

INTERNET USE AMONG UNDERGRADUATE STUDENTS

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The aim of this study is to identify the Internet use among Malaysian undergraduate students. A pencil-paper questionnaire with items on demographic information and Internet use information was randomly distributed to the samples of this current study. Samples comprised of 1389 students from Universiti Teknologi Malaysia (21.13 ± 1.68 years old). The result of this study indicated that the majority of the students (97.4%) had a personal computer. They spent a long time on Internet, i.e. 6.60 (SD=4.93) hours per day and had more than seven years of Internet use experience. SNS (e.g. Facebook) was found as the most popular and attractive Internet activity among the nine Internet activities. The significant gender difference was shown in the time spent where male students spent more time on MMORPG, while female spent much more time on email, search/googling, shopping, and instant message.

INTRODUCTION

Internet has become the ideal means of providing information to students and more importantly it is enjoyable due to the interactivity it provides. Students have the freedom of doing anything: to research and learn any topics, chatting, gaming, shopping and much more. It affects various aspects of people's life such as study, work, doing business, social interaction, leisure time, and how people communicate, and shopping. It provides a global data communication system between computers which bring many advantages such as faster communication, information resources, entertainment, social networking, and making life convenient and efficient. The number of Internet users in 2011 is around 2.27 billion all over the world, increased 528.1% from 2000 to 2011. Asia takes the biggest population, more than one billion, followed by Europe and North America (Internet World Stats, 2011). The rapid increasing number of Internet users is also found in Malaysia from 3.70 million in 2000 to 17.72 million in 2010 (International Telecommunication Union, 2010). It has been widely used in higher education of various fields and permeated student's study and life (Edmunds, Thorpe & Conole, 2010; Tella, 2007).

Internet plays a prominent role among young people (Chan and Fang, 2007) which indicated that the majority of people spent one to three hours a day on the Internet. The Internet was the preferred choice of media for information-driven activities, listening to music and for fun. A study in Malaysia reported that the university students spent 13.31 hours per week online and started using computers at the age of 14 on average (Ng, Isa, Hashim, Pillai & Singh, 2012).

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Among 11 Internet activities, three of them were selected as the favorite choice including SNS (e.g. Facebook), downloading, and instant messages (Kim, LaRose, & Peng, 2009). The adverse effects of long time Internet use were highlighted in many previous researches, such as Internet addiction or pathological Internet use (PIU) (Gencer and Koc, 2012; Katerelos, Tsekeris, Lavdas & Dimitriou, 2011; Frangos, Frangos, & Kiohos, 2010) which could lead to declined academic achievement (Soule, Shell and Kleen, 2003; Kubey, Lavin and Barrows, 2001; Chou and Hsiao, 2000), physical health problems (Kim and Chun, 2005). A European study pointed that PIU was significantly related to the average hours online. The highest-ranked online activities were watching videos, frequenting chat rooms and social networking (Durkee, Kaess, Carli, Parzer, Wasserman, Floderus, Apter, Balazs, Barzilay, Bobes, Brunner, Corcoran, Cosman, Cotter, Despalins, Graber, Guillemin, Haring, Kahn, Mandelli, Marusic, Mészáros, Musa, Postuvan, Resch, Saiz, Sisask, Varnik, Sarchiapone, Hoven & Wasserman, 2012).

METHODOLOGY

A total of 1389 undergraduate students in the age of 21.13 ± 1.68 from Universiti Teknologi Malaysia (UTM) responded on a pencil-paper questionnaire related to their experience on Internet use. The sample was randomly selected from each faculty in UTM. Table 1 showed the sample composition, which revealed that the number of students in each year of programme was equivalent, about 25%, but the huge discrepancy was found in major field and race.

TABLE 1: SAMPLE COMPRISAL

		<i>Frequency (n)</i>	<i>Percent (%)</i>
Gender	male	788	56.7
	female	601	43.3
Race	Malay	922	66.4
	Chinese	369	26.6
	Indian	31	2.2
	others	67	4.8
Programme	1st year undergraduate	336	24.2
	2nd year undergraduate	345	24.8
	3rd year undergraduate	366	26.3
	4th year undergraduate	342	24.6
Major	Art, humanity and social science	184	13.2
	science	446	32.1
	engineering	663	47.7
	others	96	6.9

The questionnaire comprised of items on demographic information, Internet use (e.g. have a personal computer, time spent on MMORPG, SNS, email, search, simple game, shopping, browsing with no specific purpose, media viewing, instant

message). Half of the faculties, that is six out of 12 in UTM related to engineering field, the engineering respondents contributed almost half of the research samples (47.7%), followed were science (32.1%), art, humanity and social science (13.2%), and others (6.9%). The sample composition on race is quite similar with the ethnic composition of the whole population in Malaysia, which Malay contributed more than half of the samples (66.4%), followed by Chinese (26.6%), others (4.8%), Indian (2.2%).

RESULTS AND FINDINGS

This investigation on Internet use of undergraduate students in UTM found that majority of students (97.4%) owned at least one personal computer and their average Internet use experiences was 7.60 ± 3.10 years with minimum of one year and maximum of 20 years. They spent an average of 6.60 (SD=4.93) hours per day which was much longer than the medical students (Ng, Isa, Hashim, Pillai & Singh, 2012).

As shown in Table 2, these undergraduate students spent much longer time (more than three hours) on three Internet activities, SNS (e.g. Facebook), search/googling and instant message. The next activity was online media viewing (2.56 ± 2.37 h). Repeated-measure ANOVA was further applied to identify the significant dominant Internet activity among the nine Internet activities. As the result of Mauchly's Test of sphericity was violated, $X^2(35) = 1558.13$, $p = .00$, degree of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .729$). Tests of Within-Subjects effects showed that there was significant effect of which Internet activities on the time spent online, $F(5.83, 8.05) = 564.23$, $p = 0.00$. It suggested that there was significant difference on time spent online for different Internet activities. The followed up pairwise comparison indicated that students spent significantly much more time on SNS than other Internet activities (mean difference with MMORPG=3.086, $p = .00$; email=2.533, $p = .00$; search=.692, $p = .00$;

TABLE 2: REPEATED-MEASURE ANOVA FOR TIME SPENT ON INTERNET ACTIVITIES

<i>Internet activities</i>	<i>Mean(SD)</i>	<i>Mauchly's Test of Sphericity</i>		<i>Test of Within-Subjects Effects</i>	
		<i>Mauchly's W</i>	<i>P</i>	<i>F</i>	<i>P</i>
MMORPG	1.26(2.18)	.32	.00	564.23	.00
SNS	4.34(2.76)				
email	1.82(1.95)				
search	3.65(2.57)				
simple game	1.06(1.79)				
shopping	1.19(1.93)				
browsing with no specific purpose	1.90(2.25)				
media viewing	2.56(2.37)				
instant message	3.47(3.02)				

simple game=3.29, $p=.00$; shopping=3.15, $p=.00$; browsing with no specific purpose=2.44, $p=.00$; media viewing=1.78, $p=.00$; instant message=.87, $p=.00$).

This finding is consistent with previous research findings that SNS provided a virtual social networking with others, various services and functions, were much more popular than other activities (Durkee et al., 2012; Kim, LaRose, & Peng, 2009). People usually gained the social recognition and entertainment by using SNS (Lu & Yeo). A study examined the use of Social Networking Site (SNS) in a sample of 343 Malaysian. Majority (45.2%) of the respondents have 3-4 years experiences on using online social networking sites, only 0.6% does not use social networking sites. Most (31.5%) of the respondents update their social networking site profiles on a daily basis. The top three purposes to visit social networking sites are checking messages (233), checking comments/testimonies (186) and playing games (177). Facebook is the most visited/preferred social networking site, followed by Friendster, Tagged and MySpace (Cheak, Goh, and Chin, 2012). The sample of this study spent extremely longer time on SNS (over four hours per day) which become a most attractive Internet activities compared to others.

MANOVA was conducted to test the gender difference on time spent in various Internet activities (Table 3). It was revealed that there was significant difference between male and female students on some of Internet activities, such as MMORPG, shopping. Female students were found to spend much more time on email, search/google, shopping, and instant message compared to the male ones, while male students tended to spend much more time on MMORPG.

Previous research found that male students usually spend more time on Internet than female students (Li & Chung, 2006), but this study examine the time spent on various Internet activities found that male students spent more time only on one activity, MMORPG; while female students spent much more time than male students

TABLE 3: GENDER DIFFERENCE ON INTERNET ACTIVITIES

<i>Internet activities</i>	<i>Male</i>	<i>Female</i>	<i>Between-Subjects Effects</i>	
	<i>M(SD)</i>	<i>M(SD)</i>	<i>F</i>	<i>Sig.</i>
MMORPG	1.78(2.46)	.58(1.50)	111.34	.00
SNS	4.19(2.80)	4.55(2.71)	5.82	.16
email	1.66(1.81)	2.03(2.12)	12.15	.00
search	3.26(2.47)	4.16(2.61)	41.74	.00
simple game	1.05(1.74)	1.06(1.86)	.02	.89
shopping	.87(1.68)	1.61(2.16)	52.13	.00
browsing with no specific purpose	1.87(2.25)	1.93(2.26)	.26	.61
media viewing	2.51(2.35)	2.63(2.40)	.91	.34
instant message	3.08(2.82)	3.98(3.20)	30.86	.00
Multivariate Test				
Pillai's Trace	.76			
Sig.	.00			

on four Internet activities, email, search, shopping and instant message. The finding of these Malaysian students was quite similar to students in Europe that female students preferred watching video, social networking, and chatting, while male students would like playing massive online multi-user games (Durkee *et al.*, 2012). Morrison and Gore (2010) also found the gender difference on different Internet activities that women tended to use the Internet more for research, e-mail and chat, and less for sexually gratifying sites, games and browsing.

CONCLUSION

This study examined the Internet use among undergraduate students in UTM. It was found that the students spent an average of a quarter of a normal day time of 24 hours, which was much longer than other previous studies. Furthermore, most of the Internet activities were non-study purpose. Among nine Internet activities, SNS was the most popular one, followed by search/googling, instant message, and online media viewing. It implied that the long-time non-study purpose surfing online may lead to decreased time on study and other real-life activities. The significant gender difference was identified on five activities, MMORPG, email, search/googling, shopping, and instant message.

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