



NMRCP
Networked Media Research Collaboration Programme

MEDIA MATTERS



**NETWORKED MEDIA CONTENT
RESEARCH REPORT**

VOL. 2

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ABOUT

About the Networked Media Research Collaboration Programme

The Networked Media Research Collaboration Programme - established in April 2008- is part of the commitment by Malaysian Communications and Multimedia Commission (MCMC) towards fulfilling the national policy objectives for the communications and multimedia industry. The programme is aimed at strengthening knowledge, research and development in relation to networked media content, with the hopes to inform future policy and regulatory decisions that concern sustainable media practices and media literacy initiatives.

About the Malaysian Communications and Multimedia Commission (MCMC)

The Malaysian Communications and Multimedia Commission (MCMC) is a statutory body established under the Malaysian Communications and Multimedia Commission Act 1998 (MCMCA) which implements and promotes the Government's national policy objectives for the communications and multimedia sector. MCMC regulates and promotes the development of the communications and multimedia industry which includes telecommunications, broadcasting, and online activities, postal services and digital certification. The Communication and Multimedia Act provides that MCMC undertakes a policy implementation role, while policy decision - making is vested with the Minister. The Minister may also give policy directions to the Commission.

An Overview: Impact Studies of New Media on Malaysian Society

INTRODUCTION

Malaysian policy makers were well aware of both positive and negative implications with the introduction of new media systems even before it took off in the 1990s. It has been repeatedly affirmed by various quarters, especially leaders responsible in expanding its services, that a country's development in the 21st Century is heavily reliant on new media systems as the major mover. Therefore new media systems have been firmly adopted as one of the important instruments for national transformation, and it will remain such in the future. For those reasons, there needs to be specially designed policy, code of ethics and legal provision governing new media systems.

The Malaysian government was aware that the population's acceptance level of the new system would be fast. But what the government did not expect was the speed in which the people responded to the new media system. As of January 2014 alone, Facebook had more than 1.3 billion active users worldwide (Statistics Brain, 2014). Nearly 15 million of them reside in Malaysia, which makes up half of the country's population - inclusive of mobile users; this statistic was recorded in the second quarter of 2014 (<http://www.statista.com>). This ranks Malaysia as one of the top seven countries in Asia with the highest number of Facebook consumers. The impact, effects and implications of new media systems, be it positive or negative, must be explored and investigated.

The constant surge in new media users has drawn much attention towards the potential negative impact of new system medias on users especially among the young. Questions such as what this phenomenon can do to our future generation; what kind of culture it will develop; and how it will impact our future, have popped up. The concern has reached a worrying level whereby many parties have called for the Malaysian government to control the medium or to ban it altogether.

RESEARCH REVIEW

The Malaysian Communications and Multimedia Commission (MCMC) or Phase 3 of NMRCP awarded grants to three (3) researchers to study Malaysian's behaviour on networked media, including to explore the positive and the negative impact of new media, as well as to envisage future development and trends.

The impact of new media study is one of the major approaches used by MCMC to examine the effectiveness of new media policies and regulations in Malaysia. In its continuous collaborative research programmes, MCMC commissions Malaysian researchers from prestigious local varsities to conduct research on various areas through the research under the Networked Media Research Collaboration Programme (NMRCP), MCMC has compiled valuable data on the three aspects stated earlier - the status, the impact study as well as on the future. In this report, findings from four research projects are published.

In the study led by Prof. Dr. Shanthi Balraj Baboo - 'Captivated with Facebook: Constructions, Contexts and Consequences' - a large amount of data was compiled on both the status of internet users and the pattern, as well as the impact of new media on young people. The study reveals that young people in Malaysia use Facebook for social, education and communication purposes. Another discovery is the waning interest of Malaysian youngsters on Facebook games. The study states that the respondents gain plenty of positive benefits from it; however there are some who suffered negative experiences.

The researchers were concerned with the ways young people view privacy and moral issues - young users are unclear with matters that were considered to be private, personal or public. What concerned the researchers most was the respondents' manner in evaluating information. According to this study "it is not very clear how they differentiate between fact and fiction and the way to look for reliable sources." The amount of time young Malaysian adults spent surfing the net was not far from their global counterparts as the international figure is reported to be between 1 to 3 hours a day.

When so much time is spent on the internet, the frequency of direct contact with family members is reduced. Therefore young users are at more risk of being abused online or to engage in abuse themselves. According to another study headed by Dr. Ke Guek Nee on the Problematic Internet Use among University Students in Malaysia, as high as ninety percent (90%) of the participants were addicted to social network sites (SNSs). Out of this number 60 percent of them suffer from anxiety problems within the category of severe and extremely severe, followed by depression, 31 percent and stress, 20 percent. This study successfully outlined the effects of excessive exposure to SNS. Healthy levels of SNS usage is found to have a significantly positive relationship with adolescence's mental health; whereby the more addicted an adolescent becomes to SNS, the higher the likelihood they will develop mental health problems. Most researchers are concerned that the uncontrolled nature of SNS usage will gradually have a negative impact on society.

In other words, although new media provides a new ecology for the breeding of a new culture for future civilisations, it requires more understanding. The way we study the impact of new media use today may no longer be relevant to young people in the future. Currently we are facing the problem of coping with the negative impact of heavy new media users. We need to approach new media from a positive angle to value and appreciate the healthier aspects of new media.

Besides impact studies, there are many studies that have been conducted to show how new media systems are actually assisting people to conduct businesses online. For the business community or who have strong interest in doing business, the creation of the internet

and new media holds much promise. Many studies reveal how new media has helped in expanding businesses and in increasing income, simultaneously creating an active online business community.

To explore this issue further, Dr. Shahizan and his team from Universiti Utara Malaysia examined the trends and impact of social media as a persuasive Technology for businesses in Malaysia. In their report, they stated that "although Social Media (SM) has just recently emerged, its popularity and utilisations have increased tremendously. In the context of business, a significant number of respondents (73.2%) believe that SM could influence their purchasing decisions. Out of this 29.7% even believe that SM can indeed persuade them to buy products or services".

In fact many have used the net to reach out to different segments of society, similar to what the government itself has done. A study on the effectiveness of new media in disseminating the '1Malaysia' concept revealed that bloggers openly discussed the concept throughout the three year period of the study. The study led by Dr Lim Tong Ming and his team showed that new media can be an effective medium in disseminating social change messages, which can trigger a healthy discourse online.

The internet is a tool and channel within the new media system that can be used productively for the betterment of people and country.

MCMC also believes that, researchers must research and develop new and sophisticated tools to examine the social impact of new media on society. This effort has been initiated by Dr Lim Tong Ming and his team in their study to understand and measure the online perception towards '1Malaysia'.



In spite of the negative effects of new media, MCMC is acutely aware of the potential associated with new media systems. The internet is a tool and channel within the new media system that can be used productively for the betterment of people and country. In Malaysia, efforts to liberalise the communication services market during the 1990s have given rise to a dynamic private sector. One that's been achieved through extensive infrastructure and high penetration of voice data and internet services.

CONCLUSION

Based on the studies, it can be concluded that the Malaysian population is mature and ready for exposure to new media systems; users are already mostly successful in their use of the new medium for positive gains. What remains to be done is for policy makers to create the right balance - protection wise - mainly for young users in both rural and urban areas. Other than the present regulatory framework, a self-regulatory guideline needs to be developed to assist users in differentiating between positive and negative messages. The guideline is known as the 'Klik Dengan Bijak' (KDB) programme. It is an awareness programme on internet safety initiated by MCMC which was launched in July 2012. While infrastructure expansion continues to make new media systems more accessible to all parts of the country, let's progress towards exploring, understanding and capitalising on this new technology's promising potential.

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Trends and Perceived Impact of Social Media as a Persuasive Technology for Business in Malaysia

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ABSTRACT

Despite its popularity and wide recognition as an effective and persuasive technology in business, studies on the trends and impact of social media (SM) especially in the context of developing countries, have yet to be firmly established. As such, this study attempts to ascertain the trends and perceived impact of SM as a persuasive technology for Small and Medium Enterprises (SMEs) in Malaysia. The methodology comprised five phases: content analysis of current literature; survey on the perception of users regarding SM usage for business; interviews and workshops to gain insights on the trends and impact of SM in business; data integration and analysis and lastly, documentation of research. The target population consisted of SM users in Malaysia i.e. company owners, managers, executives, and employees. Simple random sampling was employed to obtain samples for the survey and interview. The findings show that the overall percentage of SM usage among SMEs was relatively low, at about 20%. In addition, the interview participants believed that SM had a significant impact on their businesses and therefore could be considered as a persuasive tool to attract customers. This is supported by the outcome of the survey which showed that the majority of SM users perceived that SM content could persuade people to purchase products or services. Furthermore, it was found that SM content could also influence purchasing decisions.

Keywords: Social media, social media usage, social media trends, social media impact, SMEs.



INTRODUCTION

Many empirical studies have reported on the growing size, scope, and impact of social media tools such as Facebook, Twitter, blogs, YouTube, LinkedIn, Flickr, and Instagram on users. As reported by many studies, the most popular social network site is Facebook (Shahizan Hassan, Norshuhada Shiratuddin, Nor Laily Hashim, Sobihatun Nur Salam, Mohd Samsu Sajat, 2012). Back in 2007, over half of Facebook's 43 million users visited the site daily, spent an average of 20 minutes on the site, resulting in over 54 billion total page views per month (McClure, 2007).

A report by Facebook in January 2011 showed that it had nearly 600 million active users of which 9.9 million were Malaysians. The popularity of Facebook continued to grow and in December 2011, its active users numbered about 750 million. In January 2014, Facebook received more than 1.3 billion active users and 680 million mobile users (Statistics Brain, 2014). Consequently, its impact on Internet startups and traditional businesses in particular, the small and medium-sized companies contributed to the focus of this study.

The impact of social media (SM) on business should not be underestimated. Studies have shown that social media indeed has a significant impact on business, either positively or negatively. A satisfactory study on SM impact was conducted by the Universal McCann (2008) which looked at 17,000 internet users in 29 countries. It was found in this study, that SM had a dramatic impact on company brands and reputation. The most significant social media tool was blogs. It was found that 34 percent of the respondents posted opinions about products and brands on their blogs.

In addition, 36 percent had a more positive perception about brands and companies that had blogs. Another study was by Barnes and Matson (2008) which investigated the usage of social media among the Inc. 500 in the United States. It was found that over a quarter of the Inc. 500 companies reported that they used social media extensively and perceived that social media was indeed very important for business and marketing strategies.

Deloitte conducted a more recent study in 2011. In this study, Deloitte analysed the economic impact of Facebook in the United Kingdom (UK) and across Europe. According to Deloitte (2012) Facebook had contributed to an overall economic impact of 2.6 billion pounds and supported 35,200 jobs in the UK. In the context of other European countries including Switzerland, it was found that Facebook contributed to creating a total of 232,000 jobs as well as generating economic activities estimated at 15.3 billion euro in 2011. This study also highlighted that SM such as Facebook is particularly valuable for small and medium-sized businesses which represents the backbone of the European economy today.

Although there are many studies on the trends and impact of social media on business, most of these empirical studies were conducted outside Malaysia. Until recently, such studies in Malaysia are relatively limited. With this in mind, a study was conducted to determine the trends and perceived impact of social media for business purposes in Malaysia. The outcome of this study is presented in this article.

STATUS OF FACEBOOK USAGE FOR BUSINESS IN MALAYSIA

Despite many social media tools which are currently available, our study (refer to Shahizan et al., 2012) showed that Facebook emerged as the most commonly used social media among business companies in Malaysia. This is not surprising considering the recent statistics on Facebook usage provided by Facebook and Socialbakers.com, Facebook is indeed very popular among Malaysian Internet users. In March, 2013 there was a total of 13,085,000 Facebook users and it ranked 18th in the world (Socialbakers.com, 2013). This figure represented about 46 percent of the total population and about 81 percent penetration of online users in Malaysia.

Studies have shown that social media indeed has a significant impact on business, either positively or negatively.

While the usage of Facebook among small and medium enterprises (SMEs) in Malaysia remains relatively unknown, its usage among large companies is clearly noted. Based on observations conducted in this study, most large business organisations in Malaysia are utilising SM such as Facebook as a marketing tool. This is supported by the statistics provided by Socialbakers.com which showed that the top 50 Facebook users (among business companies) with the highest fan base are occupied by large corporations such as Airasia, McDonald's Malaysia, TV3, Golden Screen Cinemas, Pizza Hut Malaysia, Malaysia Airlines, DiGi Youths, Maxis, Blackberry Malaysia, Kit Kat Malaysia, Nike, KFC, Watsons, Adidas, Sunway Pyramid, Nestle, AXE Malaysia, Ikea Malaysia, Maggi, TM Rewards, Sony, and GAP Malaysia.

Despite its widespread use among large companies, the findings of this study showed that the usage among SMEs in Malaysia was still relatively low, at less than 20 percent across all sectors. However, its impact on business is perceived to be very significant by most company owners who were interviewed. As such, SM has tremendous potential to become an effective business tool for small and medium enterprises in Malaysia. Moreover, SMEs make up the largest business establishment in Malaysia at 99.2 percent, equivalent to 518,996 businesses; whereby the huge majority (86.5 percent) comprises the services sector inclusive of retail, restaurant and wholesale businesses.

Businesses in Malaysia are beginning to acknowledge the importance of using electronic medium to facilitate consumers to experience the conveniences of online purchasing. Malaysians spent RM1.8 billion on online purchases in 2010. Businesses in Malaysia are also promoting their sites across social networking platforms especially Facebook, resulting in the rise of social commerce. Nielsen Company (2011) recently revealed that 94 percent of Malaysian online consumers used social networks as a shopping guide, indicating social media's potential as an effective technology for business purposes.

METHODOLOGY

Data collection in this study is divided into two phases – determining the trend in social media usage among SMEs and a social media users' survey. Phase one involved the process of determining the trend in SM usage among SMEs in Malaysia. A list of SMEs (i.e. target population) from 29 different industries was retrieved from SME Corporation Database at <http://www.smeCorp.gov.my/v4/node/7> for sampling purposes.

A total of 20 companies from each industry were selected randomly in three rounds (i.e. 20+20+20 for each industry). The reason was to ensure that each company had an equal chance of being selected for the study, enhancing the representativeness of the target population (i.e. SMEs). The websites of these selected companies were then analysed to ascertain their usage of SM. Companies would normally provide a link to their social media tools on their websites. For example, AirAsia provides links to their Facebook and Twitter accounts on their main website.

In phase two, a questionnaire to ascertain the trend and impact of SM usage in business - from the perspective of SM users - was developed. A drafted questionnaire was pre-tested for face and content validity. After that, it was piloted to ensure reliability of the instrument. The target population in this survey were SM users in Malaysia from different levels of educational attainment, age and ethnicity. In order to ensure that respondents were representative of the target population, geographical cluster sampling was employed together with simple random sampling to select participants for the survey based on six regions in Malaysia: northern, central, southern, eastern (Kelantan and Terengganu), and Sabah and Sarawak. The final version of the questionnaire was administered to 2,000 SM users out of which 1,200 responded, equivalent to a response rate of 60 percent.

Social media usage among SMEs

A total of 1,746 company websites were analysed to ascertain their usage of SM. This meant that there were 582 company websites, which were evaluated in each of the three rounds. The results are presented in Table 1. The findings show that 16.47 percent of SMEs used SM. Out of these, some industry groups (in particular, food and beverage, service providers, education and training, hospitality services, healthcare, and tourism) had a considerably higher percentage of SM usage, which was between 25 to 30 percent. This was followed by five other industry groups (i.e. chemical petrochemical products, manufacturing related services, metal products, supporting products and activities, and logistics) with a percentage of usage between 20 to 24 percent. The rest were below 20 percent average usage.

It was found that SMEs in the central region (Federal Territory and Selangor) had the highest percentage of social media (SM) usage with 58 percent, followed by the northern region with 19 percent, southern region with 12 percent, eastern region with 5 percent, and Sabah and Sarawak with 4 and 2 percent, respectively (Table 2).

Table 1:

Trends in Social Media Usage among SMEs From Various Industries.

No.	Group	Name	% usage Round1	% usage Round2	% usage Round3	% usage Average
1	G1	Chemical Petrochemical Products	5%	20%	35%	20%
2	G2	Electrical & Electronics Inc. Telecomm.	15%	15%	15%	15%
3	G3	Food Beverage	20%	45%	10%	25%
4	G4	Machinery & Engineering	15%	15%	5%	12%
5	G5	Manufacturing Related Services	20%	25%	15%	20%
6	G6	Metal Products	20%	15%	25%	20%
7	G7	Non-Metallic Mineral Products	10%	5%	15%	10%
8	G8	Palm Oil Based Products	10%	15%	15%	13%
9	G9	Paper & Printing	20%	20%	15%	18%
10	G10	Plastic Products	15%	5%	5%	8%
11	G11	Rubber Products	20%	10%	5%	12%
12	G12	Textile, Apparel & Leather	0%	5%	10%	5%
13	G13	Transport Equipment	5%	5%	0%	3%
14	G14	Wood & Wood Products	15%	5%	5%	8%
15	G15	Miscellaneous	10%	5%	10%	8%
16	G16	Pharmaceutical	5%	25%	20%	17%
17	G17	Supporting Product & Activities	30%	15%	15%	20%
18	G18	Logistics	30%	25%	15%	23%
19	G19	Distributive Trade Inc. Wholesale & Retail	10%	15%	20%	17%
20	G20	Business & Professional Services	15%	15%	5%	12%
21	G21	Services Provider	5%	45%	30%	27%
22	G22	Education & Training	35%	35%	20%	30%
23	G23	ICT	20%	10%	25%	18%
24	G24	Hospitality Services	25%	30%	30%	28%
25	G25	Construction & Health	25%	10%	20%	18%
26	G26	MFG of Professional, Medical, Scientific & Measuring Devices/Parts	15%	15%	10%	13%
27	G27	Construction	20%	15%	15%	17%
28	G28	Healthcare	30%	40%	10%	27%
29	G29	Tourism	30%	35%	25%	30%
		Total average percentage	16.50%	18.00%	14.83%	16.47%

Table 2:

Trends in Social Media Usage among SMEs by Region

No.	Region	SM usage trend	Percentage
1	Northern	48	19%
2	Southern	32	12%
3	Eastern	13	5%
4	Central	152	58%
5	Sabah	9	4%
6	Sarawak	6	2%
Total		260	100%

In terms of the type of SM used among the SMEs (Table 3 and Figure 1), it was found that 85.7 percent of them used Facebook, followed by blogs (9.89 percent), MySpace (3.7 percent), and Twitter (0.7 percent). This trend is in line with the findings of previous studies such as Nielsen (2010), Camscore (2008), and Deloitte (2012).

Table 3:

Types of Social Media Usage among SMEs

Type of social media	Number	Percentage (%)
Facebook	252	85.71
Blog	29	9.89
MySpace	11	3.70
Twitter	2	0.70
Total	294	100%

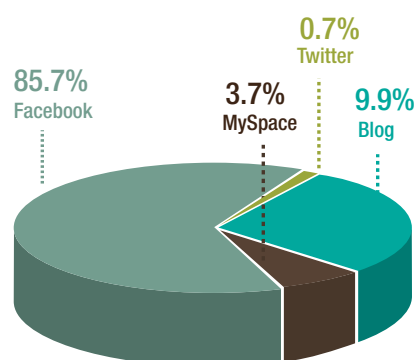


Figure 1:
Types of Social Media Usage Among SMEs

SURVEY: DATA ANALYSIS RESULTS

Demographic information of respondents

Out of 1,200 questionnaires received, four were rejected due to incomplete data. The data from the remaining 1,196 questionnaires was then analysed using a statistical package. Figures 2 to 5 provide demographic information of the respondents in this study. The majority of the respondents (53%) were young adults within the age group of 20 to 30. This is followed by those aged below 20 (29%), from 31 to 40 (10%), and above 40 (8%). In terms of level of educational attainment, 29 percent of the respondents had acquired a bachelor's degree, 25 percent received a diploma, and 20 percent had obtained the SPM certificate. As for the rest, 15 percent were STPM school leavers, 3 percent had a master's degree, 0.3 percent had a PhD and 8 percent had other qualifications.

Age group of respondents

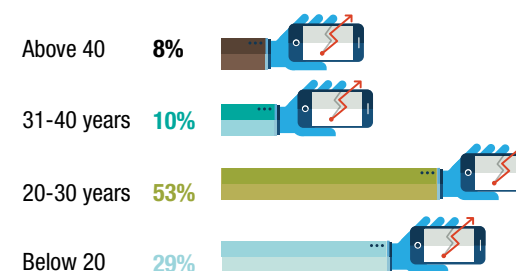


Figure 2:
Age Group of Respondents

Level of education

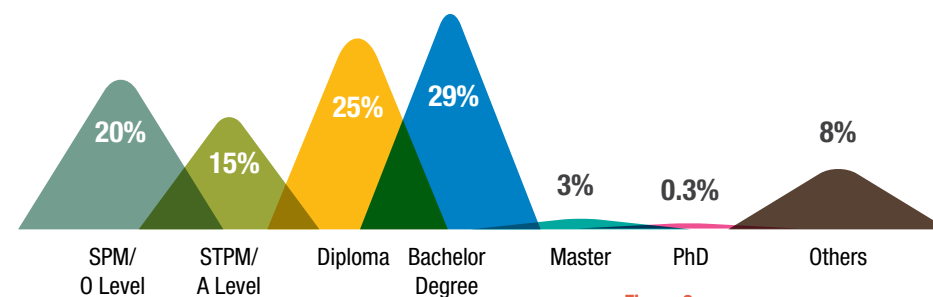


Figure 3:
Level of Educational Attainment of Respondents

The information on the ethnic background of the respondents was also secured (Figure 4). It was found that the respondents were fairly represented by all major races in Malaysia. The majority of the respondents (57%) were Malays, followed by Chinese (23%), Indians (10%), and others (10%). As for gender differences, both male and female respondents were almost equally represented in this study (Figure 5).

Ethnic background of respondents

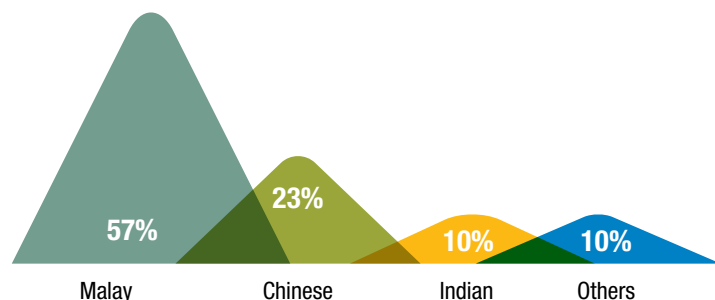


Figure 4:
Ethnic Background of Respondents

Gender distribution of respondents

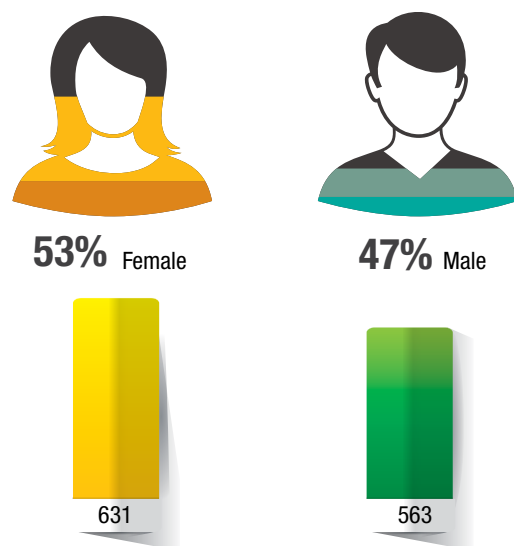


Figure 5:
Gender Distribution of Respondents

Social media usage

The findings (Figure 6) showed that Facebook is the most popularly used social media (SM) tool by the respondents (87.4%). This proved consistent with the findings of the SMEs web analysis prior to this survey. The other widely used SM tools are YouTube (36.3%), blogs (25.9%), and Twitter (22.1%). Other SM tools are not commonly used by the respondents.

As expected, various types of technology were used by respondents to access SM (Figure 7). Sixty percent used either a laptop/notebook, netbook, or tablet. Surprisingly, a substantial number of respondents (38%) used mobile phones to access social media.

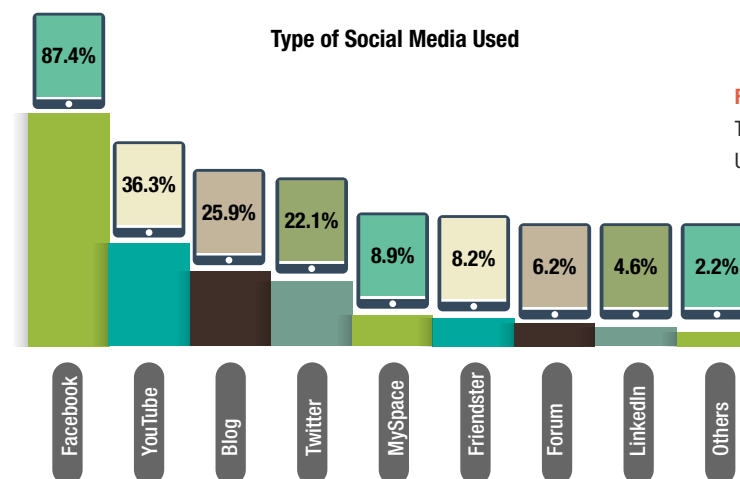


Figure 6:
Types of Social Media Used

Technology used to access social media

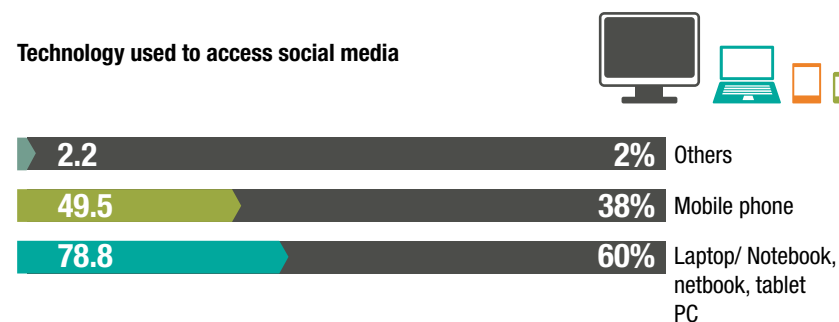


Figure 7:
Technology Used to Access Social Media.

It is also crucial to ascertain information about the role of respondents when using SM. In this study (Figure 8), the majority of respondents used social media (SM) either as observers (58.2%) or followers (52.8%). However, some of the respondents (13.2%) were involved in e-business as customers and therefore indicated that SM had the potential to become a successful e-business tool.

Respondents were also asked about the purposes of using SM. With reference to Figure 9, it can be clearly seen that most of the respondents used SM to get information about products or services (67.1%). In addition, the respondents also used SM to share their experience on products or service consumption (33.4%), to give feedback on products or services purchased (31.6%), and to compare the strengths and weaknesses of a certain product or service (26.8%).

Role of respondents when using social media

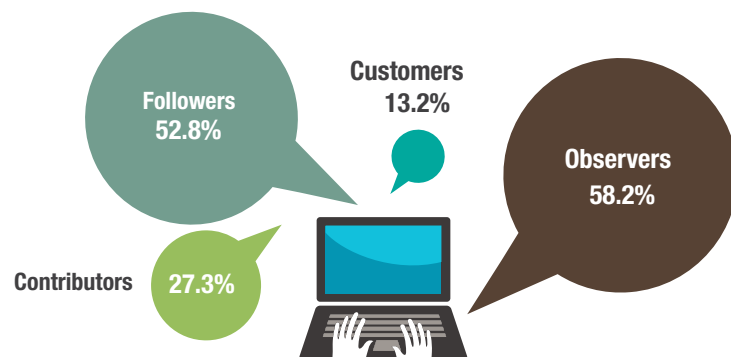


Figure 8:
Role of Respondents When Using Social Media

Reason for using social media

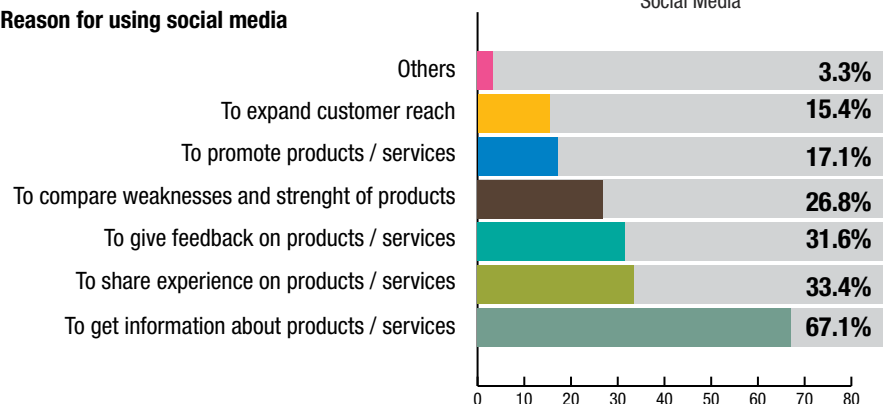


Figure 9:
Reason for Using Social Media

Impact of Social Media In Business

Information about credible SM elements was also gathered (Figure 10). The majority of the respondents stated that credible SM is closely linked to attractive interface design (41.6%), ease of use and navigation (41%), and richness of information provision (40.1%). Other elements that affect credibility were advertisements from reputable companies (35.5%), accuracy of information (27.4%), information with external agency approval (17.3%) and writing style (16.9%).

Element of credibility in social media

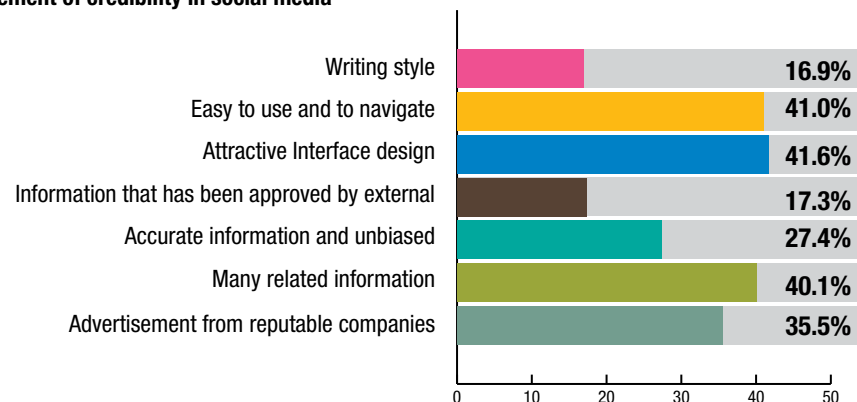


Figure 10:
Element of Credibility in Social Media

The study showed that SM indeed had an impact on business. A majority of the respondents (75.9%) were aware of the existence of a particular product or service via SM. Some of the respondents (43.6%) even bought products or services after getting information from the SM. Surprisingly, a significant number of respondents (47.4%) changed their minds about buying products or services after following up with the latest information or through conversations via SM. Some respondents (47.7%) even stopped using a particular product or service after receiving negative feedback about it on SM. This finding supports the claim that SM can, to a certain extent, have an impact on business. Table 4 summarises the findings. The findings also indicated that most business organisations in Malaysia were aware of the important role of SM in business. This is supported by the fact that many complaints about products or services filed by SM users were handled by respective company representatives (68.4%).

Table 4:
Impact of Social Media on Business

Impact of Social Media on Business	Yes	No
1. Have you ever been made aware of a product or service from the social media?	75.9%	24.1%
2. Have you ever bought a product or service after getting information or via conversations from the social media?	43.6%	56.4%
3. Have you ever changed a decision to buy a particular product or service after getting information about it from the social media?	47.4%	52.6%
4. Have you ever stopped using a particular product or service after getting negative information about it from the social media?	47.7%	52.3%
5. Have you ever made a complaint about a particular product or service in the social media?	28.9%	71.1%
6. Did you receive feedback about your complaint on a product or service from fellow social media users or the company's representative?	68.4%	31.6%

Social Media as A Persuasive Tool in Business

Although SM has only emerged recently, its popularity and utility have increased tremendously. In the context of business, a significant number of respondents (73.2%) believed that SM could influence their purchasing decisions (refer to those who answered “maybe” and “yes” in Figure 11). Out of these, 29.7 percent even believed that SM can indeed persuade them to buy products or services.

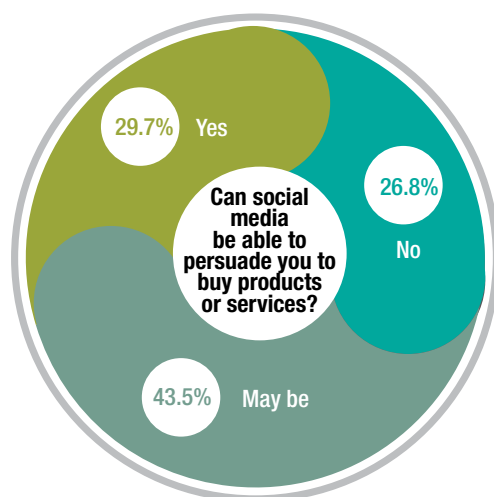


Figure 11:
Ability of the Social Media to Persuade Users to Buy Products or Services

Respondents were also requested to identify the type of content which can persuade them to buy products or services (Figure 12). In this case, most respondents (44.8%) believed that a combination of multimedia elements in the presentation of online content can influence their purchasing decisions. Apart from the media elements, some respondents stated the importance of other elements such as the Halal logo, SIRIM certification, and security of the products or services sold. This could be another significant finding of the study.

What type of social media content could persuade you to buy products or services?

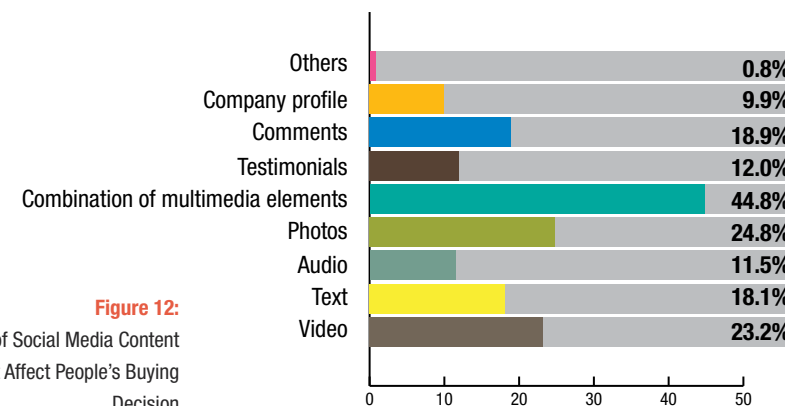


Figure 12:
Type of Social Media Content That Affect People's Buying Decision

In terms of SM ranking, respondents rated Facebook as the most popular SM tool (504) which had an impact on their purchasing decision making, followed by blog (82), YouTube (39), and others as listed in Table 5.

Table 5:
Types of Social Media Usage among Smes

	Ranking (n)	Type of social media
8 Very High	504	Facebook
7	82	Blog
6	39	YouTube
5	30	Forum
4	29	Friendster
3	25	LinkedIn
2	23	Twitter
1 Very Low	9	MySpace

OVERALL FINDINGS

No one can deny the fact that SM usage among SMEs in particular the use of Facebook in Malaysia is growing rapidly. There is evidence that some sectors have been leading others in adopting SM for business purposes - industries such as food and beverage, service providers, education and training, hospitality services, healthcare, and tourism. It is not surprising to note that most of the SM adopters are those operating in the Central region of Malaysia. Consistent with previous findings from Deloitte (2012) and McClure (2011), Facebook is the most commonly used.

The findings of the survey revealed that the majority of the respondents perceived that SM can be used as an effective tool for business. In fact, SM content can indeed persuade people to purchase products or services offered by companies. Nonetheless, this content should of course be properly designed, relevant, informative, and consists of multimedia presentation platforms such as video, audio, text, and animation. In addition, most respondents also perceived that SM content can influence purchasing decision. This finding is in line with a report by ComScore, Inc. (2011) which stated that SM goals can be achieved through insightful and engaging content.

IMPLICATIONS OF RESEARCH

The findings of this research could be used by government agencies as well as the research community in the social media field. This study indicates that social media has already had an impact on SMEs and thus has the potential to be widely used among SMEs in the near future. Despite its relative infancy, more concerted efforts should be undertaken by relevant parties to spearhead the use of social media for business purposes.

This study also revealed that social media such as Facebook can indeed be an effective tool for business. However, social media has to be used properly, creatively, and wisely so that its impact can be maximised – effective strategies combined with factual content and regular updating could determine the success of social media utilisation. Apart from this, awareness and training programmes are needed to ensure a wider and more effective use of social media among SMEs.

Social media has to be used properly, creatively, and wisely so that its impact can be maximised – effective strategies combined with factual content and regular updating could determine the success of social media utilisation.

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Captivated with Facebook: Constructions, Contexts and Consequences

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ABSTRACT

The popularity of Facebook among young people has drawn a lot of attention as it allows them to engage in communication, learning and play activities. This study examines the ways Facebook is appropriated in the everyday lives of young Malaysians. The study presented here is a two-fold one as the first part examined Facebook engagements among young people in urban and semi-urban areas of Malaysia, including Sabah and Sarawak. Respondents in these areas were technology savvy and access to Facebook was a major part of their everyday lifestyles. The second part of the study focused only on urban and rural areas of Sabah and Sarawak. The digital age is slow in approaching the rural parts of these two states due to difficulties in the physical, technological and social infrastructure. Respondents from rural communities were conscious that they lag behind and try their best to catch-up with their urban peers so that they have sufficient digital competence. The study reveals that the respondents gain much pleasure in establishing communication, in building identities, strengthening friendship bonds and developing skills in organising, planning, improving general knowledge and in the domain of learning and gaming. Still, there are huge challenges for the young people today as they are uncertain about managing risks and online safety matters, engaging in good online practices and activities, evaluating information and critically assessing texts and images.



INTRODUCTION

The presence of Facebook is often linked with intense hopes and fears. The new changing online environment holds out a promise of a brighter future, especially its enormous potential for communication, learning and play (Livingstone, 2002). Yet at the same time, it is widely perceived that Facebook may harm and manipulate young people where it promotes concentration on the individual self and wasteful activities and that time spent on consuming Facebook takes place at the expense of other productive activities like face-to-face interaction, civic participation, social and creative work that lead to peaceful and progressive communities.

Research by the Institute for Public Policy Research (IPPR), *Behind the Screen - The Hidden Life of Young People* (2008) suggests that many young people are spending more than 20 hours a week online, staying up into the early hours of the morning and leaving their mobile phones on all night in case they receive a text message. It warns a lack of parental knowledge and understanding as few of them have any idea about what their children are doing online. The research highlighted the need to focus the programme on young people and social media as a new area for governance that will require new evidences and new approaches concerning self and co-regulatory frameworks. The report emphasises that we cannot expect regulation to do everything and that the reality of new technologies is such that a partnership approach among policy makers, parents, schools, non-government agencies and other institutions is not only welcomed but necessary.

Like many parts of the world, Malaysia is witnessing the rapid growth of Facebook that offers young people with new and varied ways to communicate via the Internet. In 2012, a total number of 13,205,606 Malaysians were Facebook users; a 78.12 percent of penetration of the online population. (<http://apps.moe.edu.my>; 2012). According to the Borneo Online report, statistics in May shows that some 13.3 million or 45.5 percent of the total population in the country are Facebook users. This puts Malaysia at the 8th spot in Asia and 21st in the world in 2013. From the total figure, those aged between 18 and 24 were the highest users, contributing 34.5 percent followed by those aged 25-34 years (29.5 per cent) and 13-17 years (16.3 per cent) (<http://www.theborneopost.com/2013/06/16/13-3-million-msians-are-facebook-user/#ixzz2uCWxiD00>.)

Facebook forms a highly significant part of young people's lives today as they find it fun, exciting and useful. Young people are often fascinated and captivated by Facebook as it offers them thrilling encounters and understanding of the world's social, cultural and moral facets. The popularity of Facebook attracts young people as it allows them to construct online profiles or personal homepages, and develop an online social network (Safurah Abd. Jalil, Khaizuran Abd. Jalil & Azmi Abdul Latiff; 2010). The profile page functions as the user's own webpage and includes information such as the date of birth, gender, religion, lifestyles, favourite food, films, celebrities and what they like doing in their everyday lives.

Facebook is one of the top social media in Malaysia. However, there is little knowledge about the constructions, contexts and consequences of Facebook in connection with young people in Malaysia. While we know that social networking sites have captured the attention of many young people, we are less certain as to the ways Facebook is appropriated in their daily lives, especially in the contexts of communication, learning and gaming skills.

LITERATURE REVIEW

The popularity of Facebook is attractive to young people as Facebook allows them to construct online profiles or personal homepages, and develop an online social network. The profile page functions as the user's own webpage and includes information on the date of birth, gender, religion, lifestyles, favorite food, films, celebrities and what they like doing in their everyday lives. In addition to profile information, young people design the appearance of their page, and add content such as photos, video clips and music files (Boyd, 2008). They also create a network of connections and social ties that they can exhibit as a list of friends (Buckingham, 2002).

Interestingly, the increase in home internet access assists the use of social networking sites like Facebook (Ito et al, 2009). Furthermore, increased connection speeds and the wider availability of broadband enable richer use of the Internet, including uploading as well as viewing content. Whereas social networking site profiles were previously simple and text-based, they can now support images, site customisation, audio and even video content (Ofcom, 2007).

Livingstone (2002) notes that the lives of young people have become so media-saturated that it has encouraged wider trends towards individualisation. In cyberspace environments, young people establish different forms of relationship, exhibiting and publishing content, such as texts and images. Her study reveals that young people register voices and expressions of uncertainty, ambivalence and anxiety regarding social networking and yet at the same time, young people also seek pleasure in experiencing a sense of freedom and control when playing video or social games in their social and leisure activities.

Mizuko Ito (2009) and her team of researchers interviewed over 800 youth and young adults in her project, entitled 'Living and Learning with New Media'. Her study reveals that today's youth may be coming of age and struggling for autonomy and identity amid new worlds for communication, friendship, play, and self-expression. The study also declares that social networking sites empower youth to challenge the social norms and educational agendas of their elders in unique ways. Saw (2012) indicates in their findings, Facebook is being used by a high percentage of Malaysian students for finding information.

Ofcom's research (2007) shows that just over one fifth (22 per cent) of adult internet users aged 16+ and almost half (49 percent) of children aged 8-17 in the UK who use the internet have set up their own profile on a social networking site. The research reports that concerns about privacy and safety are not 'top of mind' for most users. The people who use social networking sites see them as a fun and leisure activity and on the whole they were unconcerned about managing risks in an increasingly blurred domain of public and private lives.

Similar findings are available in the Malaysian context where local researchers have noted that issues on safety, privacy, risks and protection have emerged as key concerns (Iskandar Ishak, Fatimah Sidi, Marzanah A. Jabar, Nor Fazlida Mohd Sani, Aida Mustapha, Siti Rozana Supian, 2012; Sarah Farhana Juhari, Nor Azan Mat Zin, 2013; Kamarul F. Hashim, Ammar, Rashid, Shafiz Affendi Mohd Yusof, 2013).

In Malaysia, peer factor is an important one as young people want to connect and share their views with many friends through social media, specifically on Facebook. (Mustafa, et al, 2012). A report from Grey Review in 2009 notes that Facebook is the top social network in Malaysia, followed by YouTube and Friendster. According to research in Malaysia, Facebook enables communication among broad circles of contacts, locally and globally, and facilitates other activities such as email, messaging, website creation, diaries, photo albums and music or video uploading and downloading (Normah Mustaffa, Faridah Ibrahim, Wan Amizah Wan Mahmud, Fauziah Ahmad, Chang Peng Kee & Maizatun Haizan Mahbob, 2011; Tengku Nor Rizan, Noraza Ahmad Zabidi, Hazita Azman, Siti Hamin Stapa, Jamilah Mustafa, Kalthum Ibrahim, Norwati Mohd Yusof & Zaini Amir, 2005).

Many studies also point out that Facebook has become an essential part of almost every university students' daily life and a large number of students derive benefits from Facebook through the exchange of information for educational goals. Facebook usage was high among university students, specifically among female students who managed it for five motives, namely for interaction, passing time, entertainment, companionship and communication. However, students in Malaysian institutions of higher education did not make much use of the Internet and social media for greater academic purposes (Zeinab Zaremohzzabieh, Bahaman Abu Samah, Siti Zobidah Omar, Jusang Bolong & Nurul Akhtar Kamarudin, 2014).

The present study draws from thinking in literacy studies, new media studies and youth studies to focus on communication, learning and play through Facebook engagement. Drawing from the insights of the projects conducted by the scholars above, the present study reveals how young people appropriate Facebook in their everyday lives and the embedding of communication, learning and gaming within the social dimensions of their lives as well as their perception on managing opportunities and risks in online environments.

METHODOLOGY

There are two parts to this study. The first study is based on a national survey conducted with 1200 young people aged 18-22 years, and a series of discussions with 12 focus groups involving 60 young people from 2012 -2013. The respondents in the study were students from high schools, colleges and other institutions of higher learning, largely from urban and semi-urban areas from north, central, south, east and west Malaysia as well as urban parts of Sabah and Sarawak.

The second study, an offshoot, takes a closer look at urban and rural Sarawak and Sabah. The focus on rural areas is critical to explore the opportunities and challenges faced by young people in rural areas in Sabah and Sarawak. A total of 800 respondents participated in the study which comprised of 400 students from urban and rural areas of Sabah and another 400 students from urban and rural areas of Sarawak. The second study also utilised questionnaires and focus group discussions to gather both quantitative as well as qualitative data. The survey provides timely snapshots of youth knowledge, attitudes and practices while the focus group discussions give insight into their perception and concerns of Facebook in their everyday lives.

In Malaysia, peer factor is an important one as young people want to connect and share their views with many friends through social media, specifically on Facebook.

FOCUS OF THE STUDY

Constructions

This study is interested in Facebook as a construct, how it is organised in the lives of young people and the forms of construction that emerge in the everyday lives of the respondents. It explores how young people are appropriating social media i.e. Facebook and making sense of their experiences and interactions. Thoughts on media literacy underlies this work, which is an attempt to understand constructions by focussing on knowledge, attitude and practices of young people. The study's objective is to provide insights into the ways they make use of the opportunities presented by Facebook.

Contexts

Young people appropriate Facebook in numerous ways and contexts. This study looks at young people's activities, interests and views in three different contexts: communication, learning and gaming. In addition, the study also examines the management of privacy, sensitivity and risks. This is highly useful for a discussion on consequences in relation to policy needs promoting media literacy among young Malaysians.

Consequences

The study highlights the need to address programmes on young people and social networking sites as a new area for governance - requiring new evidences and approaches to deal with self and co-regulatory frameworks. The report emphasises that we cannot expect regulation to do everything and that the reality of new technologies is such that a partnership approach among all stakeholders is not only welcomed but necessary. In this regard policy recommendations are proposed to enable young people to manage content and communications, and protect themselves and their families from the potential risks associated with Facebook.

RESEARCH FINDINGS - THE CASE OF YOUNG URBAN MALAYSIANS

Facebook and Communication

Facebook is seen as an important platform for communication as it allows broad peer groups to socialise together. For the respondents of this study, Facebook also offers pictures, illustrations and interpretation of one's personal and public life as part of everyday communication. Many young people look to each other's profiles, photos, videos, and online writing to develop friendship, identity and everyday media creation. They share images and personal photographs in a very casual way and the descriptions of their knowledge, experiences, thoughts, attitudes and practices are readily available. The way they design their profiles, the names they choose, the comments they make, the links that they share and the attention paid to digital photography are all part of the constructions that captivate their attention and make Facebook fascinating and cool.

Facebook navigates issues of prominence, interest and drama and it establishes, complicates and sometimes damages social ties and friendship. Table 1 reveals the detailed findings of respondents' views on Facebook and communication practices.

Table 1:
Facebook and Communication Practices

Practice	Facebook and Communication					Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
With Facebook, I am more extrovert person as I have developed positive interaction with my contacts.	Frequency Percent	76 6.3%	301 25.1%	730 60.8%	93 7.8%	1200 100.0%
With Facebook, I am able to gather the latest information and other resources.	Frequency Percent	28 2.3%	121 10.1%	865 72.1%	186 15.5%	1200 100.0%

Practice	Facebook and Communication					Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
I use Facebook elements (news feed, info, notes, photos, timeline, etc.) to manage my interaction activities.	Frequency Percent	21 1.8%	179 14.8%	872 72.7%	128 10.7%	1200 100.0%
I have read the rules and regulations of using Facebook.	Frequency Percent	103 8.6%	318 26.5%	683 56.9%	96 8.0%	1200 100.0%
I try to put the latest information on my wall so that my Facebook page can get more attention.	Frequency Percent	142 11.8%	478 39.9%	509 42.4%	71 5.9%	1200 100.0%
I am concerned about the number of 'like', 'share', 'comment', 'friends', that I received on Facebook.	Frequency Percent	154 12.8%	419 34.9%	528 44.0%	99 8.3%	1200 100.0%
I use Facebook to interact with public and popular figures.	Frequency Percent	154 12.8%	418 34.9%	558 46.5%	70 5.8%	1200 100.0%
I share information that might be useful to help anyone who needs assistance.	Frequency Percent	49 4.1%	178 14.8%	788 65.7%	185 15.4%	1200 100.0%
I strengthen my friendship via Facebook	Frequency Percent	37 3.0%	229 19.1%	783 65.3%	151 12.6%	1200 100.0%
I establish romantic ties with Facebook friends.	Frequency Percent	161 13.4%	553 46.1%	414 34.5%	72 6.0%	1200 100.0%
I use event organizer in Facebook to raise higher participation in events.	Frequency Percent	158 13.2%	523 43.6%	472 39.3%	47 3.9%	1200 100.0%
I have group discussion with friends on Facebook.	Frequency Percent	66 5.5%	206 17.2%	724 60.3%	204 17.0%	1200 100.0%
I explore my friends' needs, wants, desires, and hopes.	Frequency Percent	56 4.7%	253 21.1%	767 63.9%	124 10.3%	1200 100.0%

Practice	Facebook and Communication					Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
I can get different views of an issue on Facebook.	Frequency Percent	46 3.8%	161 13.4%	854 71.2%	139 11.6%	1200 100.0%
I spend a lot of time creating my profile to impress others.	Frequency Percent	240 20.0%	523 43.6%	382 31.8%	55 4.6%	1200 100.0%
I have multiple personalities on Facebook.	Frequency Percent	310 25.8%	554 46.2%	284 23.7%	52 4.3%	1200 100.0%
I take time to design my profile page (timeline) to express my identity.	Frequency Percent	280 23.3%	523 43.6%	349 29.1%	48 4.0%	1200 100.0%
I put visuals (photos/videos) to show new roles and personalities about myself.	Frequency Percent	207 17.3%	440 36.6%	503 41.9%	50 4.2%	1200 100.0%
I chat on Facebook to forget some of my real life problems.	Frequency Percent	188 15.7%	444 37.0%	492 41.0%	76 6.3%	1200 100.0%
I prefer to use Facebook than face to face meetings to solve any misunderstanding.	Frequency Percent	284 23.7%	481 40.0%	363 30.3%	72 6.0%	1200 100.0%

Learning on Facebook

Young people in this study, who were also students in high school or other institutions of higher learning observe that Facebook offers opportunities for learning. Facebook is seen as a significant channel for learning, exchanging information and building knowledge; in designing and constructing ideas, as well as using internet publication and visual content to develop knowledge. Students find Facebook helpful in their studies. Majority of students interacted proactively in their class' group discussion to update or obtain information about their lectures, classes, assignments, reports, homework and other academic related matters. The Facebook 'group page' allowed them to discuss and share on assignments or what they have learnt in the class by posting links of reading materials or uploading presentation slides or PDF.

Some of the students stated that they often rely on Facebook for updates on academic matters. Using Facebook as a means to facilitate learning activities with peer interaction is an example of informal pedagogical openings of social media between young people and their environment. Some of the students stress that learning in the context of Facebook has become highly self-motivated, autonomous, and informal, as well as an integral part of the learning experience. The views on young people on Facebook and learning are presented in the following table.

Table 2:
Facebook and Learning Practices

Practice	Facebook and Communication					Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
With Facebook, I am more extrovert person as I have developed positive interaction with my contacts.	Frequency Percent	76 6.3%	301 25.1%	730 60.8%	93 7.8%	1200 100.0%
I interact with similar learning interest groups to share practical knowledge and skills.	Frequency Percent	65 5.4%	254 21.2%	814 67.8%	67 5.6%	1200 100.0%
I create/participate in Facebook groups to complete a course project.	Frequency Percent	112 9.3%	388 32.3%	639 53.3%	61 5.1%	1200 100.0%
I use learning apps (Classroom 2.0, E-learning etc.) on Facebook for education purposes	Frequency Percent	145 12.0%	535 44.6%	476 39.7%	44 3.7%	1200 100.0%
I post my course work/results on the wall to gain recognition.	Frequency Percent	197 16.4%	613 51.1%	359 29.9%	31 2.6%	1200 100.0%
I attract the attention by posting thought provoking materials on my wall. (Eg Number of like, share, comment)	Frequency Percent	202 16.8%	543 45.3%	415 34.6%	40 3.3%	1200 100.0%
I share knowledge that might be useful to others.	Frequency Percent	72 6.0%	219 18.3%	766 63.8%	143 11.9%	1200 100.0%
I have group conversations on learning with similar interest groups.	Frequency Percent	72 6.0%	270 22.5%	764 63.7%	94 7.8%	1200 100.0%

Practice		Facebook and Communication				Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
I follow professional and industrial networks related to my study program.	Frequency Percent	87 7.2%	344 28.7%	676 56.3%	93 7.8%	1200 100.0%
I turn to my lectures/teachers/tutors on Facebook for support and encouragement.	Frequency Percent	92 7.7%	418 34.8%	618 51.5%	72 6.0%	1200 100.0%
I download learning materials more than I upload them.	Frequency Percent	72 6.0%	296 24.7%	720 60.0%	112 9.3%	1200 100.0%
I take the lead on Facebook discussion.	Frequency Percent	121 10.1%	540 45.0%	504 42.0%	35 2.9%	1200 100.0%
I like the many ways Facebook allows learning materials to be shared.	Frequency Percent	62 5.2%	282 23.5%	764 63.6%	92 7.7%	1200 100.0%
Facebook allows me to get learning materials from anyone without going through the process of asking / sharing.	Frequency Percent	180 15.0%	418 34.8%	531 44.3%	71 5.9%	1200 100.0%

Facebook and Gaming Practices

Many young people in this digital age are largely keen players who get satisfying experience and fun feelings when playing media and online games. Social media games allow the young people to feel success and grants them instant pleasure, happiness and fulfilment for completing challenges in the games. This makes their return to continue playing social games a worthwhile effort.

Facebook games like Crazy Taxi, Spot the Difference, Word Search, Tetris, Restaurant City, CityVille, Farmville, Trivial Door, Mouse Hunting and Poker still draw the attention of many young people in Malaysia. However, many young people note that they did not play social games on Facebook as intensely as they did before given that social gaming has evolved dramatically in the past few years. Also as these young people are students, they are careful about time management in their study programme.

The respondents stated that they play Facebook games to release stress and gain satisfaction. Some mentioned that they could also get new friends via playing games. This happens when they need to add people to upgrade to higher levels or to get points. According to them, this also strengthens the relationship between them and other players who are not so close to them. The respondents also play games to fill their free time. There are two types of impacts (positive and negative) related to playing games in Facebook. The positive impact of Facebook games is that it could develop the player's skills. Some of the students feel that the games train their thought process skills, help them in economics, organizing, planning and improving general knowledge.

There are also other students who indulged in Facebook games and suffered negative experiences. They spent a lot of time and even money on games. According to them, Facebook games can be addictive in a sense that the players always need to log in and check the progress of the game. Some players even added random people just to proceed to the next level or gain more points. Their studies were affected because they gave too much attention to the games. Indeed some respondents noted that they did not do well in examinations and consequently received poor grades. The respondents also raised the point that sometimes the gaming experience was annoying as many players use offensive or vulgar words in their comments. Table 3 offers the observations of young people on gaming practice and Facebook.

Table 3:
Facebook and Gaming

Practice		Facebook and Communication				Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
I complete the different levels of the Facebook games as fast as possible	Frequency Percent	458 38.2%	414 34.5%	298 24.8%	30 2.5%	1200 100.0%
I collect resources, rare item and money in Facebook games.	Frequency Percent	468 39.0%	413 34.4%	290 24.2%	29 2.4%	1200 100.0%
I learn about character optimization in Facebook games.	Frequency Percent	440 36.7%	416 34.7%	314 26.2%	30 2.4%	1200 100.0%
I invite my friends to join Facebook games for mutual benefit.	Frequency Percent	422 35.2%	401 33.4%	338 28.2%	39 3.2%	1200 100.0%
I purposefully try to provoke or irritate other players.	Frequency Percent	474 39.4%	456 38.0%	237 19.8%	33 2.8%	1200 100.0%
I develop better relationship with my parents through playing Facebook games.	Frequency Percent	510 42.5%	412 34.3%	242 20.2%	36 3.0%	1200 100.0%

Table 3:
Facebook and Gaming

Practice	Facebook and Communication					Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
I have strong bonds with my fellow players who give me support in what I do.	Frequency Percent	475 39.6%	438 36.5%	247 20.6%	40 3.3%	1200 100.0%
I am willing to add anyone just to advance in Facebook game.	Frequency Percent	483 40.2%	422 35.2%	261 21.8%	34 2.8%	1200 100.0%
I enjoy collecting distinctive objects or clothing that have no functional value in Facebook game.	Frequency Percent	454 37.8%	458 38.2%	246 20.5%	42 3.5%	1200 100.0%
I enjoy completing quest that most people do not know about.	Frequency Percent	423 35.3%	436 36.3%	281 23.4%	60 5.0%	1200 100.0%
I immerse myself in world fantasy when playing Facebook games.	Frequency Percent	466 38.8%	446 37.2%	242 20.2%	46 3.8%	1200 100.0%
I always try out new roles and personalities with my gaming characters.	Frequency Percent	455 37.9%	427 35.6%	276 23.0%	42 3.5%	1200 100.0%
I spend a lot of time customizing my character to look different from other characters in Facebook games.	Frequency Percent	481 40.0%	446 37.2%	234 19.5%	39 3.3%	1200 100.0%
It is important for my character to look different from other characters in Facebook games.	Frequency Percent	469 39.0%	435 36.3%	252 21.0%	44 3.7%	1200 100.0%
Playing Facebook games allow me to stop thinking about real – life problems or worries.	Frequency Percent	434 36.2%	381 31.8%	329 27.4%	56 4.6%	1200 100.0%
I play Facebook games to relax.	Frequency Percent	361 30.0%	309 25.8%	431 35.9%	99 8.3%	1200 100.0%

Facebook - Privacy, Sensitivity and Risks

The study reveals that there is much uncertainty in the ways young people view privacy and moral perspectives given that the blurring of boundaries with matters that are considered to be private, personal and public. Many respondents put pictures of themselves and of other people on Facebook with revealing information on their whereabouts when they 'check-in' at locations. There is a concern that this could lead to serious consequences as abusers can use Facebook to stalk, harass and gain information about victims as most social networks do not show the record of who looks and monitors certain people without their knowledge.

Privacy is another concept that is vague as anything posted online is not going to held as completely private. It is therefore important to secure privacy settings and set account security measures. In Malaysia, it is also exceptionally important to be thoughtful about what one is posting on Facebook as even a small careless comment can draw controversy. This study shows that the respondents give an outlook that they are aware that privacy, sensitivity and risks are serious problems and that they are cautious about their online conduct or behaviour.

More importantly, there is much uncertainty on how young people evaluate information. It is not very clear how they differentiate between fact and fiction and the ways to look for reliable sources. Digital information on Facebook is fast becoming the number 1 'go-to' source for young people and it is not clear how they select reliable sources and the ways they evaluate information.

THE CASE OF URBAN AND RURAL SABAH AND SARAWAK

The study presented here is two-fold as the first part examined Facebook engagements among young people in urban and semi-urban areas of Malaysia, including Sabah and Sarawak. The second part of the study focused only on urban and rural areas of Sabah and Sarawak. It is stressed here that efforts in accomplishing this study in rural areas confronted numerous difficulties where residents in these parts of Sabah and Sarawak had issues with the physical infrastructure like roads, electricity and water supply.

As noted earlier, the digital age is slow in approaching the rural parts of these two states. Many of these places required numerous transport modes where respondents used vans and boats due to lack of roads. In such settings, electricity was not readily available and when available, the supply was rather unstable. Residents in rural areas used solar panels and generators for electricity supply and charging electronic equipment like hand phones and notebooks were considered as almost impossible tasks. Further there was limited internet coverage and very often only very old models hand phones were able to detect signals which were unstable in any case.

The residents in some of the rural areas have received notebook as part of the state's digital transformation plans, however, many of these notebooks came with low specifications, with no camera, Bluetooth or card reader. Further, there were very few scheduled programmes or activities that promoted knowledge and skills on using the electronic equipment for productive purposes like learning, communication and for leisure. In other words, there was very little capacity building for young people to engage and to participate in digital activities, including doing Facebook. Many of the respondents noted that they had little knowledge on education, business and development. There was also very little knowledge and awareness on opportunities and risks related to the using of social media.

Respondents from rural communities experience a major culture shock when they leave their homes to pursue their education in high schools, colleges or other institutions of higher learning. The lifestyles, the cultures and the demands of urban life intertwined with the rapid growth and use of media technologies pose major challenges for the rural communities. The respondents note that they felt that they lag behind their peers who come from urban communities, thus they strive hard to catch-up with the new knowledge and skills so that they can involve themselves in the digital activities like Facebook. Like their urban peers, they are fascinated with Facebook and the possibilities it offers; especially in communicating to their faraway friends, in establishing new identities and in expressing their thoughts on many aspects of their everyday happenings.

Key Findings - Analysis of Focus Group Interviews (Sabah and Sarawak)

At the outset of this discussion, it is important to note that the rural respondents engage in Facebook and other web-based activities only when they are in urban areas where there is access to internet. The study found that while the usage of Facebook in relation to communication, learning and play among the rural respondents was much lower than the urban respondents, there were not much differences in their patterns of practice.

Four focus group interviews were conducted among 24 selected students in upper secondary/high schools and in other higher learning institutions. The following section reports the views of respondents from rural communities on Facebook and communication, learning and playing games as well as on privacy, risks and safety linked with social media.

Communication

Communication is one of the major purposes for respondents to use Facebook. They use it to strengthen social ties and also friendship, obtaining information on the latest updates, interacting in groups and so on. It actually makes the distance closer as they are able to connect with people not only outside their village but also in the Peninsular. Some of the interesting findings and excerpts from the focus group discussions are as follows:

Facebook Begins with Peer Influence: Most of the respondents were influenced by their friends to create a Facebook accounts. They noted that they watched their friends using it and started to gain interest into it.

G1/R4: Ok for me, I started to use Facebook in 2009. Facebook was really popular at that time. My friend introduced me to Facebook. I was at my hometown at that time; I had no clue about Facebook until she brought me to cyber café. At that time, internet usage was so limited at my school. So she brought me to Cyber café (CC) and taught me how to open my account. Even after I open it, I don't know how to use it because I forgot my password. Then I myself opened a new account but I seldom open it because I need to go to CC. It is so troublesome.

G3/R3: My name is G3/R3. I stayed at Linggah, Sinyo. We don't have road, water supply and electricity in my area. Our one and only transportation is boat. I stayed at Rumah Tumpok. That's why I don't know Facebook. I started to open my account at hostel... I started to use computer after I received the 1Malaysia laptop.

Useful for Getting Information: Most respondents admitted that they use Facebook to get information from friends, family, and teachers on daily events and experiences as well as work opportunities.

Interact with Family: The respondents also use Facebook to connect with family members especially those who lived far away from them.

Medium to Share Opinion: Some of the respondents use Facebook to interact with people of different status. The respondents use Facebook as a medium to reach to people with authority like the government and utilize the media to voice out their opinion about issues related to the community.



LR: ...because I am interested in politics ...I was born in a rural area. The condition of the rural area and the city is different, so I feel like want to change it but it's not that easy. So, I take Facebook account as the medium to spread information. So, what I mean here is when I have a holiday like that I will go back to my village, take some photos, videos, and I put it on Facebook .

Express Emotions when Feeling Angry or Upset: As a social network, some of Facebook users utilise the medium to express their emotions - upset or happy. They felt better by sharing their feelings with their friends on Facebook.

Relying More on the Newspaper and Television: Although majority of the respondents obtained various information from Facebook, they relied more on the newspaper and television for more convincing facts.

Damaged Friendship: Some of the respondents noted that Facebook caused fights and created tension in friendships and relationships. They observed that they were hurt and offended when users applied harsh, unpleasant words and abusive language.

Learning: The study reveals that respondents' learning related activities are not as intensive as communication related activities on Facebook. As students, the respondents use Facebook to assist them in their learning process. They utilise Facebook to get more information on their studies and share it with other friends. The students also interact actively in groups to discuss about their classes. They upload materials like assignments, artworks, and so on to get feedback from their friends and teachers. Some of the noteworthy findings and extracts from the focus group discussions are as follows:

Better Student-Teacher Interaction: Respondents benefit from peer and teacher/lecturer interaction that helps formal and informal learning.

Gaining New Knowledge through Connections from Facebook: Respondents gain new knowledge and exposure as they are able to follow professional and industry related links related to their specific field of study.

Information Sharing: The respondents share information, assignments related to their studies with classmates as noted below:

G1/JR: Ya Facebook is helpful during the learning process because we create a TESOLIANS group... From there, I get to know about the subject we studied, senior giving us tips like that. They will share notes. Then If I have notes, I will upload it in the group and share it with others. Then we can ask others if we don't know how to answer particular questions or don't understand about certain subject.

Improve Language Proficiency: The respondents noted that Facebook helps them to improve their language proficiency in languages like English, Japanese and others.

MR: For us in writing, sometimes there will be friends who share poems like that, their scripts like that. Then, I feel that Facebook is suitable also, because many people can see it. If let say we have 2 thousand friends, perhaps 50 will look at our work. Then, they give comments, we can improve our work. Usually not much in group. Normally they will provide information about the programs that we are doing, or cancelled. Or work division like that.

Lacking Basic and Advanced Skills: Rural respondents state do not use Facebook significantly for learning as they lack basic and advanced skills and knowledge in appropriating in their study programme.

Facebook and Gaming

Gaming is one of the pleasures that users find really interesting in Facebook. It allows them to release their stress, unwind, fill free time and to keep them occupied. Other pleasures that they derive are as follows:

Develop Thinking Skills: Respondents assert that games teach them values and creativity. They learn about different methods and strategies and problem solving.

G1/JenR: I have. Like when we play games that require us to think, it will trigger our minds, and we become fast thinkers.

Rural Young People and Managing Privacy, Risks and Safety

Like the urban users, rural respondents confront difficulty in deciding what is to be considered as privacy, risky or safe. They note that understanding privacy is complicated. They are not too sure whether putting pictures and information of themselves, their friends and their locations, sharing biographical information, relationship status and mobile phone number as well as imparting details and stories about friends, family, school, teachers is considered as private or risky. In addition, they struggle to establish what is true and not on Facebook. They also have trouble deciding the trustworthiness of the information they read on Facebook.

CONSEQUENCES

The study reveals that the respondents gain much pleasure in establishing communication, in building identities, strengthening friendship bonds and in developing skills in organising, planning, improving general knowledge and in the domain of learning and gaming. There are different types of respondents who have varied experiences with Facebook. They, nevertheless, display a keen sense of enthusiasm and are fascinated with the texts and visuals that are generated on the social media platform. Still, there are huge challenges for the young people today as they are uncertain about engaging in good practices of online activities, in evaluating information and in critically assessing texts and images. This is true of both the urban as well as the rural respondents.

New media literacy is necessary to enable young people to create their own media that encourage critical inquiry and skills so that they employ essential life skills and values in the current knowledge society. Talks, discussion and training sessions on digital and media literacy should be organised for parents and young people through residential associations, parent associations and community groups. Media literacy programmes must also be developed to engage teachers, media advocates and community leaders in more extensive and productive ways. It is recommended that an educator's/teacher's guide and online resources about the new media uses, giving attention on its potential risks and challenges is cultivated. Focus must also be given to issues on new media laws, rights, responsibilities and ethics. Collaboration and networking among media/creative industries, media commissions, NGO's, ministries and youth organisations must also be developed.

CONCLUSION

This study finds communication was the main reason that drew young people towards Facebook. This is particularly important for rural respondents who leave their rural homes to seek education and employment in urban and semi-urban areas in Sabah and Sarawak. There are a number of significant benefits associated with the use of Facebook including: facilitating supportive relationships, delivering educational outcomes; providing fun and rewarding gaming experiences, identity formation; and, promoting a sense of belonging and self-esteem. Facebook for learning and gaming purposes among urban and rural young Malaysians appear as less important.

For young people in rural areas, specifically in Sabah and Sarawak, belonging to a peer group and participating in social activities like communication, learning and gaming are dependent on access. Many respondents also note that they will be able to engage Facebook for learning purposes more extensively if they could learn advanced digital skills earlier as they have to catch-up with new skills and knowledge when they move to urban areas with Internet coverage.

While Facebook provides many opportunities and skills for self and social development of young people, there are indications in this study that not everyone may be adequately prepared to deal with the more insidious aspects of cyber space. Privacy, safety and good practices in are still complicated and disturbing issues for young Malaysians. This study proposes media literacy programmes to inculcate discernment and responsibility that will enable young people to critically evaluate information; and to be able to exercise good judgment when creating and sharing content or information, and when interacting with people.

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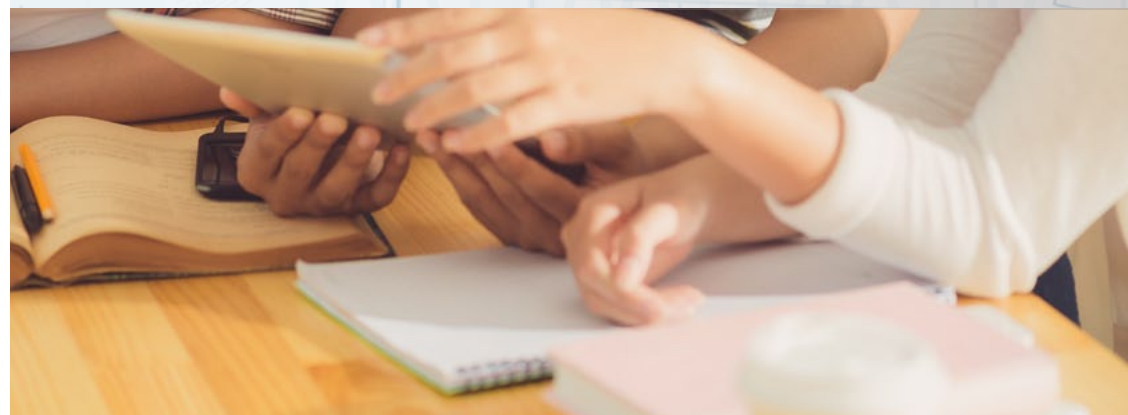
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Unveiling Online Perception toward "1Malaysia" Over Time: A Social Impact Analysis

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ABSTRACT

The '1Malaysia' concept was debuted with the goals of fostering harmony and unity among people of different races and religions as well as enforcing governance and efficiency. As a top-down, nation-wide campaign, '1Malaysia' is believed to have created certain impacts among citizens of Malaysia. This is especially the case when the government has put the concept into action through various policies and plans. Considering the length of time it has been introduced, it is both timely and important to study the impact of '1Malaysia' on its citizens. Such impact can be unveiled through an analysis of citizens' perception toward the concept over time. This project intends to establish an understanding of the perceptions of '1Malaysia' and the perceived impact it had on bloggers via textual analysis of the relevant content published on web blogs. To achieve this objective, a prototype was first developed to build an ontological representation of citizens' perceptions toward '1Malaysia'. The ontological representation was then manually interpreted to extract the impact of '1Malaysia' on its citizens. The findings show that bloggers' perceptions of '1Malaysia' evolved over time. In 2009, bloggers seemed to have a vague understanding of what '1Malaysia' constituted. Eventually, bloggers were able to associate events and programs launched by the government to that of '1Malaysia' by 2012. As their understanding evolved, bloggers tended to become more critical in their writing, and gave feedback with mixed feelings towards '1Malaysia'. Textual analysis of blog content shows that there was no stereotypical perception that was pertinent or distinctive - bloggers who were critical could also be very supportive in the same writing. The design and implementation of SOMM is an achievement in this project. Time driven text analysis with frequency weight and sentiment score provide a new perspective for social scientists with a tool that can easily understand and see patterns when dealing with social media data. The text analysis shows that 'action, nation, people and right' were the four key terms that carried higher term weight in the six quarters from a total of 3.5 years of compiled blog data. The "national unity" is the only term that was found to have shown negative sentiment in quarters 3 to 4 when '1Malaysia' products and services started to roll out. Blog content reflected that Malaysians in general have questions on the source of funding, implementation and quality of these '1Malaysia' products. However, in quarters 5 and 6, the negative sentiment has changed to neutral with very mild positive sentiment.

The anonymity of web blog posts means that there is a higher likelihood that one will receive honest and truthful comments/feedback.



INTRODUCTION

'1Malaysia' was initiated and officially launched by Malaysian Prime Minister Dato' Sri Mohd Najib Tun Razak in 2009 (Ministry of Information, Communications and Culture, 2009). Over the years, different themes were introduced to emphasise "ethnic harmony, national unity, and efficient governance":

Year	Theme
2009	Rakyat Didahulukan, Pencapaian Diutamakan (<i>People First, Performance Now</i>)
2010	Menjana Transformasi (<i>Generating Transformation</i>)
2011	Transformasi Berjaya, Rakyat Sejahtera (<i>Transformation Successful, People Prosperous</i>)
2012	Janji Ditepati (<i>Promises Fulfilled</i>)

Since its inception, various subsequent campaigns and strategies launched by different ministries are all built on this '1Malaysia' concept. As such, it is evident that the government keenly pushes this concept top-down with the goal of instilling it into every citizen of Malaysia. As with any other campaign, there will always be proponents who support '1Malaysia'. At the same time, there might also be opponents who dislike the concept.

One way to really examine the effectiveness of '1Malaysia' is to study the impact it has created on citizens of Malaysia. An appropriate method to analyse the impact is through understanding citizens' perception toward the concept and its changes over time. Understanding their perception is important because perception is a reflection of citizens' feelings and opinions which may subsequently influence their behaviours and actions. Furthermore, considering the fact that '1Malaysia' has been in effect for a few years, it is both timely and important to evaluate its impact so that the effectiveness of '1Malaysia' can be examined and an intervening plan can be formulated if necessary.

Web blogs are often used by different people to express their inner mind – their feelings and thoughts related to their life, work, and other events. For example, students and young folks express their frustrations and unhappiness on their blogs when they encounter difficulties in their life. Workers in companies express their discontentment when they are being treated unfairly. Similarly, we believe that citizens of Malaysia will express their viewpoints and perception towards '1Malaysia' on their blogs. As such, web blogs tend to hold humongous amount of data/information from citizens of diverse races, religions, ages, and professions. Such data, if mined, discovered, analysed, and interpreted correctly will be valuable to policy makers. It will serve as a source of intelligence to provide feedback to the government on the effectiveness of '1Malaysia'.

More importantly, the anonymity of web blog posts means that there is a higher likelihood that one will receive honest and truthful comments/feedback. Making sense of citizens' online perception towards '1Malaysia' would require the ability to dynamically track the evolutionary pattern of their thinking, state of emotion, and perception over time (Bertot et al., 2010; Shirky, 2011; Zhou, 2009; Simmons, 2008; Unsworth et al., 2012; Stylios et al., 2010).

The objectives of this research are:

- To understand the impact of '1Malaysia' through an analysis of bloggers' online perception towards the concept
- To develop a prototype that provides an ontological representation of bloggers' perception towards '1Malaysia'

For English speaking Malaysian bloggers, the research outcome is an indicator of the level of their understanding of the '1Malaysia' concept; and the awakening messages can be used as a measurement, by government agencies, of the impact and success of this concept.

LITERATURE REVIEW

This section reviews related works such as blog content analysis, social media research methods, social impact assessment and blogging activities.

Blog Content Analysis

Fuelled by the increasing number of blog writing and blog reading on social network, within the last few years, plenty of work has been undertaken to analyse blog content. These analyses are conducted to uncover interesting information such as trends, key terms, and relationships among certain activities that might be embedded in the write-ups. Chakraborty (2009) did a comprehensive survey on the top ten web log analysis software and observed that this analytic software has a common set of functions. They include browsing behaviour, pages viewed or pages ignored, time spent, last visited page etc.

Google Analytics provides information on websites' traffic and marketing effectiveness. Three key features provided by Google are traffic segmentation, custom reporting, and interactive multi-dimensional analysis reporting tool. On the other hand, Deep Log Analyzer may not be the most powerful tool around but it has unique features such as website statistics and analytics reports in a hierarchical order. AWStats analyses FTP or mail server activities statistically and graphically. It produces visitors and page-views stats with the capability to export information to XML, text or PDF format. Piwik analyses visitors from the search engine used, keywords, languages and most visited pages. Analog provides log analysis on web servers but knowledge of server administration is required. But, webalizer reports in HTML format for ease of viewing and these reports can be ported to different systems. It has many statistics for ease of comprehension. W3Perl analyses web/FTP/Squid and mail servers with a page bug to track data. Weblog Expert Lite reports information such as visitors' activity statistics, files accessed, referring pages, and operating systems. RealTracker Personal embeds codes on web pages to track users' activities. In short, each tool has its own importance.

Chen (2008) combines various techniques to collect, parse and analyse blog data by looking at Term Frequency and Links to produce important information such as similarity and influence scores. For Moon et al. (2009), they use blog data set available from Spinn3r to identify temporal trend issues. They utilise issue identification metric to examine blogs' in-degree scores to discriminate sources, to reduce noise and test the metric and source discrimination on a large amount of blog dataset. Tsai et al. (2006) analyse user profile by retrieving personal value inclination, article topic semantic, and interactive social network of the bloggers to produce proactive recommendations. Yang et al. (2009) use a predefined ontology to track and analyse relationships specified in the ontology from blog content; using their proposed intelligent semantic blog model.

The ontology-based semantic blog Model (OSEM) expresses logical structure of the resources in term of objects and relationships with a set of action-oriented operators that act on them. On the other hand, Wu et al. (2009) use conventional social network analysis and web mining techniques to discover interest groups among bloggers. For Tsai et al. (2009), they look at blog content, social-referral data, and blog semantic analysis to identify individual expertise on social networks and reviews of products and services.

Li and Ren (2008) mine blog contents to recognise emotions expressed by bloggers in blog pages automatically. Their blog emotion-recognising system uses lexical contents of words and structural characteristics of blogs by employing affective computing method. Goldberg et al. (2010) present a set of tools that discover, analyse and monitor evolution of hidden social groups in cyberspace. They use statistical analysis and communication content to analyse and observe recursive patterns among groups of bloggers. As for Kim and Han (2008), their model looks at leaders' reputation including human and social capital, political skill and styles to compute trust among various stakeholders. The outcome of their research work is capable of supporting ranking systems.

Social Media Research Methods

Eckert et al. (2013) examine data compiled from the Occupy Wall Street (OWS) movement over a period of 15 months; they built a SoMe Lab Toolkit to query and analyse extensive Twitter data to visually observe the social change phenomena of OWS using 100 million tweets. The output of their research is a framework for social media research that processes and analyses Twitter data. They further recommend methodological strategies for social media analysis that consists of these steps: select a phenomenon, pick a computing platform, collect the data, explore and refine the data, complexity of key term search, terms of service and ethics.

Pettit (2013) uses a few examples to illustrate the importance of social media research methodology by presenting a problem scenario where questions such as who buys, what they buy, where they buy, when they buy, and why they buy coffee need to be answered. Most social scientists would choose to conduct a survey to begin with, in order to answer these researcher-determined questions. The author suggests that social media research can be used to help to reduce the number of answer options through identification of items that are most relevant to consumers. Rebecca (2012) argues that social media platforms provide

live content in real time by real users. Such platforms allow users to share publicly. She uses two cases to illustrate the social media research methodology used in their project. The author follows some specific members over a period of three years by taking four samples of their profiles. The author claims that this allows large amount of data to be analysed with high reliability.

Social Impact Assessment

The International Association for Impact Assessment (IAIA) defines SIA as “the process of identifying the future consequences of a current or proposed action.” (www.iaia.org, 2010). Contextualised against the Malaysian backdrop, this study operationalises SIA as:

“... a process to identify, evaluate and communicate information about bloggers’ perceptions and perceived impacts of 1Malaysia (in English) from 2009 to 2012”.

Misra (2005) noted that a comprehensive SIA may include stages such as description of the relevant human environment and baseline conditions, description of the proposed action or policy change and reasonable alternatives, and development of an effective public plan to involve all potentially affected public. SIA is particularly useful to provide accurate information prior to the launch of a government project. However, social impact and activities must be quantifiable or measurable to yield findings that can provide scientific and convincing justification for the project. From a social science perspective, SIA looks into the consequences of a captured population - of any public or private actions - that may alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally cope as members of society (Misra, 2005).

Political Bloggers in Malaysia

Malaysians blog on different topics ranging from lifestyle, fashion, food, sport to traveling. Some of these bloggers are active, with high profiles. As for political bloggers who are active and popular, they are Raja Petra Kamarudin (commonly known as RPK), Jeff Ooi, Rocky, Haris Ibrahim and Ruhanie Ahmad. Blogs are viewed as powerful tools, particularly when the public believes in what has been posted. Hence, the integrity of the relatively more prominent bloggers are under the scrutiny of the public, as well as the regulatory body. One of the efforts by the Prime Minister of Malaysia to reach out to the general public was the launch of his personal website. Whilst it was common for the ‘digital natives’ or young politicians to have personal websites, blogs, Facebook and Twitter, other senior politicians began to setting up their own social network sites (SNS), targeting young voters. Research shows that most mainstream media are either directly controlled by the government, or indirectly owned, funded and controlled by government-linked political parties (George, 2007).

Amid all the media control over conventional print media, self-administered blogs on political activity allow individuals and collectives to bypass censorship (Julian Hopkins, 2012). As a protest or response to stringent control over the opposition, bloggers tend to be sympathetic towards the opposition and be

critical towards the government. Such biases may lead to the impression that most bloggers are either anti-establishment or unconventional in their views and thoughts.

Research shows that most mainstream media are either directly controlled by the government, or indirectly owned, funded and controlled by government-linked political parties

METHODOLOGY

Our research adopted a two-phase research methodology. Phase 1 focuses on the design and development of a software system that automatically crawls blog data and creates ontological trees based on the data. Phase 2 examines the ontological trees generated in Phase 1; using that as the basis to analyse blog content to gauge the social impact of ‘1Malaysia’ as perceived by bloggers.

Criteria For Blog Selection

We set the following criteria to identify blogs that are to be included in our work:

- The blogs must be written in English with minimal interference from other languages.
- The blogs must be non-governmental, non-political, non-media affiliated.
- The blog content must reflect individual, social or societal views regarding 1Malaysia, its concept, slogan, or implementation.
- The blogs must not be official or unofficial websites of the ruling or opposition parties.
- The blogs must not show repetitive text found in different blogs, mirror sites or technical counting procedure errors.
- Geographical location.

We limit blogs to English language ones because of the nature of the lexical dictionary. The corpus of this study represents the voices of a selected group of critical authors who wrote about the concept of 1Malaysia. Blogs by bloggers, highly critical of 1Malaysia, appear in comparatively more independent news agencies. By removing those blogs with extreme views, we included a list of blogs that are representative of the more moderate viewpoints on ‘1Malaysia’. Besides the criteria mentioned above, we also put a threshold of 30 percent, which means only those issues that are mentioned in 30 percent of the blogs (i.e., 30% recurrence in the data collected) are included. Furthermore, we randomly chose six quarters of the blog (from a total of 3.5 years).

Phase 1: Social Media Crawler and Miner (SOMM)

The first phase involves the development of a prototype that will construct an ontological representation of citizens' perception and change of emotions; that is seen as a reflection of the impact of '1Malaysia'. Specifically, the prototype uses ontology as the concept data structure and container to analyse and hold blog contents after blog data is mined and analysed. The prototype reads web blog content as its input from multiple sources. We use iterative development approach to continue improving each of the capabilities.

As for the development of the prototype, we work on each of the capabilities in different phases - ontological trees, temporal and combining (1) and (2) together. Here we combine all the capabilities of the prototype together to analyse (1) ontological trees within each topical trend, and (2) changes in ontological trees within each topical trend across different time periods. The final output of our prototype is a graphical presentation of ontological trees related to the '1Malaysia' concept. The trees show the relationship among key concepts on a temporal basis.

Phase 2: Social Impact Analysis

The second phase involves a manual interpretation of the ontological trees created in Phase 1. The outcome is an interpretation of how '1Malaysia' impacts Malaysian citizens, particularly the bloggers. This interpretation is performed with the assistance of social scientists who manually decipher the visual representations (i.e., the ontological trees).

As this study examines perceptions of independent bloggers towards '1Malaysia', its outcomes are more relevant to stages 6 and 7 of Misra (2005) (See Section 2). Whilst this SIA was conducted after its implementation, it was not meant to predict but rather to assess public perception of '1Malaysia'. Public response in terms of attitudes and actions, when taken into consideration helps to eliminate unwanted fears and speculations. It also helps to showcase expected benefits when public expectations are met.

Besides studying the discourse of bloggers in the form of textual analysis, this study can be further enhanced using comparable cases, consultations, narratives and interviews. Textual analysis articulates to a large extent, discourse on social relations, social structure, social practices and social events. From the inception of '1Malaysia' until 2012, we are able to associate discourse in blogs with social events that have taken place. In measuring social impact, the methodology used in data collection remains debatable. It appears vague how researchers could 'measure', assess and ascertain varying social impact of a concept only recently introduced to the nation. There are a number of stakeholders pertaining to the concept of '1Malaysia', i.e. the ruling government, political parties, lay people, the bureaucrats, the police, the critics, the bloggers or the businessmen who participate as mobilisers, proprietors, actors, benefactors, vendors and activists. How can their roles be identified through their writings on blogs? What is seen as positive to one stakeholder may be otherwise to another. Hence, there is a need to rely on a valid method when measuring social impact brought on by '1Malaysia'.

In this study, we use SI analysis of the '1Malaysia' concept that may have been the catalyst for important social changes within the duration of this study. Borrowing the idea from Schooten (2003), we wish to enhance the connotation of direct and indirect SI. We extend the meaning of direct SI to specifically intended SI; and indirect SI to the long-term impact in the aftermath of a project, and the effects on society during the implementation process.



RESEARCH FINDINGS AND ANALYSIS/DISCUSSION

The outcomes of the project consist of two phases. Phase 1 discusses research outcomes of the prototype and Phase 2 discusses the social impact of media content.

Phase I Research Findings

The SOMM prototype developed in Phase I is capable of illustrating analysed social media captured from the internet in the form of a visual tree diagram, allowing a detailed time-based view of a specific topic over a period of time. In order to ensure some degree of accuracy and reliability, a selected corpus of social media data was used to test the functionalities and accuracy of the tool. A total of ten (10), twenty (20) and thirty (30) documents were used to test on terms related to the '1Malaysia' concept. The results generated by the tool were verified manually by experts. Such tests were carried out in three cycles. Table 1 shows results obtained from comparing generated results and human-generated results. It was found that the differences were only around 6-7 percent. Such a variation is acceptable; proving the prototype as useful and reliable.

There are a number of stakeholders pertaining to the concept of '1Malaysia', i.e. the ruling government, political parties, lay people, the bureaucrats, the police, the critics, the bloggers or the businessmen who participate as mobilisers, proprietors, actors, benefactors, vendors and activists.

Table 1:

Comparison of Results Produced by the Prototype and Human Experts

Test cycles	Software generated results	Human expert results
#1: 10 “1Malaysia” related documents		
Term count	1299	1299
Term frequency	Results are identical	
#2: 20 “1Malaysia” related documents		
Term count	3765	3566
Term frequency	Results created by software and human expert has a 7% of difference (38.5 – software, 36 – manual counting)	
#3: 30 “1Malaysia” related documents		
Term count	5743	5591
Term frequency	Results created by software and human expert has a 6% difference (79.5 – software, 75 – manual counting)	

Quantitative Interpretation of the Found Patterns

The data depicts a high frequency count - this shows that the word/phrase/concept was repeatedly expressed and discussed in a particular quarter. The data extracted in ontology trees shows that keywords such as '1Malaysia' as an ontology topic, which branched out to Malaysia (178.33). We had to drop 'compliance' because the frequency count was too low (only 5.02) and 'target' (only 0.77). From here we looked into text that mentions Malaysia, making sense of what bloggers perceived as important with regard to '1Malaysia', and the reasons given to support their arguments and ideas.

This research narrowed down the search to four relevant key concepts i.e. People, Right, Nation and Action. The frequency counts for all four concepts were high and consistent throughout the six quarters as shown via ontological tree processing. This makes them significant when selecting text for further interpretive analysis. Table 2 shows the horizontal analysis of the four selected key concepts over time. As we read the selected texts, we scrutinised how the concepts were closely linked to '1Malaysia'.

Table 2:

Comparison of Results Produced by the Prototype and Human Experts

Frequency of key concepts	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	5th Quarter	6th Quarter	Remarks
'People'	2510/ 2591	4276/ 4353	3341/ 3407	5177/ 5314	5484/ 5631	2381/ 3906	The most significant key concept of bloggers' concern
'Right'	912/ 1519	1750/ 2890	1396/ 2561	2088/ 3303	1679/ 3598	3670/ 8575	Important only when other issues arise
'Nation'	610/ 715	1063/ 1216	772/ 919	1233/ 1518	1258/ 1896	11769/ 12168	Captures the spirit of nation building
'Action'	463/ 674	867/ 1162	833/ 1062	1607/ 2119	695/ 1422	1659/ 3456	Action and reaction by the ruling government
Frequency Ranking Indicating Change Over Time	People→ Right→ Nation→ Action	People→ Right→ Nation→ Action	People→ Right→ Action → Nation	People→ Right→ Action→ Nation	People→ Right→ Nation→ Action	Nation→ Right→ People→ Action	Kindly take note of the consistency in ranking
Remarks	'People' is part of the slogan of 1Malaysia	'People' mainly refers to lay people welfare & wellbeing	'People' also refers to the Japanese people facing the aftermath of Tsunami	-	-	'Nation' also refers to a country, national,	Some data consists of irrelevant 'noise', hence posing challenge to selection of text

Table 3 presents the weight of the four selected keywords across six quarters. In Table 4, sentiment of words related to the four keywords was computed. This provides readers with a sense of how bloggers feel about these four keywords and their related terms when they wrote. Figure 1 and 2 graphically depict the normalised weight and concept sentiment score. When analysing the data, one noticeable observation shown in Table 3 is that the fluctuation of sentiment or feeling of Malaysians on one of the four keywords, 'nation' - it carries negative sentiment for the first three quarters, and subsequently shows 'neutral' sentiment in the next four quarters.

Table 3:

Normalized Weights for Four Selected Key Concepts Across Six Quarters

Concept	Normalized Weight					
	1st quarter	2nd quarter	3rd quarter	4th quarter	5th quarter	6th quarter
Action	0.258248	0.35059286	0.300502	0.30062	0.131444	0.131007925
Nation	0.342029	0.393176028	0.356427	0.193803	0.178922	0.144192714
People	0.238111	0.328506659	0.225939	0.44379	0.337712	0.316852837
Right	0.248502	0.28037295	0.261634	0.369892	0.228887	0.221150653

Table 4:

Concept Sentiment Score for Four Selected Key Concepts Across Six Quarters

Concept	Concept Sentiment Score					
	1st quarter	2nd quarter	3rd quarter	4th quarter	5th quarter	6th quarter
Action	0	0	0	0	0	0
Nation	-0.04445	-0.01886029	-0.04005	0	0	0
People	0	0	0	0	0	0
Right	0.086538	0.101818182	0.0225	0.052593	0.136	0.099047619

However, for 'action' and 'people', both of these concepts show a 'neutral' sentiment across the six quarters. The 'action', 'nation', 'people' and 'right' keywords in quarter 1 carry 'low' information towards '1Malaysia' related topics (Figure 1). As these four keywords go into quarter 2, the information is 'high'. As they go into quarter 3, information is 'low' again. Mild fluctuation in these three quarters does not show seriousness of issues on blogs. Different perception and feelings on the four keywords related to '1Malaysia' and sub-topics on '1Malaysia' were talked about.

Entering quarter 4, 'action' and 'nation' show 'low' information whereas 'people' and 'right' show 'high' information. This is due to issues such as Lynas and media freedom that were talked about on these blogs. Quarters 5, 6 and 7 show a downward trend on '1Malaysia' related topics on blog discussions. The number of solicited blogs decreases. Apparently the intensity of '1Malaysia' and its related topics slowly cooled down. However, one may deduce a possible conclusive remark: the concept and implementation of '1Malaysia' and its related topics were gaining less attention from the bloggers; the intensity of the '1Malaysia' initiative had slowed down among bloggers in Malaysia. Figure 2 depicts the sentiment of the 'nation' and 'right' keywords for quarter 1, 2 and 3 that are 'negative' and 'positive', which were synced with the 'low' and 'high' information of these two keywords' frequency. However, 'people' and 'right' keywords show 'neutral' sentiment for the first 3 quarters. But 'people' and 'right' remain 'neutral' for quarters 4,5 and 6. One observation made from terms and related terms from the blogs is the disappointment of bloggers on the '1Malaysia' related topics. However, calculation of these two key terms have 'neutral' feeling. The 'nation', however, show 'neutral' in quarters 4, 5 and 6. The 'right' keyword shows 'positive' sentiment in quarters 4 and 5 but in quarter 6 becomes negative. The context of these keyterms and their related terms can only be manually obtained by reading the blogs to provide in-depth understanding of the bloggers' 'feelings'.

Normalized weight across selected six quarter

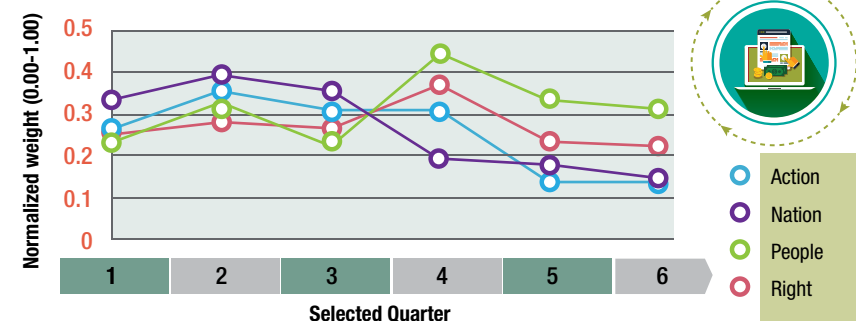


Figure 1:

Normalized weights on selected concepts across six quarters

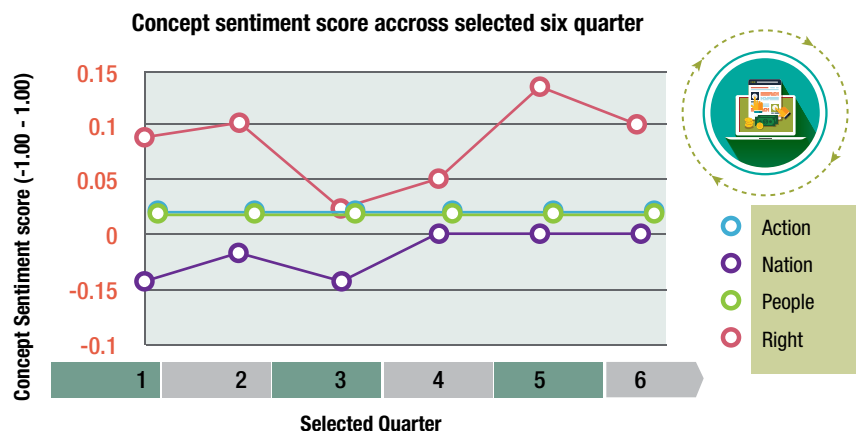


Figure 2:
Sentiment score on selected concepts across six quarters



As the government launched projects and programs related to '1Malaysia', bloggers shifted their attention from abstract conceptual discussion to focus on the benefits for the people.

Research Findings For Phase II

Finding 1: There was Gradual Acceptance of the '1Malaysia' Concept by Bloggers

With bloggers' increased awareness, deepened understanding and observation, their perception of the '1Malaysia' concept matured and strengthened. There was hardly any uniformity among bloggers' perception of '1Malaysia'. Nevertheless, collectively we found bloggers developing a strong sense of 'ownership' and commitment towards the country, government and nation. This may be a reflection of active participation in society, leading to public opinion among bloggers; with the hopes to push the boundary for more freedom of expression and better implementation of a particular policy.

Finding 2: Materialisation of the Concept via Tangible Policy was Proven Essential

Before the launch of any program affiliated to the concept, bloggers were sceptical that '1Malaysia' was just 'another political gimmick'. Bloggers were more receptive towards the concept of '1Malaysia' after seeing plans and promises materialise and translate into tangible action. As the government launched projects and programs related to '1Malaysia', bloggers shifted their attention from abstract conceptual discussion to focus on the benefits for the people.

However, this notion of '1Malaysia' in the form of a welfare state was subjected to scrutiny from bloggers who had different perspectives. Critical bloggers disagreed with the ruling coalition for spending billions of ringgit to buy over voters prior to the general election. Some questioned the feasibility of such an expenditure when the government experienced budget deficit in its sixth year in 2010. Bloggers demanded a long term solution to solve the issues of poverty and poor governance.

Despite agreeing on the implementation and the 'substance' of the '1Malaysia' concept, skeptical bloggers questioned the generous handouts when the government was facing deficits in its 2009 and 2010 budget allocations. The deficits brought forth concern, sentiments and criticisms towards the ruling coalition. For bloggers, giving out tax payers' money to the needy remained a debatable move for it cultivated a subsidy mentality among the young generation. Bloggers demanded for such issues as social ills, poverty, affirmative action, discrimination and injustice to be addressed properly by the government.

Finding 3: Independent Bloggers Pushing for Freedom of Expression

In this study, we found bloggers with personal views and/or collective experiences expressing their thoughts and feelings, sharing their opinion and experiences with the online community. Bloggers utilised personal blogs as a tool to channel their reaction towards government policy. Instead of applauding the deeds of the status quo, bloggers exercised their rights as citizens in a civil society. Writing blogs and gaining popularity enabled bloggers to establish social connectivity with other like-minded bloggers. It allowed for more intellectual discourse, enabling bloggers to assume the role of informed citizens regardless of gender, race and age group. Whoever capable of producing better insight and information for public consumption and scrutiny, would form social groups particularly among bloggers, readers, fans and opponents online.

Finding 4: Analysis of the '1Malaysia' Concept Discussed among Malaysian Bloggers

In our analysis, in July - Sept 2008, the term "national_unity" is found at position 287 with a term weight of 0.1323741 and a sentiment score of -0.16. However, in Oct - Dec 2008, the term "national_unity" or its variance such as "unity" was not found. In Apr - Jun 2009, "national_unity" is found in position 118. It has a term weight of 1.1951631 with a sentiment score of -0.146666667. In Jul - Sept 2010, the term "national_unity" carries a term weight of 2.0140755 with a sentiment value of -0.1825. In Oct - Dec 2011, "national_unity" has a term weight of 0.04290969 and a sentiment value of -0.16. However in Jan - Mar 2012, the term "national_unity" was not found. These scores are tabulated in the following table.

Quarters	Jul-Sept 08	Oct-Dec 08	Apr-Jun 09	Jul-Sept 10	Oct-Dec 11	Jan-Mar 12
Term weight	0.1323741	0	1.1951631	2.0140755	0.04290969	0
Sentiment score	-0.16	0	-0.15	-0.18	-0.16	0

Figure 3 and 4 illustrate the term weight and sentiment scores for “national_unity” graphically as reflected by bloggers over the six (6) quarters. As in Figure 3, the discussion on “national unity” was quite low in the first two quarters (Jul-Sept 08 and Oct-Dec 08). In Apr-Jun 09 and Jul-Sept 10, there was a spike in the number of discussions on “national unity”. It is clear that the number of discussions on “national_unity” in Apr-Jun 09 and Jul-Sept 10 increased drastically. One observation for this - as the ‘1Malaysia’ products and services started to roll out, bloggers were fairly skeptical about the possible success of the concept’s implementation by the government.

As shown in Figure 4, in these quarters, the sentiment among Malaysians was generally negative. Malaysians were not confident on the success of the implementation of ‘1Malaysia’ and the funding for this endeavour. However, the number of discussions declined nearing Oct-Dec 11. The discussion on “national unity” died off as it approached Jan-Mar 12. Blogs posted by some bloggers reduced drastically. This can be explained from the changes in their sentiment - negative to neutral as shown in Figure 4. This is a clear indication that the trust and confidence levels of most Malaysians - after seeing the materialisation of the ‘1Malaysia’ concept - have either reduced their negativity or limited their blog posts.

Term weight for "national_unity" over 6 quarters

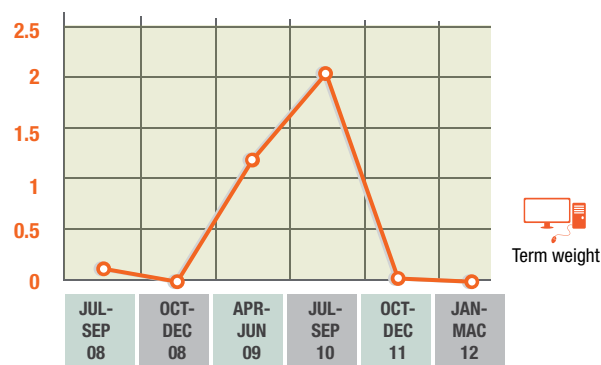


Figure 3:
Term weight for
“national_unity”

The sentiment on “national_unity” in quarter Jul-Sept 08 was found to be discouraging as it shows a negative sentiment among Malaysian bloggers. Even though the number of blogs was found to be low (Figure 3) in this quarter, the dissatisfaction on “national_unity” requires observation. In Oct-Dec 08, sentiment on “national_unity” improved. This is attributed to the fact that no discussion was found on “national_unity” from the blogs compiled. In Apr-Jun 09, the number of discussions on “national_unity” increases but the sentiments showed a big drop from zero (or neutral) to -0.15, -0.18 in Jul-Sept 10, and a small improvement to -0.14 in Oct-Dec 11. Blog content had started to show an upward negative-neutral-positive trend, captured through content analysis compiled in this research.

Sentiment score for "national_unity" over 6 quarters

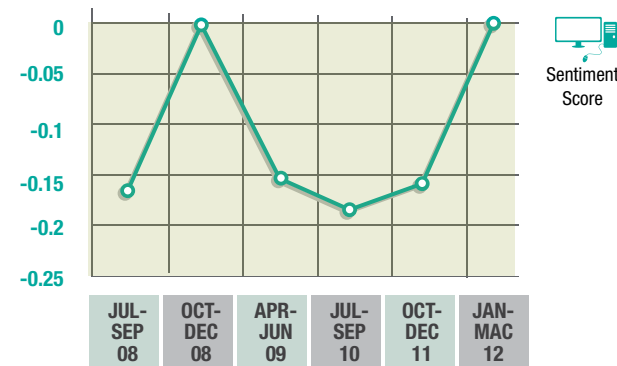


Figure 4:
Sentiment scores for
“national_unity”

CONCLUSION AND RECOMMENDATIONS

This project makes two contributions. First, it develops a prototype that can be used to crawl online for data and build ontological trees based on the data. This fulfils the second objective in this project. The prototype has built-in features that (1) allows users to either specify keywords to limit data crawl or to crawl all topics in general, (2) allows users to specify the time period for data crawl, (3) gives users preliminary emotional valence (positive, negative, neutral) to each ontological branch. It reduces the time needed to extract information from a huge collection of scientific document while cutting down manual work needed for information extraction. Furthermore, it improves the consistency of extracted information with computerised data extraction activity based on fixed rules. The project has also conducted impact analysis that provides a better understanding of how bloggers perceive the concept of ‘1Malaysia’.

Based on the findings, we identify the following implications for regulators:

1. Social media is a good marketing tool for political, commercial or personal reasons.
2. The study of bloggers' perception towards '1Malaysia' can serve as a guideline for observing blogging activities, and the forming of public opinion in cyberspace. Given the convenience of online activities, blog content of any nature can be easily accessible and widely disseminated within a short time. Monitoring and dissemination of information on social media can be prioritised in policy formulation.
3. The actualisation of a government policy cannot be discussed in isolation of wider social realities experienced by the community at large.
4. This study on blogs shows that blogs serve well as a public space for expression, bypassing censorship that typically characterises conventional media. Bloggers are seen, through this study, using this channel to effectively share and express their views on government policies.

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INTRODUCTION

The popularity of social networking site (SNS) and excessive internet use is on the rise especially in recent years. Today, it is no longer a surprise to see even young primary school students indulge in Facebook during their spare time or after school. In the context of Malaysia, Yee (2010) found that approximately six million Malaysians own Facebook. This number placed the country in the fourth position on social media usage in Asia-Pacific. According to TNS, Malaysia topped the list of countries with most SNS friends, with Chinese users emerging as heavier users compared to other races, spending up to nine hours each week on SNS (The Star Online, 2010b).

Problematic Internet Use among University Students in Malaysia.

Dr. Ke Guek Nee, Dr. Wong Siew Fan, and Prof. Dr. Nigel V. Marsh
- International Medical University



LITERATURE REVIEW

With the increase use of SNS, the time one spends on face-to-face interaction with others decreases. This raises the question of how usage of SNS impacts a user's social ties with others in real life. Another interesting question is how this usage would affect the user's mental health. Existing research has shown that addiction to digital media is related to different issues in real life. According to Huang and Leung (2009), problematic usage of digital gadgets such as instant messaging was related to loss of relationship, shyness and alienation. Researchers found loneliness to be the predictor for problematic internet use (Ceyhan & Ceyhan, 2008). However, Hu (2009) indicated that one's loneliness cannot be improved through Internet use for socialising purposes.

The internet, which acts as a socialising medium or computer-mediated communication, was found to be less effective in alleviating loneliness. Instead, it increases loneliness for those with a high degree of loneliness trait. Deniz (2010) found that one would experience a higher level of loneliness if they engage with the Internet for more than 26 hours in a week compared to those who are only online between 1-5 hours and 6-15 hours.

A psychologically healthy person is one who is able to evaluate and to regulate their behaviour and to make decisions independently while resisting social pressure.

Cues-Filtered-Out Theory underlies the limitation of emotional expression when word based communication such as the use of text messages is being used. At this state, nonverbal cues, for instances, body language and facial expression is restricted (Beebe, Beebe & Redmond, 2011), and it indirectly promotes some behaviours that are against norms and restrained behaviours (Kim, et. al, 2009). A psychologically healthy person is one who is able to evaluate and to regulate their behaviour and to make decisions independently while resisting social pressure. Without existing norms, one has little chance to learn to resist social pressure and to act and behave independently, without relying on others for decision making and judgements. Even with the use of words and emoticons, SNS addicts are doubtful about self-acceptance and purpose in life.

This is further elaborated by Social Presence Theory that different media have different levels of social presence. Milani, et.al. (2009) and Kuss (2011) stated that the level of social presence is influenced by the quality of social cues conveyed with social information such as personal data, increasing the chances for ambiguity and misinterpretation. The establishment of positive relationships with others is crucial in determining one's mental health and psychological well-being. A person who is psychologically healthy will possess a warm and close relationship with others. Due to the limitation of social information and non-verbal cues, electronically mediated communication is not effective in establishing and maintaining relationships.

METHODOLOGY

Our research was carried out in two phases with the following objectives:

Phase I - to evaluate the impact of SNS usage on university students' mental health; and Phase II - to design an intervention programme for problematic internet use among university students.

PHASE I: Prevalence of Social Networking Site (SNS) Addiction and Mental Health among University Students

The data was collected using a survey research method with cross sectional design. Participants were approached randomly and asked of their willingness to participate in the study. The target population was Malaysian adolescents aged between 17 to 22 years old. Peninsular Malaysia consists of the Northern, East Coast, Central, and Southern regions while East Malaysia consists of the states of Sabah and Sarawak.

Table 1:
Participating Universities in Malaysia

Regions	Universities	
Peninsular Malaysia	Northern	Universiti Sains Malaysia (USM)
	East Coast	Universiti Malaysia Terengganu (UMT)
	Central	University of Malaya (UM)
		Universiti Kebangsaan Malaysia (UKM)
East Malaysia	Universiti Putra Malaysia (UPM)	
	Southern	Universiti Teknologi Malaysia (UTM)
	Sabah	Universiti Sabah Malaysia (UNS)
	Sarawak	Universiti Sarawak Malaysia (UNIMAS)

Participants were asked to self-administer questionnaires, which consisted of the Internet Addiction Test (IAT) (Young, 1998), and Depression Anxiety Stress Scale (DASS-21). IAT examines the severity of Internet addiction and contains six subscales: salience, excessive use, and lack of control, anticipation, neglect of work and neglect of social life. IAT describes an individual's usage habits, his/ her thoughts about the Internet and the problems faced in using the Internet. Developed by Lovibond and Lovibond (1995), DASS was designed to measure current ("over the past week") negative emotional symptoms of depression, anxiety, and stress.

RESULTS

The results showed that as high as 90 percent of the participants were addicted to SNSs. When further classifying these addicted users, 57.5 percent (N= 417) were considered moderately addicted, 29.9 percent mildly addicted and 1.7 percent as severely addicted. Only less than 11 percent of the participants were at a normal SNS usage level. (Figure 1)

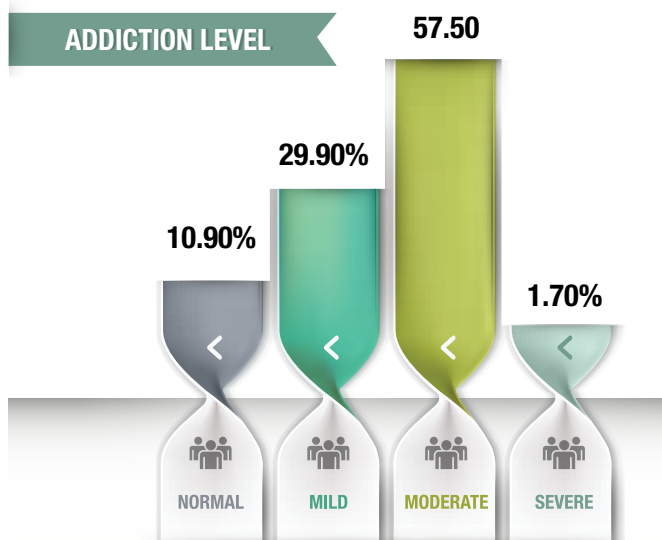


Figure 1:
SNS addiction level

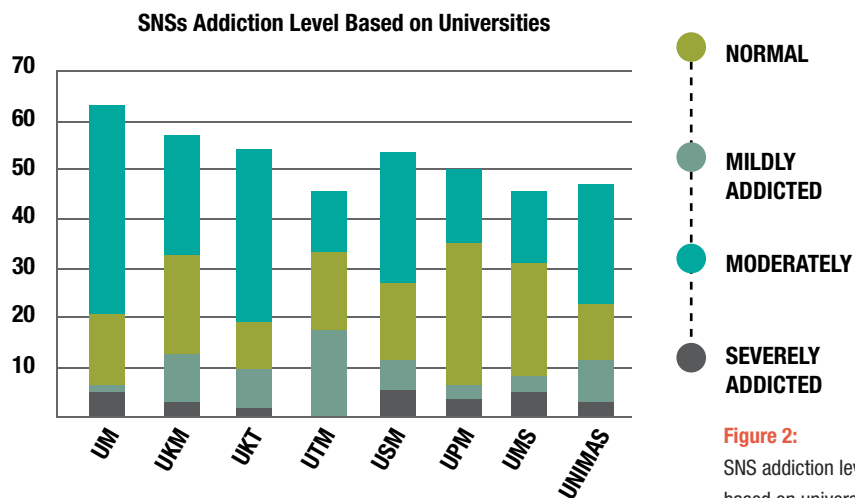


Figure 2:
SNS addiction level based on universities.

Participants' mental health was divided into 3 dimensions, namely stress, anxiety and depression. The results show that about 60 percent of the respondents' anxiety levels fall under severe and extremely severe categories, followed by depression - 31.7 percent and stress - 20 percent respectively. The majority of participants (n=699) scored moderately on psychological well-being (refer to Figure 3,4 and 5).

Stress level

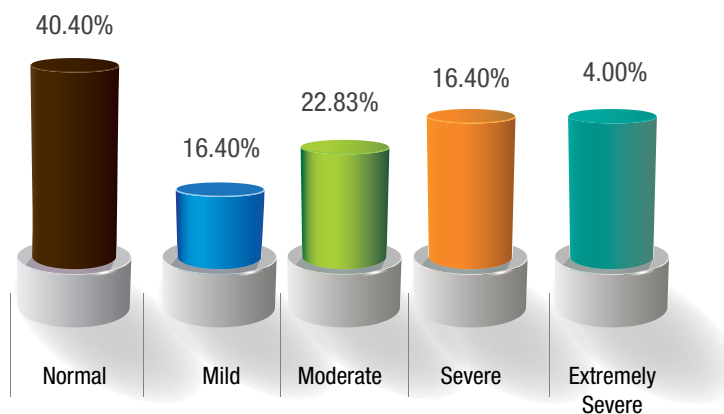


Figure 3:
Stress Level on SNS Usage.

Anxiety level

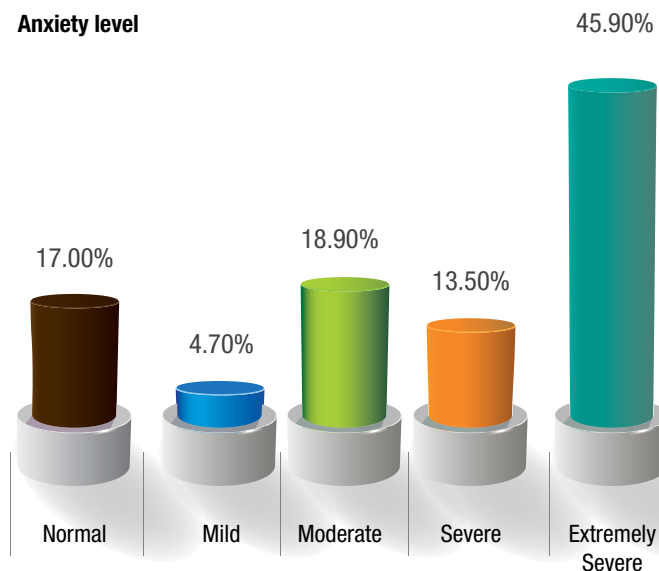


Figure 4:
Anxiety Level on SNS Usage.

Depression level

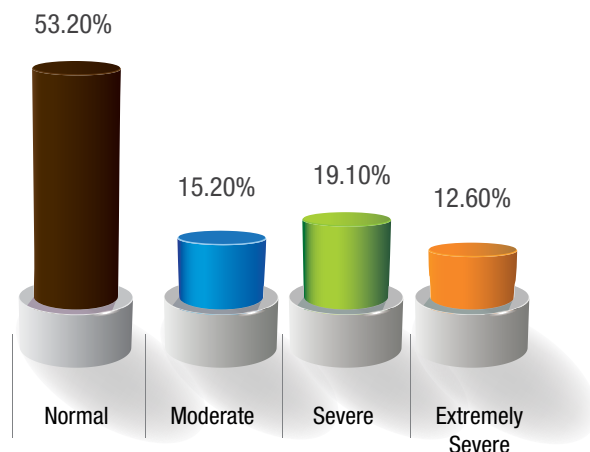


Figure 5:
Depression Level on
Social Networking Site
(SNS) Usage.

Significant positive correlation was found between SNS usage and all three subscales of mental health. SNS addiction correlates significantly and positively with stress ($r = 0.510$, $p < 0.001$), anxiety ($r = 0.487$, $p < 0.001$), and depression ($r = 0.513$, $p < 0.001$). The results indicated there is a significant relationship between participants' SNS usage and their mental health - the more addicted they are to SNSs, the higher the probability their mental health will be affected.

Social networking site (SNS) usage was found to have a significant relationship with adolescence' mental health - the more addicted adolescents were in using SNSs, the more the likelihood they will develop mental health problems. This is consistent with previous research in the area of internet addiction that suggests heavy usage of the internet will negatively impact the well-being of adolescents, and thus affect their regular life (Kuss & Griffiths, 2011b). Similarly, adolescents who reported spending more time online were found to have lower levels of personal contentment and tend to get into trouble frequently, often felt sad, bored, and unhappy (Bessiere, et.al, 2008).

The findings in this study also reinforce existing SNS research which contends that adolescents who are frequent users of SNSs are more likely to face stress, anxiety, and depression compared to those who are not. Another research (e.g., Chen & Peng, 2008; Ceyhan & Ceyhan, 2008; Ni, Yan, Chen & Liu, 2009) found that an individual's mental health can be predicted by the usage pattern of SNSs. In fact, some people surf the net excessively to cope with everyday stress. When people become so obsessed with SNSs, they tend to lose control over its usage, harming their physical and mental well-being, with notable decrease in levels of socialisation, and jeopardising work and familial relationships (Jang, et.al. 2008; Miami, et. al., 2010).

Other possible negative consequences of excessive internet use include poor physical health (bad diet, poor sleep patterns, low level of physical activity), disruption to career (study or work) progress, and

social withdrawal (lack of time spent in face-to-face interactions with peers and family in real world settings) (Kormas, Critselis, Janikian, Kafetzis, & Tsitsika, 2011; Kuss, & Griffiths, 2011). Whether such consequential behaviours can be considered an addiction in the same way that excessive use of alcohol, tobacco, and other drugs are, is controversial. Even the use of the term behavioural addiction has been challenged by researchers (Bergmark, Bergmark, & Findahl, 2011; Chakraborty, Basu, & Vijaya Kumar, 2010).

To determine the existence of pathological internet usage, research has been carried out to study problematic internet use by correlating psychological, behavioral, and health factors. They found that college students' internet use and its relationship with depression and anxiety were significantly associated (Valkenburg & Peter, 2009; Witte, et al, 2007). Psychiatric disorders such as anxiety, depression, insomnia and social dysfunction are present among excessive Internet users. In addition, Chen and Peng (2008) reported that heavy users who socialised on social network sites are more likely to be depressed, physically ill, lonely, and introverted. They also found a statistically significant difference between heavy and non-heavy internet users in their psychosocial adjustment (Kormas, Critselis, Janikian, Kafetzis, & Tsitsika, 2011; Kuss, & Griffiths, 2011).

The pattern of behaviour associated with excessive use of the internet has also been described as an impulse disorder or a compulsion. In the absence of any strong evidence for a physiological explanation, excessive internet use is best conceptualised as a habit. The maintenance of such maladaptive behaviour may not only be due to the enjoyment derived from being on the internet, but also to the fact that being on the internet allows people to avoid anxiety-induced real life interactions. Therefore a comprehensive approach to treating problematic internet use not only has to reduce time spent on the internet but also increase time spent in other more adaptive and equally enjoyable activities.

Phase II Study: An Intervention Programme Using Cognitive Behavioral Therapy

We adopted Cognitive Behavioral Therapy (CBT) to the single subject experimental design method for Phase II. This method has been applied in clinical and counseling to evaluate the effects of behavioral intervention and change over time (Morgan & Morgan, 2009). It is preferable to randomise controlled trial group design when researching the therapeutic effects of novel intervention on individuals. It resembles closely clinical practices, allowing for greater transfer of research findings into practical applications (Borckardt, et al., 2008).

Cognitive Behaviour Therapy (CBT) is an evidence-based psychological treatment that is the therapy of choice for a variety of psychological and emotional problems and disorders due to its high level of treatment effectiveness (Hazlett-Stevens & Craske, 2002). According to Wills and Sanders (2013), this therapeutic approach is based on the assumption that cognitions affect emotions and behaviours. The CBT therapist helps the client to recognise unhelpful cognitions or thoughts, emotions and behaviours. Intervention programmes tailored to and integrated with behavioural and cognitive techniques are then applied to addressing the problem or disorder.

Cognitive therapy is an active, directive, time-limited and structured therapy based on the above principles (Beck, 1995). Behavioral techniques in cognitive therapy involve activity scheduling, relaxation, exposure, behaviour modification and others. Self-instructional training and cognitive restructuring are cognitive therapy techniques designed to replace unhelpful thoughts with helpful thoughts. These skills take practice and anybody can learn them (Eshelman & Mckey, 2008).

Methodology

A recruitment campaign was launched in five universities for volunteers to take part in a program to reduce excessive/compulsive/problematic internet use. All potential participants were checked against the eligibility criteria established for the study: (1) the participant must be a university student aged between 17-22, (2) the participant self-identifies his/her internet use as problematic and is motivated to change his/her behavior, and (3) the participant voluntarily participates in the study.

In this study, we took three data measurements: T1 (baseline), T2 (immediately during the last session of the intervention sessions), and T3 (follow-up) on questionnaires Depression, Anxiety, Stress Scales (DASS); the Social Interaction Anxiety Scale (Mattick & Clarke, 1998); and the Problematic Internet Use Questionnaire (Koronczi et al., 2011). Besides self-report questionnaires, participants were also asked to report their daily Internet use through self-reporting and device-recorded internet usage.

Findings from Self-Administered Questionnaires

Figures 6 show the data gathered using the Problematic Internet Use Questionnaire (PIUQ) across three different time-points. In Figure 6, the overall PIUQ shows that all participants (with the exception of Participant #4) have reduced problematic internet use following the intervention sessions. For Participant #4, even though the internet usage reduces towards the end of the intervention period, she relapses to her pre-intervention stage after. Participant #2 shows slight increase in problematic internet use during the intervention session but this reduces after intervention.

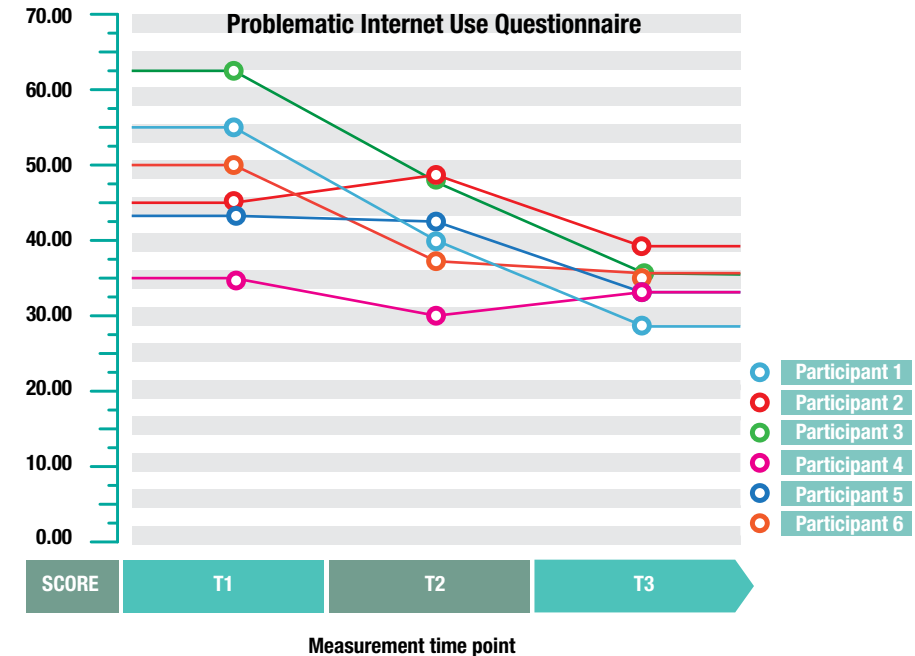
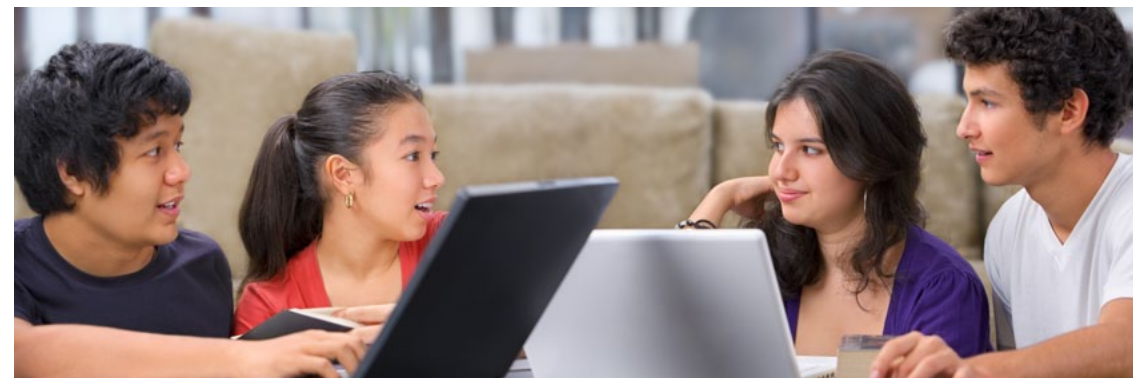


Figure 6:
Total Problematic Internet Use Questionnaires (PIUQ) scores of participants across three time-points

Figure 7 shows data gathered using the Social Interaction Anxiety Scale across three different time-points. Participant #3, and #6 see their social interaction anxiety levels increase but participants #1, #2, #4, and #5 see their anxiety levels decrease following intervention.

The pattern of behaviour associated with excessive use of the internet has also been described as an impulse disorder or a compulsion. In the absence of any strong evidence for a physiological explanation, excessive internet use is best conceptualised as a habit.



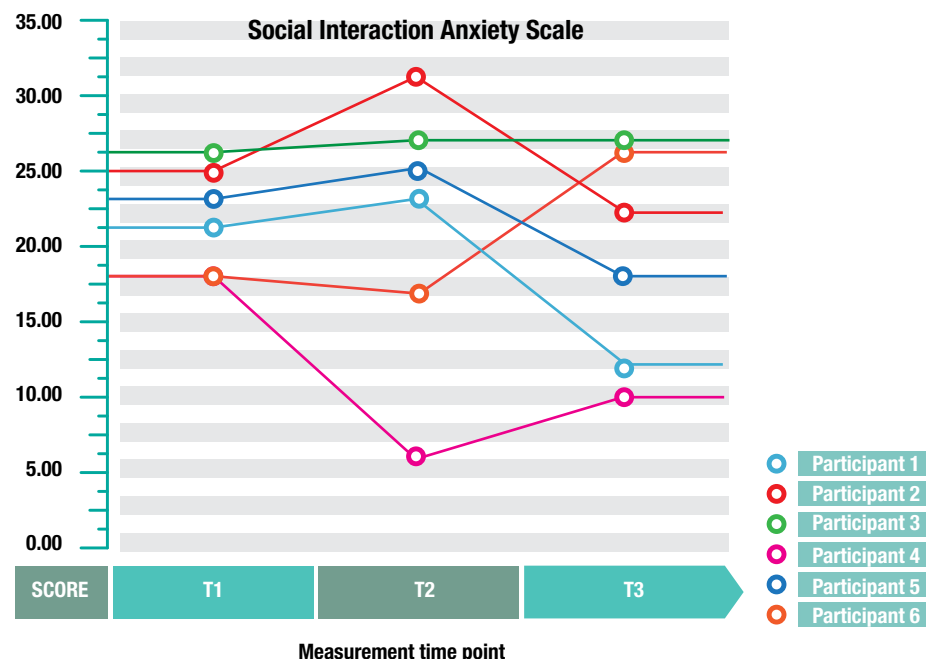


Figure 7:
Total social interaction anxiety (SIA) scores of participants across three time-points

For Problematic Internet Usage, Repeated Measure ANOVA show a significant intervention effect over three time frames for overall PIUQ ($F_{2,8} = 8.60, p = .00$, partial $\eta^2 = .63$). The Pre-Intervention mean is 48.17, Post-Intervention mean 40.83, and Follow-up mean is 33.83. Obsession and control disorder also shows a significant intervention effect over three time frames ($F_{2,9} = 12.92, p = .00$, partial $\eta^2 = .72$) and ($F_{2,7} = 10.36, p = .00$, partial $\eta^2 = .67$) respectively. The obsession Pre-Intervention mean is 16.67, Post-Intervention mean 11.33, and Follow-up mean is 9.50. The control disorder mean is 16.17, Post-Intervention mean 16.83, and Follow-up mean is 12.17. The neglect dimension does not show a significant effect ($F_{2,7} = 1.83, p = .20$, partial $\eta^2 = .26$). However, the mean score shows a deduction from 15.33 Pre-Intervention to 12.17 Follow-up session.

For Depression, Anxiety and Stress Scale (DASS), Repeated Measure ANOVA shows a significant intervention effect over three time frames for depression ($F_{2,10} = 4.04, p = .05$, partial $\eta^2 = .62$). The Pre-Intervention mean is 4.33, Post-Intervention mean 4.00, and Follow-up mean is 1.67. For Anxiety and Stress dimensions, both do not show any significant effect- ($F_{2,8} = 1.94, p = .204$, partial $\eta^2 = .32$) and ($F_{2,10} = 3.34, p = .77$, partial $\eta^2 = .40$) respectively. However, both mean scores show a deduction from Pre-Intervention to Follow-up sessions.

For Social Interaction Anxiety Scale (SIAS), Repeated Measure ANOVA shows no significant intervention effect over three time frames ($F_{2,10} = .53, p = .60$, partial $\eta^2 = .09$). However, the mean score decreases to 5.17 at Follow-up session compared to Pre and Post Intervention mean scores.

DISCUSSION

The associations between problematic internet usage with mental health and social interaction anxiety have been established by past research (Ke & Wong, 2012; Kuss & Griffiths, 2011; Young & Rogers, 1998; Yen et al., 2012). Scholars have carried out intervention research to assist problematic internet groups. Shek, et al. (2009) conducted an indigenous multilevel counseling programme on young people with internet addiction problems. After pre and post interventions, participants showed a reduction in internet addiction symptoms and positive parenting attributes. 'Virtual Detox' using inpatient therapy for internet addicts have been implemented in developed countries such as the United States of America and Canada (Collier, 2009). Asian countries such as Hong Kong and Korea have also introduced a similar therapy programme to decrease internet addiction problems.

Results reveal that the intervention programme introduced in this study has significantly improved two dimensions of problematic internet use - obsession and control disorders. Participants' mental health show a deduction in mean scores for depression, anxiety and stress. Depression shows the most improvement after the intervention programme. Participants' social anxiety shows a slight deduction in mean scores. Mean scores decrease when comparing Pre-Intervention with Follow-up sessions. This indicates that participants' emotional, psychological and even behavioral patterns have improved after the intervention sessions (Barlow, et al. 2009).

This research provides the basis for a larger multi-site study with those most at risk of developing problematic internet use habits, that is, secondary school students. The present project was orientated towards prevention, rather than treatment, of problematic internet use.

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