

Why do you adopt social networking sites?

Investigating the driving factors through structural equation modelling

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Abstract

Purpose – The purpose of this paper is to investigate those factors that are associated with the adoption of social networking sites from the perspective of Muslim users residing in Malaysia.

Design/methodology/approach – A complete self-administered questionnaire was collected from 223 Muslim users of social networking sites in Malaysia. Both exploratory and confirmatory factor analyses were used to sort the significant items for the constructs and to check the validity. Structural equation modelling was applied in testing the hypotheses and the fitness of the proposed model.

Findings – The results of full structural model attest that technological and social factors are the most significant factors behind the adoption of social networking sites. However, this is followed by an educational factor. Among Muslim users in Malaysia, the study does not find significant influence of brand or product communication behind this adoption.

Originality/value – The paper investigates those factors that are considered inevitable in the adoption of social networking sites. Invaluable findings were offered in the form of a structural model for the stakeholders of social networking sites. These findings can be used in planning and making decisions that may benefit all parties associated with it.

Keywords Malaysia, Social networking sites, Adoption, Drivers, Muslim users

Paper type Research paper

Introduction

Social networking sites have achieved a leading advancement in this new age. Chan (2011) discussed about an expanded platform of social networking sites that affects the usual way of thinking. Hence, it is the result of both online and conventional activities. Large numbers of people are now attached with these networking sites (Chan, 2011). Social networks provide users with a distinct profile that allows them to visit, view and interact with their opinions and viewpoints. This is done between and among the members through several types of encounters which can be social and personal. To communicate and interact, people can be searched based on keyboard descriptions on these networking sites. At the same time, social incidents can also be ascertained.

Overall, these social networking sites give individuals opportunities so that they are able to represent themselves. Also, they are eloquent and can administer their own virtual world on their own pages. The popularity of social networking sites is a little bit slower in the academic world where concentration of resourceful application was required. This is irrespective of the fact that this popularity is great in the world of business and social communications (Booth and Matic, 2011).



Nowadays, various technologies are used by people to satisfy their social and psychological needs, especially through social networking sites. Owing to its effectiveness in communicating with commercial services, the importance of social networking sites has risen. On the other hand, its use is extended even to educational and religious purposes. In daily lives, this sort of social communication and interaction has become progressively more frequent (Greenhow, 2011). By using social networking sites, people can update their status and upload new photos and/or videos. Through this way, it has become a new culture for them. Consequently, social networking is gradually becoming a part of the routine activity of people, which in turn have positive, as well as negative impacts. This is particularly true for teenagers (Bolton *et al.*, 2013) and Muslim teenager are not a different case. In fact, Janon and Alwi (2014) found that Muslim adolescents, in particular, engage in excessive use of media and technologies and suggested an hour break in their use of technology to develop resilience and build their positive interaction skills. These studies, however, have focused more on the post-usage impacts and little is known when it comes to understanding the reasons/factors behind the adoption of technology, specifically, social networking.

Moreover, studies are conducted in exploring some issues concerning the usage of social networking sites and people's perceptions of its security and features (Hawkins *et al.*, 2011). However, few research studies are being conducted to explore factors affecting the use of social networking sites, particularly among Muslim users. Owing to the spiritual and social identity of Muslim users, they are not hypothetically similar to other users. For instance, Muslims have to take out time from their daily activities to pray five times a day. So, if a Muslim is engaged in using social networking sites and the time of prayer approaches, he/she must stop and perform prayers before using any social networking site. At the same time, their motives behind the use of social networking sites are crucial and unique. For example, Muslims should use these sites in light of *Quran* and *Hadith*, or in a *Halal* (permissible) manner. The aforementioned reasons make Muslims different than non-Muslims in the way they adopt and use social networking sites. It also makes this study imperative and unique, and it is hoped that it will contribute towards understanding Muslims users of social networking sites.

Furthermore, social networking sites have become endemic in the daily life, not only for adults but also for teenagers. Teenagers are also adopting social networking sites more robustly (Jan *et al.*, 2015; Zhang and Daugherty, 2009). This study can be treated as a significant one as it is eliciting the motive behind the adoption of social networking sites. Moreover, Muslim users, especially teenagers, are often erroneous in their choice. This may eventually cause significant loss to them, their family and the society as a whole. In this sector, the key role players can take motivational or corrective measures in the usage of social networking sites. This they do by determining the factors and nature of usage of social networking sites (Pierson and Heyman, 2011). Based on the knowledge of the researcher, no such study has been conducted on the factors considered imperative for the adoption of social networking sites. Therefore, the present research intends to undertake the same objective.

In the following sections, literature review along with the development of hypotheses and research framework will be explained. This is followed by the research methodology of the present research. Lastly, detailed analyses and discussion on the findings are highlighted with conclusion and suggestions for further research.

Literature review

Within the past few years, social networking has become a top affair. Social networking sites consist of distinctive virtual community sites like Facebook, Twitter, YouTube, etc. In

the world of social networking and blogging, these are the most famous sites. Besides that, 50 to 70 million active users join Facebook and twitters each month. Formerly, social networking sites focused on the communications between and among university or college students and faculty members. As time went on, it involved other social groups like high schools, companies and different geographic clusters (Chan, 2011).

Several social networking sites like Facebook and other sites use “type oneself into being” formula to design the profile of the users with distinct page designed by the users themselves. Social networking sites may differ in various aspects such as applications and functions like incorporating information and communication tools. Thus, these tools may include blogging, mobile connectivity, photo and video sharing, wikis and chatting.

Some remarkable facts were disclosed that the average individual user uses social networking site like Facebook around 20 min daily. In addition, two-thirds of the users, as a minimum, open their accounts once in a day. Before now, the highest used networking site was MySpace before the dominant introduction of Facebook. Facebook enables its users to connect with the network using a specific e-mail address and it is highly innovative. By having 20 million members and 1.6 billion page views every day, Facebook crossed the record of MySpace in 2007. Therefore, Facebook has become the fastest rising social networking site since 2008 and the growth rate was 150 per cent from June 2007 to June 2008 (Haque *et al.*, 2013).

As the ability to use computer and internet technologies have become an increasingly more critical concern to economic success, demographic and socioeconomic differences are also becoming inevitable (Booth and Matic, 2011). The perspectives of information and communication technologies (ICT) are immensely diverse in different types of communities of any society. Mostly, internet use is dependent on the specifications of culture and religion (Carlos Martins Rodrigues Pinho and Soares, 2011).

Based on some previous research findings, internet use can be classified into three types such as social, leisure and academic. Studies show that age is the major factor that affects internet use (Harris and Rae, 2009). This is because the objectives of young generation are totally different from those of the old generation in the case of internet use. However, the young generation spends their time on internet to browse entertaining things, to play games and to chat. These are the main scopes of their internet use. After addressing the demographic and socioeconomic factors as the key element of social networking sites, the literature review section moves to concentrate on the factors behind the adoption of social networking sites in extracting evidence for hypotheses.

Social factors behind the adoption of social networking sites

Social networking sites have become an essential part of the daily life of most internet users. Almost four out of five internet users have social networking sites account worldwide. This is because it has become so popular. Owing to the high rate of literacy in internet, Malaysia has become very much a part of this emergent trend. Therefore, 60 per cent of these users are youngsters whose ages range from 13 to 25 years (alexa.com).

The doorway of social networking sites is the internet. It is progressively being used more and has become mandatory for most of the people around the world. The internet is a vast source of information. In addition, it is treated as an effective foundation for communications and social interactions. In the past, people used emails, forums, chats rooms and instant messaging in the cyber world for communicating with each other (Salman, 2009). The communications via internet turned into a new form since the introduction of Web 2.0 technologies. Web 2.0 is referred to the second generation of Web development that is associated with application like social media. This Web ultimately

offers a modern social platform that deals with interactive rudiments for users of huge participations (Haque *et al.*, 2013):

H1. Social factors have positive influence behind the adoption of social networking sites.

Technological advancement behind the adoption of social networking sites

It is possible for people to interact virtually because of the technological advancement in ICT. Partially, this study aims to determine that there are certain factors which influence teenagers' adoption of social networking sites, and that ICT is one of them. It is evident that technology positively influences people, especially with regard to their satisfaction with an organisation (Jan and Abdullah, 2014). All around the world, millions of youngsters are using various technological networks on a daily basis. However, all of these networks may include thousands of social networking sites in different languages for various purposes in many countries (Carlos Martins Rodrigues Pinho and Soares, 2011).

The latest advanced technologies consist of broadband internet and smart mobile phones. Consequently, the daily activities, pattern of interaction, and the behaviour and lifestyle of teenagers are shaped by this technological advancement. Teenagers have a preference of using SMS, MMS, email, and social networking sites (SNSs) to communicate with their friends, family and teachers. Therefore, it has been proven by various researches. The most active users of mobile phone and the broadband internet are teenagers (Kennedy, 2011):

H2. Technological factors have positive influence behind the adoption of social networking sites.

Educational factors behind the adoption of social networking sites

Separating the social and technological aspects, users use social networking sites for learning and sharing their ideas and knowledge more often (Jairak *et al.*, 2010). An example of that would be the use of YouTube for educational videos. Then, it is followed by sharing it with friends using Facebook. Furthermore, some of them may become a member of any webpage to enhance their knowledge. To acquire required information, Facebook could substitute classic search engines. The information may come from referrals of personal experiences and print sources; it is also not limited within the loop of Web (Chapleo, 2011). Therefore, this research will validate the contributing factors like social, technological and educational intentions behind the adoption of social networking sites used by the Malaysian Muslim users:

H3. Educational factors have positive influence behind the adoption of social networking sites.

Product/Brand communication behind the adoption of social networking sites

In the area of business communication, social networking sites have gained great commercial importance. The value of Facebook is more than \$85bn. However, it is expected to earn more than \$22bn of revenue and \$234bn of market value within 2016. In the world of social media and also in the overall market arena, Facebook has become the market leader (Till *et al.*, 2011). Social networking sites are totally free of charge for general users. Thus, users are not required to pay to use or register their accounts.

Compared to broadcast media such as television, social networking sites allows the use of banner ads and targeted ads. In addition, it also facilitates the selling of virtual games and

goods without incurring economic loss. In 2010, the overall sales of virtual knick-knacks were up to \$1.6bn; also, cakes and champagne like virtual products were also available on these sites (Booth and Matic, 2011). Social networking is an innovative institution used to use its users as social capital. Social networking sites always persuade users to use their original names and actual information rather than any kind of indistinctness. Through these social networking sites, by analysing the actual profiles, advertisers can get their target customers. Companies can customize or segment their required groups for the appropriate offers by acquiring the information of the users' lives, their friends, and their family affiliation. Furthermore, commercial entities are provided with vast prospects by social networking sites to learn about the exact demographic characteristics. They also study the precise social ties and the networks they belong to, such as family, co-workers, classmates, peers, etc. As the users of Facebook gain information from diverse sources, it gives valuable information to the business companies automatically (Lilley *et al.*, 2012). Based on the above facts, it was therefore hypothesised that:

H4. Brand or product communication related factors have positive influence behind the adoption of social networking sites.

Conceptual framework

The conceptual framework of this research is extracted from the detailed review of the extant literature. It consists of four independent variables, namely: social, technological, educational and product-/brand-related factors. On the other hand, it also consists of one dependent variable, which involves the adoption of social networking sites. Figure 1 depicts the framework of this research.

Methodology

Research design

This research aims to develop a comprehensive model for the adoption of social networking sites, particularly by young Muslims in Malaysia, which can be used by policymakers to

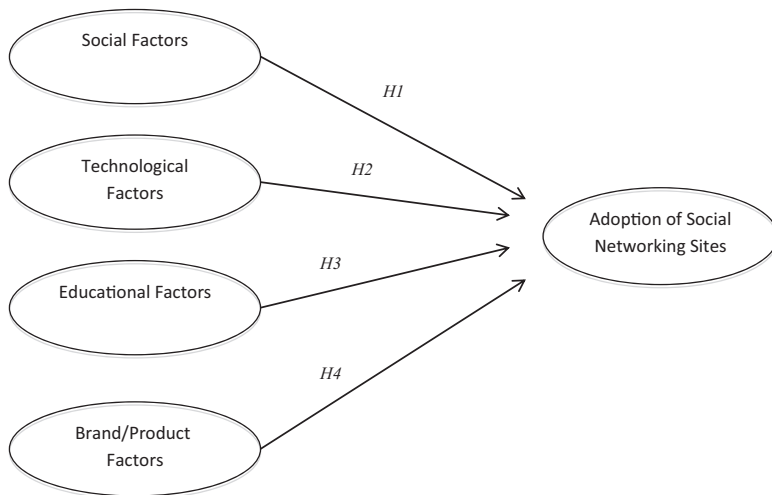


Figure 1.
Conceptual
framework of the
study

prepare effective strategies in targeting that aforementioned group of population. The development of framework of the present study was an exhaustive process that started with in-depth review of the literature, where *priori* relationships among the constructs and hypotheses were established.

Data collection

In total, 260 self-administered questionnaires were distributed among young Muslims residing in Selangor and Kuala Lumpur areas of Malaysia. Convenience sampling technique was used, as it was considered the most appropriate keeping in mind the scope of the study along with the limitations. Out of the total 260, only 223 remained valid for data analyses because the rest were incomplete and thus screen-out, resulting in more than 80 per cent response rate.

Measurement development

The development of the questionnaire for this study was an exhaustive process, as suggested by Churchill and Iacobucci (2005), which includes many steps, e.g. choosing the most appropriate items (questions) for factors, pre-testing and revising the questionnaire. The questionnaire was divided into six sections addressing questions related to all the dependent and independent constructs of the study along with one section on demographic profile of the respondents. Furthermore, a five-point Likert scale was used ranging from “strongly disagree” (= 1) to “strongly agree” (= 5).

To choose the right items for each constituting constructs, exploratory factor analysis (EFA) was used because it is considered as an effective statistical tool to elicit important items under each construct (Sekaran, 2003). After EFA, confirmatory factor analysis (CFA) was used to confirm the extracted factors and check for the suitability of the measurement model for further analysis and hypotheses testing. To test the hypotheses of the study and justify the relative importance of the constituting constructs behind the adoption of social networking sites, a structural equation modelling (SEM) approach was considered with the use of AMOS graphics.

Analysis and result

Demographic profile of the respondents

Descriptive analysis revealed that out of the total respondents, 37 per cent were females in comparison with 63 per cent, which were males. Thus, this shows that unlike the participation in higher education (Jager and Jan, 2016), males are not reluctant to use social networking sites. Since the study is designed to reveal the young Muslim users' opinion on the factors behind the adoption of social networking sites (SNSs), most of the respondents (95 per cent) are within the age group of 18 to 25 years. The rest of the respondents are aged from 25 to 35 years. In terms of the academic status of the respondents, not many respondents are having master's and PhD degrees. Also, most of them are students of either diploma or undergraduate level of study. Among 223 respondents, 21 per cent are diploma students, whereas 78 per cent of them are undergraduate level students. In contrast, only about 1 per cent was master-level student.

Consequently, the overall demographic picture of the respondents reflects the objective of the study. This is based on the fact that the study aims to extract the relative importance of factors associated with the adoption of social networking sites from the perspective of Malaysian Muslim users.

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Factor analysis

EFA using principal component analysis was applied as stated earlier. It is used to sort out the items for each construct. [Table I](#) depicts the reliability statistics where the value of the overall Cronbach's alpha is over 0.80. In all aspects, the study is conducted with the adequate number of sample and produces the significant value in sphericity test. The significant value of Bartlett's test and Kaiser–Meyer–Olkin (KMO) value of more than 0.60 clearly shows that EFA would be appropriate for the study ([Table II](#)).

Once the applicability of EFA has been finalized, the study needs to configure the number of factors it might associate with. Based on the eigenvalue 1 and the above, most researchers extract a number of factors. Using the same method, this study came up with a clean five-factor structure, where more than 60 per cent of the total variance was explained. Thus, the rotated component matrixes ([Table III](#)) organize and settle the possible associated items with the constituting factors. Also, the dominant group of statisticians signifies the loading 0.40 and above for an item to fit with the factor. This study, therefore, suppresses the loading less than 0.40, and finally came out with varimax rotation results. The loading value ranges from 0.502 to 0.821, showing the perfect fit of the items with the associated factor, where higher loading indicates the better affiliation. In total, 20 items were loaded on five constructs, and none of the items in the final table is insignificant ([Table III](#)). Items codes are used to easily distinguish items envisaged for one construct compared to other constructs ([Appendix](#)).

Structural equation modelling

To find the relationship among the constructs, SEM is considered as a comprehensive approach. Unlike other analytical tools, SEM justify overall model fit where it calculates simultaneous relationship in a single frame ([Hair et al., 2010](#)). It shows the overall model fit, which the researcher can accept or reject from the single view. Moreover, running a measurement model is also important prior to the baseline model, as it justifies whether the model defines the constructs adequately ([Hair et al., 2010](#)). Furthermore, it helps to define the construct validity.

To seek the overall statistical fit for the measurement model or CFA, at least one of the measures from the absolute fit index, incremental fit index and parsimonious fit index is essential ([Hair et al., 2010](#)). Among the various measures, RMSEA, CFI and normed chi-square (χ^2/df) are treated as the most reliable indices to be considered ([Byrne, 2010](#)). In all respects, revised CFA model confirms that the items belong to the constituting factors and attains the overall model fit. In this case, normed chi-square (χ^2/df) resulted as 1.611; CFI emerged as 0.956; and RMSEA as 0.052. This, however, shows an acceptable fit of the

Table I.Reliability statistics
of the questionnaire

Cronbach's alpha	Cronbach's alpha based on standardized items	No. of items
0.863	0.896	28

Table II.KMO and Bartlett's
test

KMO measure of sampling adequacy		0.848
Bartlett's test of sphericity	Approximate chi-square	1821.884
	df	190
	Significance	0.000

Items or variables	Social factor	Technological factors	Component Adoption of SNSs	Brand/Product factors	Educational factors
S3	0.798				
S2	0.791				
S1	0.685				
S6	0.658				
S5	0.575				
T2		0.786			
T1		0.786			
T3		0.759			
T4		0.708			
A2			0.749		
A3			0.724		
A4			0.617		
A1			0.613		
B7				0.821	
B6				0.808	
B4				0.625	
B2				0.502	
E2					0.763
E4					0.739
E3					0.733
Initial eigenvalues	31.768	10.434	8.404	6.434	5.929
% of Variance	14.627	13.426	12.748	11.180	10.989
Cumulative	14.627	28.052	40.801	51.981	62.970

Table III.
Results of factor analysis

measurement model. Hence, the study can proceed to full-fledged structural modelling with the confirmed items of the constructs. Figure 2 depicts the revised measurement model of the study.

After the satisfactory result of CFA, a full structural model was tested for its fitness and for testing of the hypotheses. In this case, various measures like: RMSEA, CFI and normed chi-square (χ^2/df) were considered from the absolute, incremental, and parsimonious fit indices. normed chi-square (χ^2/df) is the fundamental measures to assess the overall fit of the baseline model.

Hence, the lower the value, the better the model as the estimated and calculated value becomes closer at given “*p*” value. The result of the main model shows that the value of χ^2/df is below the cut-off value of 3. Hence, this attests to its fitness. Moreover, CFI or comparative fit index is commonly used to measure the incremental fit of the study. The cut-off value for CFI is 0.90 and is expected to be close to 1. Among all the measures of absolute fit indices, RMSEA or root mean square error of approximation is widely used. Here, the value is expected to be less than 0.08 for the absolute fit of the overall model. In this case, the value of RMSEA (0.052) attests to a better fit of the model. Full structural model is presented in Figure 3, whereas the indices are highlighted in Table IV.

Hypothesis testing

Critical ratio (CR) value of 1.96 is used as the benchmark value to test the hypotheses in SEM. to establish the stronger relationship, the greater value is expected. CR value of the study suggests that to form adoption of social networking sites, all the constituting factors have a significant positive influence except brand/product communication factors.

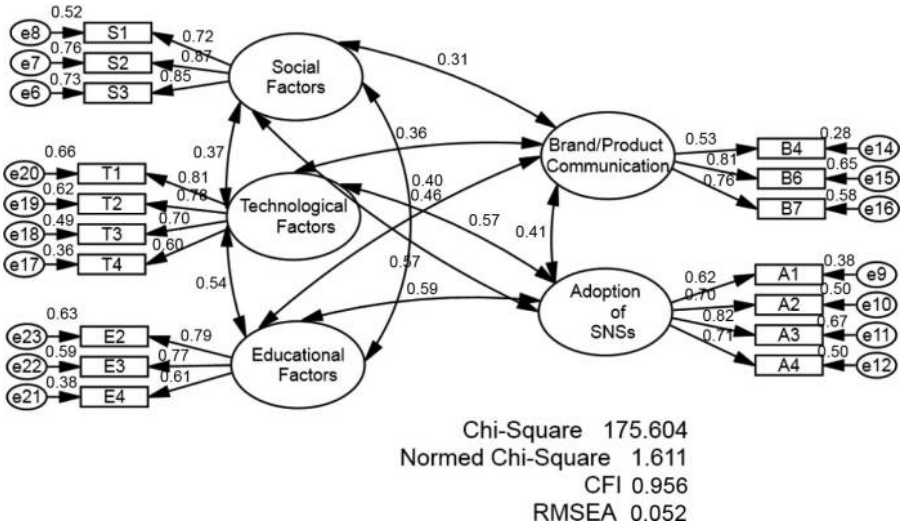


Figure 2.
Measurement model
of the study

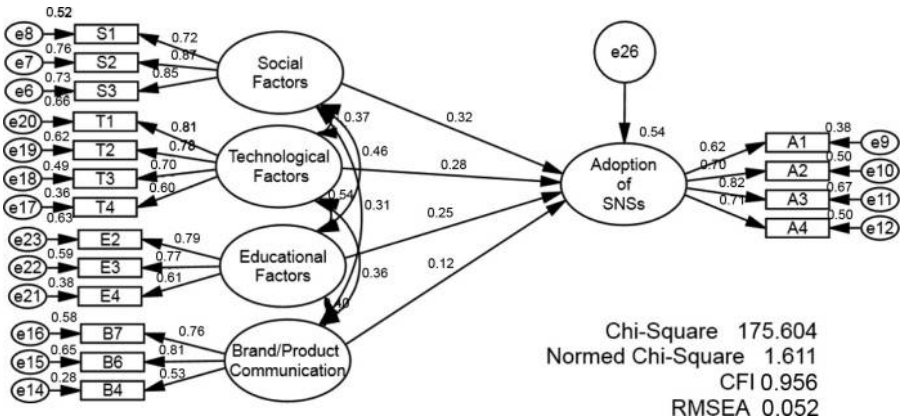


Figure 3.
Hypothesized
structural model

Apart from using CR as a method to find out the significant and insignificant relationships, SEM practical significance (β value > 0.2) and statistical significance (p value < 0.05) are also widely used. In this research, $H1$, $H2$ and $H3$ are supported with both practical and statistical significant values. However, $H4$ did not result in significance (see Table IV).

To test the validity of the analysis, this study considers the output of the measurement model besides the baseline model. To justify the construct validity of the analysis, SEM needs to test convergent, discriminant and face validity. Both factor loading (more than 0.70 in most of the cases) and reliability statistic of the result shows convergent validity. On the other hand, squared correlation matrix is significant at the level of 0.001. Thus, this indicates the satisfactory result of the discriminant validity of the analysis. Furthermore, with the consideration of strong theoretical support from the literatures, the face validity of the study is also confirmed.

						Driving factors
Structural path	Hypothesised relationship	Estimates	SE	CR	<i>p</i>	
Social Factors → Adoption of SNSs	$H1^s$	0.322	0.039	4.030	***	
Technological factors → Adoption of SNSs	$H2^s$	0.276	0.067	3.083	0.002**	
Educational factors → Adoption of SNSs	$H3^s$	0.247	0.085	2.556	0.011*	
Brand/Product factors → Adoption of SNSs	$H4^{ns}$	0.116	0.067	1.497	0.134	
Statistic		Suggested		Obtained		
Chi-square significance		≥0.05		0.000		
Normed chi-square (CMIN/df)		≤5.00		2.392		
Comparative fit index (CFI)		≥0.90		0.902		
Root mean error square of approximation (RMSEA)		≤0.08		0.079		
Notes: s = supported, ns = not supported; ***= $p < 0.001$; **= $p < 0.01$; *= $p < 0.05$						

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Table IV.
Result of hypotheses testing

Critical ratio (Table IV) indicates that like other users, Malaysian Muslims are also accelerating their usage of social networking sites. This is due to its convenient usage on Smartphone and other gadgets. It also reveals the fact that young Malaysian Muslim users use social networking sites both for social and educational purposes. However, marketing communication over the social networking sites is yet to be significant for the Malaysian Muslim users. Subsequently, this means that they do not rely heavily on the advertisements or marketing communication over the social networking sites. The results of the hypothesis four prove the assumption that Malaysian Muslims are not identical to other groups in every aspect. In addition, marketing promotion via social networking sites is yet to get significant attention from them.

Conclusion and recommendation

For the social and cognitive development of online surfers of all ages including the young stars, the emergence of social media gives a major breakthrough. The study produces an important milieu for the key role players and stakeholders to uncover the underlying factors behind the adoption of social networking sites, especially among Malaysian Muslims. It shows that Malaysian Muslims are also not reluctant to use social networking sites where technological advancement accelerates the use of social networking sites. They use social networking sites, as it becomes so easy to access owing to the latest technological advancement such as broadband, smartphone and other gadgets which are conveniently available (technological factors). Managing the social relationships with different group of people including friends and family is another most important reason behind the adoption of social networking sites (social factors). Many of the young stars are using social networking sites to extend the learning opportunities and exchange learning values (educational factors). The aforementioned, according to this research, is only for the category of respondents researched, which in this case were young Muslims in Malaysia. However, it may be true for other religious and ethnic parties. Perhaps more research is required on the same topic by collecting data from all the residents of Malaysia, irrespective of their religion and ethnicity. Future researchers may also choose the same model and collect data from both non-Muslims and Muslims to test for invariance. Further, a promising attempt for future study would be extending the present model by adding more independent variables, e.g., perceived enjoyment, perceived ease of use and perceived usefulness, etc. Furthermore, the addition of moderating variables, like profession and ethnicity may bring forward

unique findings. Lastly, future researchers may take the model of the present study and consider any single social media platform, like Facebook, Twitter or YouTube to investigate its adoption.

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Further reading

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Codes	Item/Variable name
S3	I consider sharing social information in SNSs is part of my life
S2	I love to share my information through SNSs
S1	I feel comfortable while sharing information using SNSs
S6	Continuous interaction with friends and family in SNSs encourage me to be adopted with it
S5	I just share what I have in my mind in exchanging social information
T2	Technological advancement of SNSs such as opportunity to access in my Smartphone influence me to adopt with SNSs
T1	Innovative features (e.g.: games, upload picture) of SNSs influence me to adopt with SNSs
T3	I can create events and causes in a group as the features of SNSs which eventually lead me to use SNSs more
T4	Technological innovation in protecting personal privacy influence me to adopt SNSs
A2	My overall adoption with SNSs motivates me to recommend my friends to use these sites
A3	I am satisfied with the overall facilities of Social networking sites
A4	I love to be engaged with SNSs every time once I get the opportunity
A1	My adoption with social networking sites is very high
B7	I love to use SNSs as it gives me an opportunity to give opinion regarding a product or offer
B6	Fan page of social networking sites is more effective than the concerned corporate website as promotional tools
B4	Companies should promote their products through SNSs
B2	I love to read about new products as a promotional item in SNSs
E2	SNSs provide the extended network to fulfil my educational wants
E4	The opportunity of being connected with my learning institutions influence me to adopt with social networking sites
E3	The opportunity of being involved with group learning activities influence me to adopt with social networking sites

Table A1.
Items with codes

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