SOCIAL SCIENCES & HUMANITIES

Digital Engagement: A Preliminary Analysis of Marginalized Youth in the Information Society

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ABSTRACT

Efforts have been made to narrow the digital divide in disadvantaged communities through increased investment in Internet infrastructure, with such initiatives particularly advanced by community-based facilities. The hope is for such investment to afford more underprivileged groups the benefits of 21st century society, where many public services are, by default, accessible online. Accordingly, this study focusses on how 15-to-25-year-old Malaysian youths in marginalised communities engage with the Internet in performing various activities in their everyday lives. The findings indicate that the majority of these individuals have access to the Internet but that their engagement spans only basic activities such as communication and uploading and downloading of materials. In terms of intermediate and advanced activities, the investigated youths minimally shop online, search for educational materials and participate in civic and political causes. The results also indicate that attitudes towards the Internet considerably influence the decision of Malaysian youth to occupy themselves with digital activities. Fostering a digitally-inclusive society necessitates expanding digital engagement beyond basic activities – a goal that can be achieved by improving the digital literacy of youth and offering them participatory literacy programmes.

Keywords: Digital engagement, digital inclusion, Internet, participation, young generation

INTRODUCTION

The information society is characterised by the high volume of information made possible by the Internet in everyday life through access to technologies that are compatible with a wide range of personal, social, educational and business activities.

Through these technologies, citizens can rapidly transmit, receive and exchange digital data, irrespective of distance. Technologies, specifically information and communication technologies (ICTs), are enablers; they are powerful catalysts for improving citizens' lives and wellbeing. For these innovations to truly elevate quality of life, however, the information society should be an inclusive community, where no disadvantaged segments of a population are prevented from realising their life pursuits. Building an encompassing information society, therefore, means ensuring that every person migrates from processes underlain by old paradigms to those grounded in cyberspace. An important goal in this regard is to close the gap between the information rich and the information poor. Marginalised populations should be afforded resources that help them acquire the skills and literacy necessary to effectively adopt new technologies. This access not only accelerates efforts to reduce the digital gap but also reduces the divide in economic, civic and political participation.

Central to the changing media landscape in the information society are Millennials, or individuals who were born after the mid 1980s. According to Wilhelm (2004), Millennials believe in the future, are involved in civil society and conceive themselves to be on the leading edge of progress, especially in terms of mastering new technologies. The youth of this generation spend most of their leisure hours on digital technologies and online activities. E-mailing, instant messaging and updating personal activities on social media are increasingly popular undertakings as are downloading music and movie files and buying products online. The Millennial generation represents the future.

Nevertheless, despite the presence of a generation that represents the future, their access to digital technologies is unequally distributed. All societies suffer from social exclusion and alienation, which also deny marginalised communities access to basic ICT infrastructure. In many instances, this problem is compounded by the lack of digital literacy that enables individuals to maximise the benefits that technologies offer. Recent developments in mobile technologies have provided opportunities for people in remote areas to gain access to the Internet. With respect to the Millennial generation, these developments give rise to questions of "digital choice," that is, whether digital exclusion pertains only to lack of access to technology or also encompasses attitudinal and cultural barriers.

In Malaysia, 73% of its 30 million population live in urban areas. The Internet penetration rate in the country is 70%, which is achieved mainly through broadband services. Supplementary connection for underserved areas is based primarily on a community approach, which involves establishing initiatives such as 1Malaysia Internet Services and 1Malaysia Wireless Villages. Another interesting attribute of the country is that 15-to-24-year-old youth account for 17% of the total population but 36% of Internet usage (MCMC, 2014). A 2012 report by the International

Telecommunication Union (ITU) ranks Malaysia as fourth in the world in terms of youth populations who are active Internet users. These "digital natives," labelled by ITU as those who have been actively using the Internet for the last five years, represent three-quarters of Malaysia's youth population (Malay Mail, 2012, October 12). Although these data indicate a high level of Internet usage among the country's youth, they do not explain what these digital natives do on the Internet and what characteristics or factors drive active engagement online. Do marginalised youth communities have the same opportunities to use the Internet as those extended to their counterparts from privileged families?

This paper presents preliminary findings on digital engagement among the youth of marginalised communities in Malaysia, a developing nation in pursuit of becoming a developed country by 2020. The discussion focusses on how the country's young generation uses the various opportunities offered by the Internet in their daily lives. Are these marginalised youth, who may be economically disadvantaged, also excluded from digital engagement, thus creating a digital underclass?

A Generation Divided

The initial debate about the digital divide concerns access to ICTs. Investment in technological infrastructure is considerably high, but many investment decisions prioritise commercial value rather than social outcomes. In a way, then, the digital divide widens the already existing gap between the rich and the poor, between urban and rural areas or between developed and underdeveloped regions. In the context of the youth, certain segments are digitally included and excluded; this is a problem perpetuated by socioeconomic status or place of residence.

In discussing her concerns regarding the digital divide, Helsper (2011) highlighted the need to provide the socially disadvantaged with Internet access and use digital resources to help improve their wellbeing. In typical circumstances, a socially marginalised group is also digitally excluded because of lack of access; such deficiency stems from the fact that the members of this group cannot afford the high expense associated with acquiring technological hardware. The challenge thus lies in formulating strategies for including socially excluded populations in the digital revolution. Similar concerns are voiced by Warren (2007), who argues that narrowing the digital divide will only disenfranchise the most disadvantaged and vulnerable sectors of society if they are unable to use technological developments to their benefit. As the Internet becomes the default communication medium, minorities become progressively disadvantaged, first in relative and then in absolute terms.

A focus group research conducted by Newman, Biedrzycsi and Broom (2010) identified broad differences in frequency, quality of use, skills, confidence and trust among low-income and disadvantaged groups in Australia. The authors also outlined digital use (or non-use) pathways that are related to existing socioeconomic

inequities, indicating that lack of (or limited) digital access or use creates further barriers to improving the underlying determinants of such use. Technological solutions to the digital divide must therefore be driven by a comprehensive approach to digital inclusion.

Roe (2000) revealed that although the physical divide seems to be narrowing in most developed nations, the digital divide persists or continues to expand given the lack of proficiency in using technological or Internet-based applications. In discussing digital inclusion, Walton (2013) focusses on the importance of not only affordable hardware and Internet connectivity but also extending assistance to communities in building ICT skills and thoroughly understanding the safe and effective use of online technology to achieve educational, economic and social goals. The author recommends the incorporation of digital inclusion in national agenda.

In their studies among the youth in advanced democracies, Xenos, Vromen and Loader (2014) averred that even as they were concerned about whether social media was positively related to political engagement, they were optimistic with respect to the overall influence of popular new media on long-standing patterns of political inequality. Flanagan and Levine (2010) argued that the current young generation exhibits less civic engagement than do the earlier generation. This problem may be attributed to a decline or delay in traditional adult patterns of civic engagement, which the authors located in two factors: unequal opportunities that may be influenced by the educational background of the younger generation's parents and the differences in institutional opportunities provided to college and non-college youth during their youth-to-adult years. Civic engagement is important for the functioning of democracies and the growth and maturation that democracy encourages in young adults. The problem is that civic engagement is uneven across social classes, races and ethnicities.

Asian youths are embracing technologies at a burgeoning rate, yet interesting differences in Internet access and use exist among this demographic group. A study on five East Asian cities that are home to youths with six years of Internet usage suggests that although technologies can facilitate citizenship among Asian youths, entertainment-related activities (e.g. downloading music or playing games) remain the most popular activities online. About 65% of these individuals have read news online, 50% have voted over online platforms and 25% have signed online petitions (Lin, Cheong, Kim, & Jung, 2010). In their investigation of Cyprus youth populations, Milioni, Doudaki and Demertzis (2014) indicated that a "reverse digital divide" exists among disadvantaged youths. The authors also revealed that disadvantaged Greek and Turkish youths of the divided Cyprus community engaged more frequently in online expression, association and learning.

Gutierrez and Gamboa (2010) examined the determinants of ICT use among low-income populations in three developing

countries, namely, Colombia, Mexico and Peru. The analysis, which was based on two composite indicators, indicated that the single most important factor that limited the digitalisation of low-income individuals in the studied countries was lack of education. The effects of income itself, although positive, were low. Carvin (2000) outlined three types of literacy required to fully integrate Internet usage: the ability to be "information literate" (discern the quality of content), "adaptively literate" (develop new skills while using ICTs) and "occupationally literate" (apply ICT skills in business, education or domestic environments).

Helsper (2011) criticised the British government's plans to make public services "digital by default," arguing that the low-education individuals that make up the digital underclass will be denied access not because of a deficient infrastructure but because of a lack of (effective) take-up of available connections. Such initiatives, therefore, represent a problem that is unlikely to be resolved even with improved infrastructure or as younger generations mature. The digital underclass comprises people who rely most on government services that are now becoming digital by default. Yet, because of ongoing problems with equitable access, those who most need services that supposedly offer huge cost savings through digitalisation are the ones least likely to be able to adopt and benefit from such services when access and corresponding facilities become available. Similarly, Longley and Singleton (2009) contended that those who suffered from material deprivation would also exhibit low Internet usage. In the same vein, economically poor regions will have low Internet access. Individuals or populations who have benefitted from technological diffusion but lack the capability to translate the usefulness of technology to society will, in the long run, drive their communities into social exclusion, thereby preventing larger regional or national integration (Zheng & Walsham, 2008).

Waymer (2012) addressed the extent and manner by which people in "socially excluded" areas of a city engaged with technologies, specifically personal computers and the Internet. The author also probed into the effects of such engagement on quality of life and social inclusion. The results indicated that the manner in which technology is experienced by marginalised social groups did not fit neatly into the dominant discourse of digital inclusion, which emphasises technology as a means of achieving social inclusion, particularly in the realms of civic participation, educational achievement and employment.

METHODOLOGY

As previously stated, this study focusses on the youth of marginalised communities in Malaysia. In this work, marginalised communities are defined as plantation estates, new Chinese villages, traditional Malay villages, land development sites and low-cost apartment complexes in cities. Most of the families living in these residential areas earn an average of less than RM 3,500 (USD 800). The data presented

in this paper were obtained through a pilot study on 395 respondents interviewed in a survey. The interviewees are youths aged 15 to 25. The variables used in the analysis are digital engagement, attitudes towards the Internet, Internet experience and educational level.

"Digital engagement" is defined as the frequency with which an individual performs online activities. The respondents were asked to indicate how frequently they involved themselves in 13 online activities on a scale that spanned "no engagement at all" to "very frequent engagement". "Frequent" and "very frequent" were regarded as corresponding to engagement in digital activities. The digital engagement construct had three dimensions, namely, basic, intermediate and advanced engagement.

"Attitudes towards the Internet" is defined as the extent to which respondents perceived the Internet as producing positive life outcomes. A nine-item instrument was used to measure this variable. The respondent categories were based on a 5-point Likert scale ranging from "extremely disagree" to "extremely agree". The reliability test produced a Cronbach's alpha of 0.69.

"Internet experience" is defined as the length of time that the respondents devoted to Internet use. The responses were classified into five categories ranging from less than one year's experience to more than 10 years' experience of using the Internet.

"Educational level" was operationalised into three categories, namely, lower secondary education and below (nine years or less of schooling), upper secondary school education (11 years of schooling) and tertiary education (university education).

RESULTS

Table 1 indicates the respondents' Internet experience. Although they came from low-income families, almost all had experienced using the Internet at home, in school, on mobile devices or in community centres. The data also showed that the low-education participants tended to exhibit less experience with Internet usage than did the higher education group (Table 1). Among the individuals who had had lower secondary and primary schooling, only 9% had been using the Internet for more than 10 years. Among the respondents with upper secondary and tertiary education, those with

Table 1
Experience using the Internet

	Lower secondary %	Upper secondary %	Tertiary %	Total %
< 1 year	14	12	5	10
1-3 years	25	29	22	25
4-6 years	37	33	38	36
7-9 years	15	11	18	15
>10 years	9	16	18	15
	100	100	100	100

more than 10 years' Internet experience numbered 16% and 18%, respectively. Only 5% of the individuals with tertiary education had less than one year's experience of Internet use. This figure increased to 12% and 14% when measured on the basis of the experience of the respondents with secondary and lower secondary education, respectively. Overall, about 70% of the respondents across educational levels had at least 4 to 6 years' experience of Internet usage.

The second set of data comprised the responses regarding attitudes towards the Internet. Table 2 indicates that the respondents with more than 10 years' Internet experience (mean score=29.8) tended to exhibit more positive attitudes than did those with less than one year of Internet usage (mean score=27.9). On the basis of these findings, we can argue that attitudes towards the Internet became more positive as experience increased.

Table 2
Internet experience and attitudes towards the Internet

Internet experience	Mean attitudinal score
<1 year	27.9
1-3 years	28.1
4-6 years	29.2
7-9 years	29.5
>10 years	29.8

Table 3 lists Internet attitudes based on educational background. Minimal difference existed across educational backgrounds. The attitudinal mean scores were clustered around an overall mean of 28.9. The data in the table also indicated that attitude formation was more strongly influenced by Internet experience than by educational background.

Table 3
Educational level and attitudes towards the Internet

Educational level	Mean attitudinal score
Lower secondary	28.9
Secondary	28.9
Tertiary	28.8

As mentioned earlier, 13 Internet-based activities were chosen to determine the frequency with which the respondents engaged in these occupations. After a factor analysis, the 13 items were categorised into three types of digital engagement: basic, intermediate and advanced engagement. Figure 1 shows that among the categories, basic engagement was the most frequent type of involvement, with more than 46% of the respondents engaging in activities classified under this dimension. Frequency of activities followed this order: communicating with friends (64%) > surfing for entertainment materials (46%) > uploading personal information, pictures and activities on social media (42%) > playing games (41%).
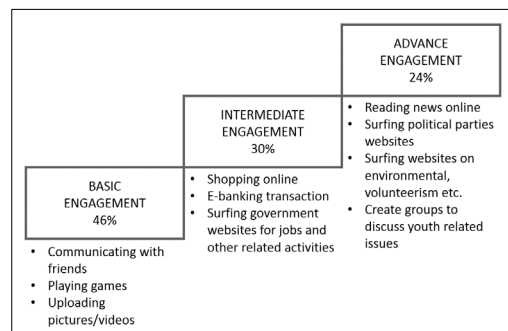

Figure 1. Three dimensions of digital engagement

In terms of intermediate digital engagement, the most frequent activity was surfing for educational materials (57%). Less than 30% of the respondents engaged in the other three activities under this category. Specifically, 26% of the respondents shopped online; 27% surfed government websites to look for job vacancies, renew driving licenses and complete other government-related activities; and 18% performed e-banking. The overall engagement in intermediate activities was 30%.

With regard to advanced digital engagement, the most actively pursued occupation was reading news published on various online applications (49%). In the rest of the activities, the respondents exhibited low engagement, which covered writing comments on blogs or news articles (24%), establishing a social media group for implementing youth activities (23%) and establishing friendships on social media for volunteer work (22%). The activity that stimulated the least engagement was surfing websites of political parties with the intention of participation (19%). The overall engagement in this category was 24%.

The analysis above showed that about 46% of the respondents were actively engaged in basic Internet activities, whereas 30% were actively engaged in intermediate Internet pursuits. The remaining 24% exhibited a high level of advanced digital engagement. These preliminary findings were not compared with a control group, but they nonetheless illustrated that within the investigated marginalised communities, the youth are digitally divided, as determined

from the type of engagement that they exhibited online i.e. the digital divide among these individuals manifested itself not in terms of access but in terms of engagement in Internet activities. In the information society, ICTs were supposed to stimulate social change. Being netizens, the youth should be encouraged to espouse high-order digital engagement, which extended beyond basic occupations such as communication.

Let us now attend to a discussion of how improved digital engagement can be encouraged to enable the inclusion of entire communities in the digital society. Among educational level, Internet experience and Internet attitudes, we assumed that the most controllable predictor was the last. Table 4 presents the relationship between attitudes toward the Internet and various levels of digital engagement. In ascertaining this relationship, we controlled for educational level in the analysis. Attitudes more strongly influenced basic engagement among the respondents with lower secondary schooling (r=0.53) than among those with secondary (r=0.19) and tertiary (r=0.31) education. With regard to intermediate digital engagement, attitudes also wielded influence, but such effect was not as strong as that observed for basic engagement (r=0.26; p>0.05) among the respondents with lower secondary and secondary education (r=0.25; p>0.05). Among the participants with tertiary education, attitudes did not significantly influence digital engagement, especially at the intermediate (r=0.15; p<0.05) and advanced (r=0.12; p<0.05) levels of engagement.

Table 4
Attitudes and digital engagement

Educational level	Basic digital engagement	Intermediate digital engagement	Advanced digital engagement
Lower secondary	0.53**	0.26**	0.17*
Upper secondary	0.19**	0.25**	0.24**
Tertiary	0.31*	0.15	0.12

Note: Education was controlled for in the analysis.
** significant at 0.05
* significant at 0.01

In the analysis of the effects of attitudes on digital engagement, we controlled for Internet experience. Table 5 shows that Internet attitudes exhibited strong influence among the respondents with a long record of engagement in basic Internet activities. A correlation of r=0.45 was derived for the respondents with seven to nine years of experience, and a correlation of r=0.45 was obtained for those with more than 10 years' experience. By contrast, Internet attitudes weakly influenced the respondents with short-term Internet use, such as those with one to three years' experience (r=0.21; p<0.05) and those with four to six years' experience (r=0.33; p<0.05).

At the intermediate level, attitudes pose minimal influence on the respondents with long-term Internet experience. A weak but significant correlation exists among those with one to three years of experience (r=0.28; p<0.05) and those with four to six years of experience (r=0.28; p<0.05). No significant relationship was found among the respondents who had been using the Internet for a considerable period, such as those with seven to nine years of experience (r=0.08; p>0.05) and those with more than 10 years of experience (r=0.17; p<0.05). At the advanced level, attitudes influenced the respondents under the groups with more than 10 years' (r=0.29; p<0.05) and seven to nine years' (r=0.21; p<0.05) experience. No significant influence was found among those under the groups with one to three and four to six years of Internet usage.

Table 5
Attitudes and digital engagement

Internet Experience	Basic Digital Engagement	Intermediate Digital Engagement	Advanced Digital Engagement
1-3 years	0.21*	0.28**	0.06
4-6 years	0.33**	0.28**	0.17
7-9 years	0.45**.	0.08	0.21*
>10 years	0.44**	0.17	0.29*

Note: Internet experience was controlled for in the analysis

DISCUSSION AND CONCLUSION

Digital engagement is a process that involves learning the skills necessary for online interaction and fostering the motivation to use the Internet. In marginalised communities, providing access to the Internet may be a minor obstacle given the availability of online resources in these environments. The more challenging requirement is encouraging digital engagement among the potential beneficiaries of infrastructural investment to ensure that the economically or socially disadvantaged are not relegated to an inhibitive status quo. Can economically and socially excluded individuals be encouraged to work towards digital inclusion as a means of guaranteeing the progress of a nation? This problem does not revolve around the Internet per se but centres on the capability to harness the Internet for educational, recreational, social and economic change.

Educational level and Internet experience are difficult to exploit as effective antecedents of digital engagement. Accelerating the digital engagement of youths in marginalised communities necessitates inculcating positive attitudes towards the Internet. To guarantee digital inclusion, the young generation should use the Internet for purposes other than communication and entertainment. Without this expansion, desired economic, social and political effects cannot be achieved. An attendant problem is the failure to narrow the gap between the disadvantaged and privileged segments of society. At the intermediate and advanced levels of digital engagement, the Internet exhibits the potential to increase opportunities to acquire education, harness technology for economic advantage and improve involvement in political causes through the expression of ideas and suggestions.

The current approach of providing Internet services to marginalised communities in Malaysia through community-based facilities is a welcome initiative, but in many instances, these facilities are unsustainable because services are slow and the potential benefits that they offer are not clearly defined. The results of this study indicate that even as the youth enjoy commendable access to the Internet, daily engagement at the intermediate and advanced levels still shows room for improvement. Failing to address this imbalanced engagement translates not only into failure to engender digital inclusiveness but also failure to produce desired effects on Millennials, who represent the future of this country.

The digital migration of most government and public services suggests that the digitally non-literate would be in a difficult position to benefit from the public services provided by the government. Life in the 21st century depends on a space of flows, which is characterised by the movement of information, rather than on a space of places, in which movement spans only location.

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