Why Read it on Your Mobile Device? Change in Reading Habit of Electronic Magazines for University Students

ABSTRACT

Magazines, often published periodically with a variety of contents, have long been successful in catering to magazine readers' various content needs and reading interests. In recent years, interactive digital magazines instead of replicas of printed magazines, based on digital devices have been gaining popularity and preference due to its unrivaled convenience and interactivity. To some extent, many people's magazine-reading habits have been changed due to their adoption of mobile digital devices. This study is designed to analyze mobile digital devices' influence on magazine reading habits amongst university students in Hong Kong. Issues such as mobile digital devices' level of adoption amongst university students and their preferences on devices for different magazine types are analyzed. Our findings show that university students in Hong Kong read more types of magazines after they started to use mobile digital devices, mainly using tablets. The findings of the study are useful for librarians (academic librarians in particular) and digital publishing vendors to explore the issues concerning services and collection development of interactive digital resources.

Keywords: e-magazines; mobile devices; reading habit; questionnaire survey

Introduction

With the adoption of mobile devices such as laptop computers, tablets (such as iPad), smartphones, and e-readers (such as Amazon Kindle), digital magazines are now no stranger to magazine readers. Digital magazines and, in particular, interactive digital magazines, are designed for (i) competing for online readers' attention, (ii) easy interaction between readers and the magazine, and (iii) disseminating interactive advertisements (Gordon, 2011). Thus, online magazines are often not simple replicas based on their printed counterparts.

Digital magazines are gaining popularity amongst readers for their better accessibility, convenience, and interactivity – fulfilling readers' instant gratifications, while being free from the limitations imposed by their printed counterparts. For this reason, the media industries are also spending a large amount of effort on promoting digital magazines as well, due to their lower cost in production and convenience in distribution when compared against traditional printed magazines. Even though printed magazines have long been successful in catering to readers' various content needs and reading interests, in recent years, a growing number of readers have turned to digital magazines instead of replicas of printed magazines, due to obvious advantages mentioned above. Nowadays, we can observe a net increase of digital-only magazines in the market, coupled with nearly all printed magazines (Silva, 2012). At the same time, there has been a significant increase in the number online magazine readers in the past few years. As reported by the Association of Magazine Media (2015), the percentage of the US adults who read magazines online increased from 1.4% to 6.0% from 2011 to 2014.

One of the possible explanations for the increase in the number of digital magazine readers is due to the increasing adoption of mobile digital devices. Consequently, the level of digital magazine adoption in turn depends on, at large, the level of mobile digital devices' adoption, which varies amongst different groups of people. Thus, it is important for the publishing industry to develop a better understanding of how the adoption of mobile devices affects the reading habits of people for developing their investment strategy. Furthermore, it is also important for academic librarians to gain better insights in this aspect, as this can help them optimize their possible services and collection development in terms of interactive digital magazines that operate on digital mobile devices. The study of mobile digital devices' influences on university students' magazine reading habits is thus meaningful and instructive to academic libraries on exploring and planning their resources development in catering to students' rapidly-changing

needs for magazines. Therefore, in this study, we aim to identify a series of factors that are influential, in the change in the reading habits amongst university students in Hong Kong, that are brought by the adoption of mobile digital devices together with preferences for different mobile devices and magazine types.

This paper is developed as follows. In the next section, we review related studies in media publication, which are related to the background of this research. Then, we present our research model. Next, we discuss our data collection procedures and our data analysis. Finally, we conclude our paper by discussing the results of this study.

Literature review

Recent literature on readers' behavior in the digital age has described an emergence of new reading devices – which suggests an interesting, overwhelming, and yet unavoidable evolution in reading preference and habit, such as attitudes, interest, duration, norms, values, etc. For libraries, information service providers, and publishing companies, the greatest opportunity lies in experimenting with such new formats of electronic magazines that provide nonlinear, hybrid, interactive, social contents, as well as electronic modes and multimodal platforms that add motion and sound to direct reader interactions through technologies - which we will discuss below.

The study of readers' behavior in the digital era had been conducted for several decades. For example, Guthrie and Seifert (1983) studied the reading activities among demographic groups of individuals. They showed that women in general tended to read more than men (about 186 minutes per day, compared to about 114 minutes per day) and individuals with an education beyond high school also read more than those with only a high school diploma or below.

With the availability of broadband Internet services since the late-1990s, the publication market underwent drastic changes of the paradigm shift. According to a survey conducted by Forrester Research with approximately 4,500 respondents who were online consumers, the proportion of respondents who had never heard of digital devices for electronic books decreased from 37% to 17% between the Second Quarters of 2008 and 2009, with an increase of ownership for a digital devices for e-reading from 0.6% to 1.5% for the same period (Epps, Mulligan, McQuivey, & Hood, 2009). For more recent figures, as presented by the Princeton Survey Research Associates International, the tablet and e-reader ownership of the US adults has reached

42% and 32% respectively in January 2014, with the corresponding figures for college graduates stood at 59% and 44%, respectively (Zickuhr & Rainie, 2014). As a result, some of the traditional publishers have already experienced a scenario that online subscribers of their magazines exceeded their printed counterparts. For example, *Time* magazine had an online traffic of 13 million in the US on their website in October 2013, which had an 18% increase from the previous year and exceeded the US print-subscriber numbers (Yu, 2013). In addition, some magazines even abandoned their printed versions and now focus only on digital ones. The Internet has freed magazines from the constraints (manual labor and costs) of the printed page, allowing online-only publications like *Jacket 2*, a poetry journal, to exist (Habash, 2013). At the same time, some studies also suggest that the printed and digital versions of e-books can exist together as they can complement each other's strengths (Velde & Ernst, 2009). Yet, most people would perceive that the digital version will overtake the print market in the long run.

Digital magazines are often not simply direct replicas of their printed ones, but also deliver interactive magazine contents (in multimodal formats) that are operational on digital devices, such as smartphones, tablet computers (iPads), and electronic book readers. According to Silva (2012), this type of new media production was established back in around 2010, and the number of interactive digital magazines has increased to 485 within a year's time, of which, most of them provided extensions of the printed editions with interactive contents and other digital extras. Thus, librarians need to review how they should put the digital magazines in their subscription portfolio to satisfy diversified readers' needs of their institution in this mobile computing era (Burgoyne & Chuppa-Cornell, 2015; Nzivo & Chen, 2013; Ko, Chiu, Lo, & Ho, 2015). Furthermore, most of the previous related studies concentrated mainly on e-journals, while their e-magazine counterparts have largely been overlooked. Therefore, we develop this research to fill up the gap in this research area.

Research objectives and methodology

In this study, we aim at investigating how and why university students use their online mobile devices for gaining access to e-magazines. For the scope of this study, we include all sorts of magazines, including trade magazines and magazines for leisure in our investigation. In particular, we would like to study their following six research questions (RQs) in this study:

RQ1: What are the changes in magazine reading frequencies after the university students started to use mobile digital devices to read magazines online?

RQ2: What are the changes in types of magazines being read after university students started to use mobile digital devices to read magazines online?

RQ3: What are the changes in reading durations for magazines after university students started to use mobile digital devices to read magazines online?

RQ4: What are the changes in time slots for reading magazines after university students started to use mobile digital devices to read magazines online?

RQ5: What are the changes in places for reading magazines after university students started to use mobile digital devices to read magazines online?

RQ6: What are the media preferences among university students for different types of magazines?

In this study, we measured the student respondents' magazine reading habits in terms of their (1) reading frequency, (2) reading duration, (3) variety of magazines being read, (4) time slots, and (5) places for reading magazines. An online self-administered questionnaire as the instrument for data collection consisting of three parts, namely demographics, changes on reading habits, and device preference (See Appendix). The results are utilized to explore the overall situation in mobile digital devices' influences on college students' magazine reading habits. In the questionnaire, reading frequency was measured as daily, more than once a week, about once a week, about once in two weeks, about once a month. Durations for reading a magazine each time was measured in minutes. The measurement on the variety of magazines being read was conducted by listing different types of magazines for respondents to choose from. Timeslots for magazine reading were generalized on the questionnaire as in the morning, afternoon, or evening. Subjects were also encouraged to give their open-ended "Others" answers other than the given options. Regarding places for reading magazines, such options were given

for the respondents to choose from: home, in the park, on campus, at a café / restaurant, on public transportation, in libraries, or in other places specified by respondents.

For data collection, students at a university in Hong Kong were invited to take part in this study. The university was chosen for this study for the pragmatic reason that the researchers' had affiliations and connections with this institution. This enabled a convenience sample, as the researchers were able to obtain the necessary permission for data collection. A total number of 50 students took part in this survey, 25 (50%) for each gender. All participants in this study took part voluntarily without pay.

Technical limitations

Similar to other studies, our study also has its limitations. First of all, the source of magazines is a factor of magazine reading habits. In this study, we had limited control over the options of the online magazines to be found or read by the student participants, as magazine sources may include the academic journal titles provided by the library, and/or other public libraries, family (personal) subscriptions, borrowing from friends' personal libraries, free-of-charge online sources, restaurants, etc. This may affect the student respondents' choices, in terms of the types/titles of magazines that they read. Secondly, the cultural background of the student respondents, who were mainly from Hong Kong, may have an impact of the results of their studies, as prior research has shown the impact of culture on the adoption of information technology (Ho, 2012), which may also affect the adoption of reading materials online. As a result, we are planning to conduct similar studies in different countries to explore the possible impacts of culture on the reading habits in the cyber world. There are many ways to examine the preferences and attitudes of reading habits of university students. However, this study was based solely on quantitative questionnaire data. No observations or interviews were carried out. Quantitative measures, such as surveys, can only provide insights into this process on a larger scale, but will not indicate the underlying incentives for individual students' views towards the magazine titles and the mobile devices they use. Another limitation of this study was that the participating university was chosen for pragmatic reasons, because of the researchers' affiliation with the institutions. The last but not least, this study is using university student subjects, and thus, it may be reflecting the views and behaviors of university students in Hong Kong and may not be fully representing the views of the youth in Hong Kong.

Results

The demographic backgrounds of the student participants are presented in Table 1. The average age of the student respondents was 26. A majority of the student respondents were Education (24.0%) and Medicine (20.0%) majors. Nearly all subjects owned a laptop (98.0%), and most of them (86.0%) owned smartphones. All of them had at least one mobile device, and on average, they owned 2.66 mobile devices. Such figures indicate that the student respondents had a high level of mobile technology adoption, which is of no surprise to us. We also tested whether there was a gender effect on the adoption of the mobile technology by conducting a *t*-test. The *t*-test result shows that the number of mobile devices owned by our subjects exhibited a gender effect, i.e., male subjects (average = 2.84) owned more mobile devices compared with female subjects (average = 2.66), with p-value < 0.05, i.e., there is a statistically significant difference (with less than 5% chance of making a wrong conclusion) between the number of mobile device owned by our male subjects and our females subjects.

We first studied whether the magazine reading frequencies, in terms of time spent on reading magazines, would actually increase after the student participants started to use the mobile devices to read magazine online (i.e., R1) (see Table 2). Our results show that there is a significant change in the magazine-reading behavior of our subjects before and after they started using mobile devices to read e-magazines. The results of our pair-wise *t*-test, which is a direct comparison between the change of the habit of our subjects, also show that the frequency of the student respondents to read magazines decreased once after they had started from using their mobile devices to read the e-magazines. Such results are counter-intuitive and we would further discuss this in the next section.

Table 1
Demographic backgrounds.

Demographic types	Male (N = 25)	Female (N = 25)	Total (N = 50)
Age			
< 35	22 (88.0%)	23 (92.0%)	45 (90%)
> 35	3 (12.0%)	2 (8.0%)	5 (10%)
Average:	25.7	25.3	25.5
Major:			
Arts and Social Sciences	5 (20.0%)	3 (12.0%)	8 (16.0%)
Business	2 (8.0%)	0 (0.0%)	2 (4.0%)
Science and Engineering	3 (12.0%)	5 (20.0%)	8 (16.0%)
Education	5 (20.0%)	7 (28.0%)	12 (24.0%)
Medicine	3 (12.0%)	7 (28.0%)	10 (20.0%)
Law	1 (4.0%)	1 (4.0%)	2 (8.0%)
No response	6 (24.0%)	2 (8.0%)	8 (16.0%)
Mobile devices owned:			
Tablet	17 (68.0%)	14 (56.0%)	31 (62.0%)
Laptop	25 (100.0%)	24 (96.0%)	49 (98.0%)
Smartphone	23 (92.0%)	20 (80.0%)	43 (86.0%)
E-Reader	4 (16.0%)	3 (12.0%)	7 (14.0%)
Others	2 (8.0%)	1 (4.0%)	3 (6.0%)
Average number of device owned	2.84	2.48	2.66

Table 2
Magazine reading frequencies after using mobile devices to read magazines online.

	Male (N = 25)	Female (N = 25)	Total (N = 50)
Reading frequency (Before)	3.48	3.20	3.34
Reading frequency (After)	2.64	2.88	2.76
Difference	0.84 ***	0.32 ***	0.58 ***

Note:
Frequency: 5 = daily; 4 = More than once a week; 3 = About once a week; 2 = About once in two weeks; 1 = About once a month
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

We also investigated whether the types of magazines read by the student respondents had changed after they started to use mobile devices to read magazines online (i.e., R2) (see Figure 1 and Table 3). As shown in Table 3, the types of magazines being read by the student respondents increased significantly, i.e., from 3.18 to 4.64, with a *p*-value for pair-wise *t*-test < 0.01. As shown in Figure 1, with an exception of science magazines, which are read by the same number of magazine readers among the respondents, each type of magazines listed above are being read

by the student respondents after they started to use mobile digital devices to read magazines.

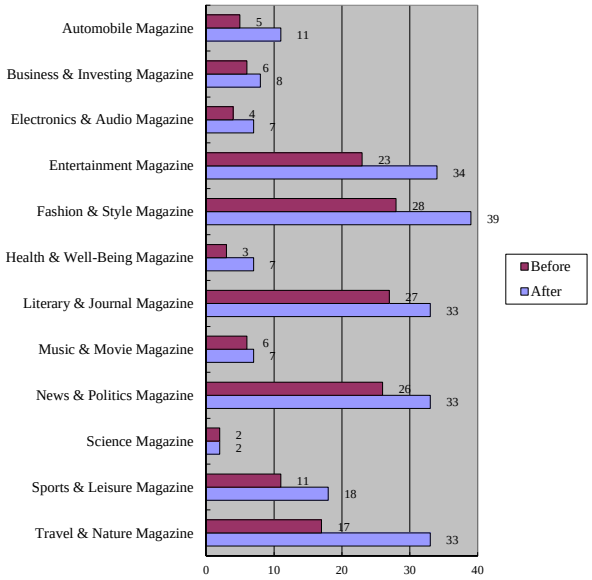

Fig. 1. Types of magazines read.

Table 3
Types of magazines read after started using mobile devices to read magazines online

	Male (N = 25)	Female (N = 25)	Total (N = 50)
Types of magazine read (Before)	3.28	3.08	3.18
Types of magazine read (After)	4.88	4.40	4.64
Difference	1.60 ***	1.32 ***	1.46 ***

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Concerning the time spent on reading magazines (R3), we noted that the student respondents spent on average three minutes less in reading magazines after they started to use mobile devices to read magazines online. However, the change is not statistically significant, with $p > 0.10$. Therefore, we concluded that our subjects spent similar amount of time in reading magazines before and after they started using mobile devices for reading magazines (see Table 4).

Table 4
Time spent on reading magazines after using mobile devices.

	Male (N = 25)	Female (N = 25)	Total (N = 50)
Time spent (Before) in minutes	28.3	22.5	25.4
Time spent (After) in minutes	25.2	19.8	22.5
Difference in minutes	–3.1	–2.7	–2.9

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

While we observe indifferent results on the time spent on reading magazines after our subjects started to use digital devices to read magazines, that is there is a significant difference on the time slot (morning, afternoon, evening) of magazine reading (i.e., R4), which we consider it as a kind of reading habit/pattern. We conducted a series of Chi-square test on whether our subjects had changed their time slot of reading (see Table 5). In the Chi-square test, we tested whether the ratios of the reading time slots have changed after our subjects used mobile devices to read magazine. From the result of the tests, we observed that there is a significant change. In brief, they switched their reading time from afternoon (12:00 p.m. to 6:00 p.m.) to morning (before 12:00 p.m.) and evening (after 6:00 p.m.). Such results suggest that the use of mobile devices would have a significant impact on the reading habit as measured by the time slot.

Table 5
Time slot on reading magazines after using mobile devices

	Male (N = 25)		Female (N = 25)		Total (N = 50)	
	Before	After	Before	After	Before	After
Morning (before 12 p.m.)	3	6	2	3	5	9
Afternoon (12 p.m. - 6p.m.)	16	7	16	10	32	17
Evening (After 6 p.m.)	6	12	7	12	13	24
p-value	< 0.001		< 0.05		< 0.001	

We are also interested in knowing whether the student participants would be able to make use of the flexibility and versatility provided by mobile devices and whether they were able to read magazines online at different places (i.e., R5). Our results are summarized at Table 6 and Figure 2. In brief, we noted that the student respondents were more ready to read at home and on the road.

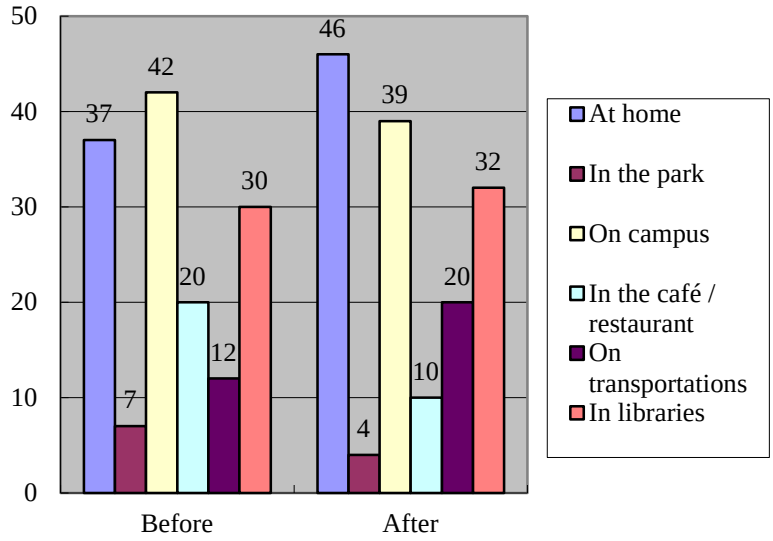

Fig. 2. Reading locations.

Table 6
Number of reading locations of \after using mobile devices to read magazines online

	Male (N = 25)	Female (N = 25)	Total (N = 50)
Number of locations (Before)	2.84	3.08	2.96
Number of locations (After)	3.04	3.00	3.02
Difference	0.20	–0.08	0.06

Note: $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Our last R6 focuses on understanding the media preferences of our subjects, i.e., whether our subjects would like to use a particular media to read a particular type of magazine. Table 7 provides a summary of our result, which indicates that even though the student respondents were equipped with mobile devices capable for online magazine reading, they still liked to read the printed magazines to a certain extent. Among different types of mobile devices, tablets are the first choice of mobile devices that the student respondents preferred to use for online magazine reading.

Table 7
Reading preferences (subject matters).

Types of magazines	Readers using digital devices	Digital Magazines				
		Printed	Tablet	Laptop	Smart-Phone	E-reader	Total
Automobile	11	3	2	0	0	0	2
Business & Investing	8	4	1	0	0	0	1
Electronics & Audio	7	0	0	0	0	0	0
Entertainment	34	15	12	0	2	0	14
Fashion & Style	39	13	9	3	0	0	12
Health & Well-being	7	4	3	0	0	0	3
Literary Magazines & Journals	33	14	10	0	0	2	12
Music & Movie	7	0	0	0	0	0	0
News & Politics	33	9	12	0	0	0	12
Science Magazines	2	0	0	0	0	0	0
Sports magazines	8	0	0	0	0	0	0
Travel Magazines	33	5	8	0	0	0	8

Discussion

This study employed a self-administrator survey questionnaire (in online format) to collect data for investigating the changes of magazine viewing habits of university students upon the adoption of mobile devices for reading online magazines. Firstly, we observed through analyzing the demographic information, that the level of adoption for mobile digital devices was relatively high amongst the subjects, to nearly every subject owned a laptop and a smartphone (see Table 1). This result is not too surprising as most of the young people in Hong Kong are tech savvy, particularly when the monthly subscription charges for full mobile services are inexpensive.

Comparatively speaking, our subjects have a low adoption rate of using e-readers (in line with the youth population and even the whole population in Hong Kong). This result is different from the case in the US, where Zickuhr and Rainie (2014) noted that there is a huge increase of e-reader users, and the percent of users of tablets (59%) and e-readers (44%) at the college level was about 3 to 2. One of the possible explanations for such a big difference on the ownership of these two types of mobile devices could probably be due to the marketing strategies of device vendors (Jung, Chan-Olmsted, Park, & Kim, 2012). While Apple and Samsung are aggressively promoting their products in the Asian market (such as Apple's iPhones and iPads, and Samsung's

Notes), most of the e-reader companies (such as Amazon's Kindle) only focuses on the (local) US market. Thus, our subjects would be more ready to adopt tablets than e-readers. This also echoes the suggestion by Warren (2010) that the adoption rate of digital devices is related to awareness and price, which the awareness of tablets is much higher than e-readers in the Hong Kong scenario.

Our first finding (R1) suggests that our subjects' reading frequency decreased after they started reading the magazines online. This result seems to be counter-intuitive as most people would expect that our subjects would have an increase of their reading frequency as the mobile device would allow them to read at anywhere, anytime. This result also seemed to contradict the next finding (R2), which suggests that the student respondents read more types of magazines than before. However, we see that such result is reasonable and can be explained as follows. As mobile devices provide a convenient way for the student respondents to view magazines online, they provide the incentives for the readers to explore more reading options, and would lead to viewing more types of magazines (in terms of subject matter and scope). At the same time, the readers can view multiple magazine titles at a time, instead of viewing often just one single printed magazine at one physical location at a time (which not all the magazines are available at the same time, they need to wait, and thus creating another reading frequency). As our subjects can view multiple magazines at a time, it reduces the reading frequency in terms of *sessions*.

The next finding (R3) is related to the reading time amongst the student respondents. We observe that the reading time of the student respondents decreased (but not statistically significant) after they used their mobile devices to read magazines online. In other words, the statistical results suggest that there were no significant changes in the reading time. As the student respondents were reading more types of magazines (in terms of scope of subject matters), we anticipate that they would more likely be reading more types of magazines now when compared with before they started used their mobile devices to read. Thus, they spent less time on each individual magazine title. This indicates a change of the reading pattern, and probably the use of mobile devices made the student respondents become more efficient readers.

Concerning the time of the day that our subjects read magazines online (R4), we also observe a change of their habits. Before the adoption of mobile devices, the majority (64%) of our subjects read magazines in the afternoon (i.e., 12 noon to 6 pm). However, after they started to use mobile devices to read magazines, about half of them switched to another time of the day

to read. Based on our follow-up interviews, we discover that there are two possible reasons for the change. First, most subjects used to purchase the physical magazines and read them immediately afterwards when bookstores and magazine shelves are open, which is usually at the late morning or afternoon. Thus, they were used to read it around those time of the day. Second, our subjects may often enjoy their breaks between classes and use that time slots to read the physical magazines in cafes and restaurants. Another change happened in the places for reading magazines (R5), and for most of the cases, their breaks are during lunch hours or in the late afternoon. Therefore, it was their habit to read the physical magazines. However, when they started to read magazines online, they would be able to enjoy their readings anytime, anywhere. Thus, our subjects would be able to enjoy their reading when they are really relaxed, such as at home.

Our last finding is focused on understanding what type of devices our subjects like to use for reading (R6). As tablets are the most popular mobile devices used by the young university students in Hong Kong (as shown in our analysis of the demographics above), it is not surprising to note that most of them like to use tablets to read. Furthermore, tablets often have longer battery hours, light weight, larger screens, and better portability, which makes them become a natural choice for reading magazines online.

Conclusions

This study attempts to investigate electronic magazine reading behavior amongst a small group of university students in Hong Kong in the digital environment by analyzing their mobile device adoption. Despite its technical limitations, this study has provided a glimpse into the adoption level of mobile devices amongst the student respondents which is very high. An overwhelming majority of the respondents own laptop computers and smartphones, followed by tablets which are owned by about two-thirds of our subjects. However, tablets are the most favorite type of mobile digital device for reading electronic magazines, when compared with other mobile devices, such as laptop computers, smartphones, and electronic book readers.

We also note that a majority of the student respondents' magazine reading habits, in terms of frequency, types of magazines read, time spent on reading, time of the day for reading magazines, and places have changed after they started to use mobile digital devices. Student respondents read magazines less frequently, and yet, with approximately the same amount of

time spent in total in reading the magazines online. In addition, they read more types of magazines after they started to use mobile digital devices. Furthermore, the reading habit on time of the day also underwent a change, which is from mainly in the afternoon to evening. For academic librarians, these findings are important as they affect their resource developments and services planning. When an increasing number of users are using mobile devices to read magazines online, we anticipate that academic librarians would expand their scope and nature of their collection development practices (for digital resources) to meet their student readers' rapidly-changing needs and expectations. Concerning the Internet bandwidth requirement, we do not anticipate any big changes in the total bandwidth requirement, as we observed that the total reading time (duration) was nearly unchanged (with a statistically insignificant reduction). However, as we observe the change of the reading pattern (as more subjects moved to read in the evening, i.e., after 6 p.m.), we would suggest the academic librarians to make the necessary arrangements with the Internet service providers or their in-house IT personnel to cater for the continuously increasing demand of bandwidth in the evening time.

As for our continuing work, we are planning to conduct similar studies in different countries to explore the possible impacts of culture on the reading habits in the cyber world. We are exploring students' reading habits at specialized institutions (Lo et al., 2016). We are also interested in mobile interface design issues (Fung et al., 2016), its impact with social media (Kong et al., 2016) as well as privacy issues (Hung et al., 2007).

APPENDIX: SURVEY QUESTIONNAIRE

1. What is your gender?

2. Which age group do you belong to?

3. Which academic discipline are you in?

4. What is/are the mobile digital devices you use to read magazines? (Multiple choice)

5. How often did you used to read magazines **BEFORE** you started to use mobile digital devices to read magazines?

6. How often did you used to read magazines **AFTER** you started to use mobile digital devices to read magazines?

7. What types of magazines did you like to read **BEFORE** you started to use mobile digital devices to read magazines? (Multiple choice)

8. What types of magazines did you like to read **AFTER** you started to use mobile digital devices to read magazines? (Multiple choice)

9. For how long did you read magazines each time **BEFORE** you started to use mobile digital devices to read magazines?

10. For how long did you read magazines each time **AFTER** you started to use mobile digital devices to read magazines?

11. When did you usually read magazines **BEFORE** you started to use mobile digital devices to read magazines?
    A. In the morning B. In the afternoon
    C. In the evening D. Others (please specify)

12. When did you usually read magazines **AFTER** you started to use mobile digital devices to read magazines?

13. Where did you usually read magazines **BEFORE** you started to use mobile digital devices to read magazines? (multiple choice)

14. Where did you usually read magazines **AFTER** you started to use mobile digital devices to read magazines? (multiple choice)

15. Which device do you prefer in reading different types of magazines? Please tick on the corresponding column.

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