	5

process of news-making. Even though the frequency for the choice of computer is 39 which is at the top, other communication devices also acquired a frequency score that is quite high. This means that on an overall basis, the respondents do use the mentioned communication devices in the news gathering process.

5.2. Usage of Media

Table 4 presented the newsroom devices that are often used for the process of news-making such as news feed, FTP, photo sharing, video sharing and blogs. The choices of device are based on an interview with a number of journalists attached with BERNAMA TV, a government news agency. News feed is always used by journalists in the news-making process (59.1% respondents). This can be interpreted as news feed being the device that is required in the newsroom. Similarly, FTP, photo sharing and video sharing have also always been used by the employees in the newsroom. It would seem that the blogs are also one of the devices in the news gathering process, scoring 38.6% as "sometimes" from 44 respondents. Malaysian media organisations also refer to it as a news source for news gathering, thus confirming some claims that the Malaysian mainstream media do refer to alternative sources such as blogs.

Table 5 listed the reasons for the usage of the devices mentioned above. 54.5% respondents strongly agree that the devices "save time" and 43% of them stated that they agreed that the devices mentioned above are "cheaper" than other devices. A total of 59.1% of the respondents strongly agree that the usage of the above devices is to search for news on a wider basis. Furthermore, as much as 45.4% respondents indicated that the devices assisted the journalists in the newsgathering process.

From the explanations above, it confirms that technological development in the newsroom can further help the process of accessing and gathering of news in the newsroom. This is based on the idea that news has to be actual events and can be aired to the audience almost right away. The state-of-the-art of technology in the media industry in Malaysia gave a positive impression towards the growth of Malaysian media itself where competition in the media industry nowadays requires all players in the industry to be aware and responsive towards the changes taking place. The new era in the new media also gave the impression that each journalist is required to actively participate by continuously upgrading their ability in the fiercely competitive newsroom of the globalization and conglomerisation era.

5.3. Communications Media

Besides that, the interpersonal communication pattern also contributed in the pattern of news gathering process;

Table 4. Frequency of usage of device.

	Devices									
	News Feed		FTP		Photo Sharing		Video Sharing		Blogs	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Not used	2	4.5	3	6.8	0	0	4	9.1	6	13.6
Very rare	3	6.8	6	13.6	8	18.2	9	20.5	3	6.8
Sometimes	7	15.9	10	22.7	11	25.0	10	22.7	17	38.6
Very often	6	13.6	6	13.6	9	20.5	7	15.9	10	22.7
Always	26	59.1	19	43.2	16	36.4	14	31.8	8	18.2
Total	44	100.0	44	100.0	44	100.0	44	100.0	44	100.0

Table 5. Reasons for usage.

	Reason							
	Saves time		Cheaper		To search news widely		News gathering is easier	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Strongly disagree	0	0	1	2.3	1	2.3	0	0
Disagree	1	2.3	2	4.5	0	0	1	2.3
Uncertain	2	4.5	5	11.4	2	4.5	6	13.6
Agree	17	38.6	19	43.2	15	34.1	17	38.6
Strongly agree	24	54.5	17	38.6	26	59.1	20	45.5
Total	44	100.0	44	100.0	44	100.0	44	100.0

be it in the form of coverage, reports to the newsroom or the communication process between employees in the newsroom. **Table 6** shows the findings in term of the aspect of communication devices provided in the question, nearly everyone chose the telephone and texting or SMS as their favourite communications media. Mailing-list and social media also garnered a major choice in the eyes of the respondents. However, there are still other alternatives as indicated by the response of "others", which is as much as 8 respondents using other alternative programmes such as Whats App, Skype and Google Talk.

It may be deduced that any new application is readily utilised by the news people and there is a great deal of respect for new tools, signifying readiness to keep-up with the rapidly changing news culture in Malaysian houses brought upon by the technological advances. The findings therefore confirm that one of the main initiators of new technology usage in journalism is the modern media business environment (LeBlanc Wicks et al., 2004) which requires the media" ... to become organized more efficiently and to implement new models of convergent and multimedia activities while adhering to 24/7 deadlines". Furthermore, there are many studies proving that the new media is getting more popular from the perspective of physical characteristics and its relation to users.

5.4. The Digital Newsroom

Figure 2 listed the responses of the journalists in newsroom organisation in Malaysia regarding the challenges that they are facing in the digital era. All journalists must readily adapt to the current information technology challenges. This figure also indicated responses to questions that focused on the working processes in the newsroom as well as expectations from journalist from these developments. The results showed that they fully support the upgrading of technology and believe that it is crucial in the digital newsroom.

Therefore they all agreed that the new culture of the newsroom should be:

1) based on the Web technology;
2) journalists are also involved in the organisation of the web page of their organisations;
3) required to master all software in news production; and
4) Technologically and holistically integrated.

6. Conclusion

Technological changes have influenced the changes in the journalism field and activities. Based on a survey that has been administered, most of the Malaysian media organisations are aware of the technological development and its importance. They are ready and some of them are very ready to adapt to the changes and big funds are allocated for ICT development, so that they can compete and survive especially in the competitive globalised newsroom era. This is supported by the common use of computers and other devices such as mobile and smart-phones in the media organisation for news gathering and production purposes.

Most of them agreed and strongly agreed that the uses of other media such as news feed, FTP, photo and video sharing as well as blogs give them benefits in terms of cost and time. It also offers them the ability to search news widely and makes it easier to provide news. Therefore, the survey indicates that most journalists "always" and "very often" use those devices. With the finding acquired in this research, it is clear that news organisations in Malaysia readily follow and position themselves to adapt to the challenges in the ICT environ-

Table 6. Communications media equipment.

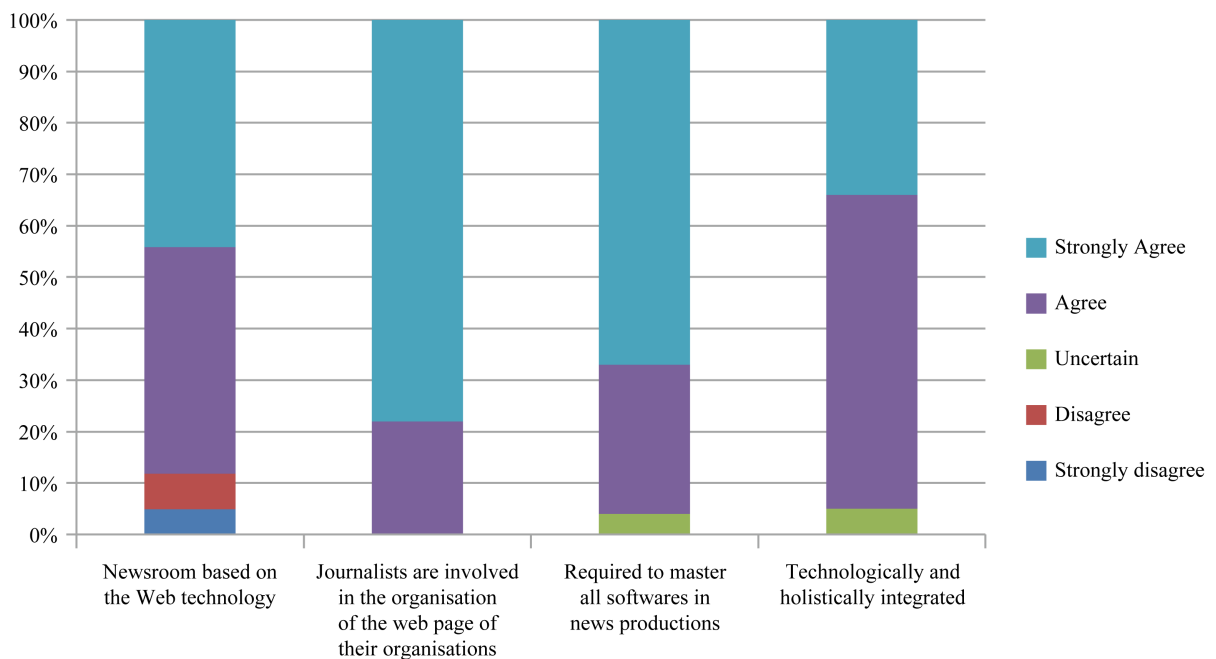| Communications Media	Frequency
Telephone & SMS	39
Yahoo Messenger	15
Office mailing list	30
Social Media	31
Notice Boards	21
Others	8

Figure 2. New demands for journalist in digital newsroom.

ment in their newsrooms.

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