University Students' Perceptions of Social Media as a Learning Tool

Laila Al-Sharqi & Khairuddin Hashim

Abstract

This study aims to investigate university students' perceptions of social media as a learning tool. Data were collected using a specially designed survey during the academic year 2013/2014 at King Abdulaziz University (KAU). The sample size was 2,605 students of different ages and genders representing various KAU colleges. The results indicate that a moderate majority of KAU students are using social media tools in their learning and have the desire to integrate social media as a tool in their learning at university. The paper also reports gender significant differences

Laila Al-Sharqi, PhD, is an assistant professor in the European Languages & Literature Department, and Khairuddin Hashim, PhD, is a professor at the Centre for Strategic Studies, both at King Abdulaziz University. Correspondence can be directed to Dr. Al-Sharqi at lzayan@kau.edu.sa.

on preferred social media tools and purposes of social media usage. The findings support the advantages of social media in learning and do not indicate any obvious disadvantages. Such findings can encourage academic planners and instructors to adopt and implement social media tools in the learning context.

In recent years, social media tools such as Facebook, Twitter and YouTube have become increasingly popular, particularly with college students. Excessive use of these tools has led to debate over whether or not it has changed the very shape and structure of students' social behavior and academic practices, and has thus caused leading educators to redefine their understanding of interpersonal communication and study dynamics (Junco, Merson, & Salter, 2010).

Students use social media tools for many purposes such as access to information, group discussion, resource sharing and entertainment (Wang, Chen, & Liang, 2011). This has generated speculation on their use and possible positive and negative implications, in both the short and the long terms. As several studies demonstrate, social media interaction could have positive and negative effects on students. They can provide flexibility in learning, stimulate innovative ideas, and increase interpersonal relationships among students and instructors. These tools, however, can have negative impacts on students as they might distract their attention from the learning process, reduce their physical social interaction and be potentially addictive.

Presently, most college students are exposed to

many types of social media on a daily basis. Abdelraheem (2013) investigated undergraduate students' use of social networks sites (SNSs) and the relation to gender, grade point average (GPA) and other variables. Analysis of responses of 120 students revealed that students use these sites for social purposes more than academic ones. Al-shareef (2013) examined the effects of Web 2.0 and social networks on students' performance in online education at KAU. Using data from 100 students obtained through an electronic questionnaire, the study found a significant positive impact of social learning on the students' education compared with traditional teaching.

A study exploring the perceptions of university faculty members for using social media in formal and informal learning (Chen & Bryer, 2012) indicated that most of the studied population used Facebook for personal communication and LinkedIn for professional purposes. It also found that academic activities using social media were designed to be informal reinforcements to classroom teaching rather than conventional assessment tools.

Valjataga, Pata and Tammets (2011) examined college students' perspectives on personal and distributed learning environments in course design. The authors found that students' perceptions of their personalized learning environment (PLE) changed dynamically as they navigated the course landscape of social media tools to construct and perform learning activities. They recommended fostering new pedagogical approaches to enhance students' abilities to organize and customize their own learning environments. Similarly, Ahmed and Qazi (2011) studied students' perspectives of the academic impacts of SNSs; they found that students mainly used such sites for

non-academic purposes, but that high use of SNSs did not adversely affect students' academic performance, apparently because students were managing their time efficiently.

Junco et al. (2010) studied the effect of using Twitter for various types of academic discussion on the engagement and grades of college students. The study examined 125 students (70 in the experimental group and 55 in the control group) using a 19-item scale selected from the National Survey of Student Engagement (NSSE). The authors found that Twitter can motivate both students' and faculty's engagement in non-traditional learning activities. In the same vein, Ellison, Steinfield and Lampe (2007) asserted that Facebook can facilitate college students' academic learning objectives through instructor-to-student and student-to-student course communication e.g. responding to questions and managing out-of-class projects.

Liu (2010) studied students' use, attitudes and perceptions of 16 different social media tools through an online questionnaire involving 221 students. The top four reasons that prompted students' use of social media tools were found to be social engagement (85%), direction communications (56%), speed of feedback/results (48%), and relationship building (47%); less than 10% used social media tools for academic purposes.

Although many studies have investigated the impact of social media on college students and instructors, few have focused on Saudi Arabia. Hence, this study should contribute valuable findings. Its purpose is to explore the impact of social media on students at King Abdulaziz University (KAU). This quantitative study focuses on the common factors affecting KAU students' preferences

and perception of the impact of social media on their learning. A research questionnaire was designed to determine the factors that may have affected students in relation to age, gender and college. Through analysis of the data, the study attempts to detect the positive and negative impacts on the academic community's preferences, perceptions and social behavior, and to identify key themes, trends or perceptions that can be used as a foundation for more in-depth research.

The main contribution of the study lies in identifying students' usage and perception of social media as a learning tool that can help in adoption of social media tools in the learning context. Given the present limitation of available data on students' use of social media at the university level, the data gathered provide a valuable source of information, as they offer a deeper insight into students' association with the new media.

Method

This study used both primary and secondary sources of data. The secondary data were from the literature review described above. The primary data were collected through a questionnaire administered to randomly selected respondents representing a sample of university students from various academic disciplines of KAU. The research team designed and fine-tuned the survey instrument, and conducted a workshop to obtain the opinion of administrators, instructors and students on which topics to include. This study is part of a research project approved by the university's research arm.

The survey included a total of 2,605 full-time undergraduate students who were randomly selected from

various colleges of KAU. The target students represented a homogeneous mix (male or female), different age groups (20 years and older or younger than 20 years of age) and disciplines to sufficiently preserve optimal diversity within the collected data required for subsequent analysis.

The questionnaire was pre-tested on a number of university students from various majors. The questionnaire was then revised by several senior university faculty members, who, specializing in sampling and questionnaire design, made modifications to enhance clarity. The questionnaire was then pilot tested, using a version that contained the questions in both English and Arabic languages, to provide a survey questionnaire in dual languages for ease of understanding. Based on the target numbers, copies of the questionnaire were then distributed to students by college administrators trained to facilitate data collection.

The questionnaire was divided into four parts. In the first part, students were requested to respond to general and demographic questions about their gender, age, and field of specialization. Students were also asked about their level of association with the Internet and social media use. The second part provided more specific questions on the types of social media students' use, the purpose for which they use social media, availability of social media platforms at the university, and their preference on the integration of social media in learning. The third part addressed questions related to students' perspectives on the benefits of social media use in learning. While the fourth part focused on their views on the negative aspects related to social media use in learning.

Completed responses were collated and submitted

to coordinators. A statistician was engaged to ensure that processing of data was done properly. Data were coded and processed into SPSS, a statistical package system. The data were explored both for their descriptive statistics (i.e. calculation of percentage distributions, frequency distributions, calculations of averages, and coefficient of variation) and inferential statistics (i.e. level of significance, t-test, z-test, ANOVA, correlation and regression and classification analysis). Cronbach's alpha was also used to provide indications of the reliability of measurement scales.

Analysis

The total sample size of 2,605 students meant an acceptable error of ±4% at 95% confidence level for the university student population. In investigating significant difference, the Pearson chi-square test of independence is used. If chi-square results are significant, post-hoc analysis is then conducted for identifying significant differences at the 0.05 level through column proportions z-tests approach. Researchers adjusted p-values for the multiple comparisons using the Bonferroni method (Sheskin, 2011).

Sample Breakdown Based on Demographic Factors

Table 1 shows the sample breakdown according to the demographic variables considered. The two highest percentages were students studying arts and media (18.3%) and economics (17.3%). The sample included 1,418 males and 1,187 females. In terms of gender and age, the population comprised 54 percent male and 46 percent female students. The majority of student respondents

Table 1
Sample breakdown based on demographic factors

| College | Count | Gender | Age (Count) | | Total per gender | % of gender per total sample size |
			Younger than 20	20 or older		
Engineering	265 10.17%	Male	39	179	218	8.37
		Female	22	25	47	1.8
Science, IT and Seas	299 11.48%	Male	49	116	165	6.33
		Female	35	99	134	5.14
Environmental, weather and earth sciences*	183 7.02%	Male	59	124	183	7.02
		Female	0	0	0	0
Art and media	477 18.31%	Male	56	109	165	6.33
		Female	25	287	312	11.98
Public health	237 9.1%	Male	33	103	136	5.22
		Female	33	68	101	3.88
Economics	451 17.31%	Male	57	155	212	8.14
		Female	16	223	239	9.17
Home Econ*	72 2.76%	Male	0	0	0	0
		Female	14	58	72	2.76
Education	218 8.37%	Male	38	135	173	6.64
		Female	12	33	45	1.73
Language and pre college	403 15.47%	Male	147	19	166	6.37
		Female	179	58	237	9.1
Total	2,605 100%	Male	478	940	1418	54.43
		Female	336	851	1187	45.57

*Colleges attended by either males or females, but not both

(68.8%) were aged 20 years and older. The sampled gender and age cohorts provide a consistent representative sample of the ratios of the overall KAU student population.

KAU Students' Background on the Internet and Social Media

The survey included some questions designed to provide information about KAU students' background in using the Internet and social media. These questions are shown in Table 2, together with their corresponding responses. The responses indicated that KAU students are familiar with and are immersed in the Internet and social media use. The majority of students use the Internet for more than 10 hours per week, have social media accounts for at least one year, access them for at least 6 hours per week and feel confident in their skills in dealing with social media. More than half of the students prefer to use social media in both Arabic and English languages. A moderately high majority of students use social media in their studies for one or more courses at KAU, with a similar proportion wanting to integrate social media as a tool in their learning at university.

KAU Students' Preferred Social Media Tools

We sought to answer the questions related to types of social media most commonly used by students. Students' responses as shown in Table 3 indicate that most students are familiar with available social media categories and do use them. The density of KAU students' usage of social media differs. Figure 1 provides the different social media categories in descending order of KAU students' usage preferences. It shows that video sharing social me-

Table 2

KAU students' background in Internet and social media usage

| Survey question	Question factors	Response	
		Frequency	Percent
On average how many hours do you spend using Internet per week?	Less than 5 hours	605	23.2
	From 5 to less than 10 hours	666	25.6
	From 10 to less than 15 hours	606	23.3
	15 hours and more	728	27.9
Do you currently have a personal social media account?	Yes	2,468	94.7
	No	137	5.3
On average, how many hours do you spend using social media per week?	None	137	5.3
	Less than 3	423	16.2
	From 3 to less than 6	577	22.1
	From 6 to less than 10	651	25
	10 hours and more	817	31.4
Duration for using social media	None	143	5.5
	Less than 1 year	258	9.9
	1–3 years	806	30.9
	More than 3 years	1,398	53.7
Which language do you prefer when you visit social media?	NA	64	2.5
	English	194	7.4
	Arabic	1,023	39.3
	Both	1,324	50.8
In how many of the courses in your study at this university are you using social media?	NA	68	2.6
	None	757	29.1
	One course	355	13.6
	Two courses	475	18.2
	Three courses or more	950	36.5
Would you like to integrate social media as a tool in your learning?	NA	65	2.5
	Yes	1,721	66.1
	No	362	13.9
	I don't know	457	17.5
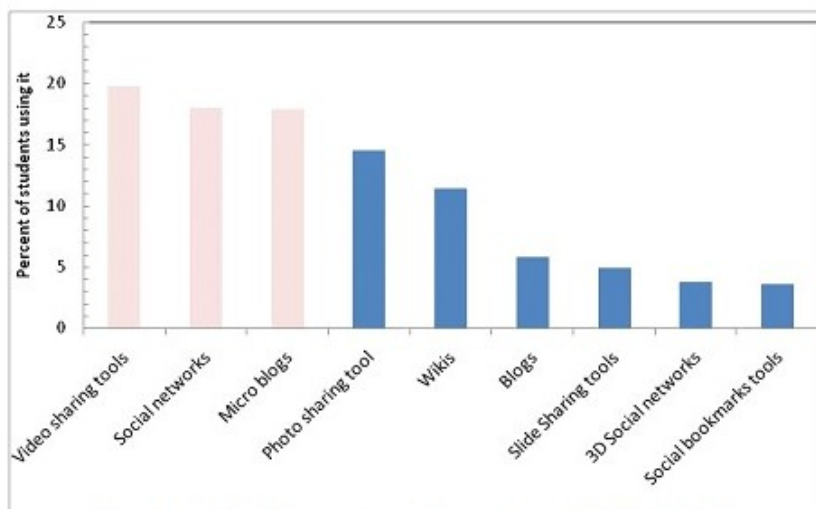
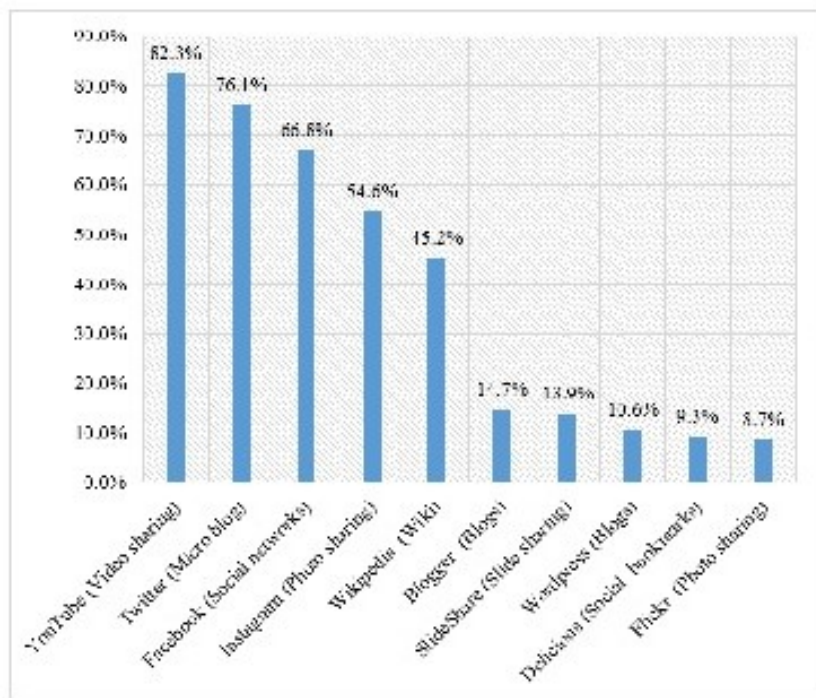Figure 1. Social media categories most commonly used by KAU students

Figure 2. Top 10 social media tools most commonly used by KAU students

Table 3

KAU students' responses for most common social media tools

Social media category	Social media tools	Multiple responses		% of total
		F	%	
Social network	Facebook	1,669	66.8	15.17
	MySpace	181	7.2	1.64
	Others	132	6.7	1.20
Micro blogs	Twitter	1,902	76.1	17.28
	Meme	50	2.0	0.45
	Others	21	1.1	0.19
Blogs	Blogger	368	14.7	3.34
	Wordpress	265	10.6	2.41
	Others	12	1.9	0.11
Wikis	Wikipedia	1,130	45.2	10.27
	Wiki spaces	110	4.4	1.00
	Others	18	1.4	0.16
Video sharing tools	YouTube	2,057	82.3	18.69
	Vimeo	101	4.0	0.92
	Others	17	0.8	0.15
Photo sharing tools	Flickr	217	8.7	1.97
	Instagram	1,365	54.6	12.40
	Others	19	1.2	0.17
Slide sharing tools	SlideShare	347	13.9	3.15
	Prezi	183	7.3	1.66
	Others	70	2.8	0.14
3D social networks	Second Life	205	8.2	1.86
	Active Worlds	212	8.5	1.93
	Others	4	1	0.04
Social bookmark tools	Delicious	233	9.3	2.12
	Netvouz	157	6.3	1.43
	Others	14	3.5	0.13

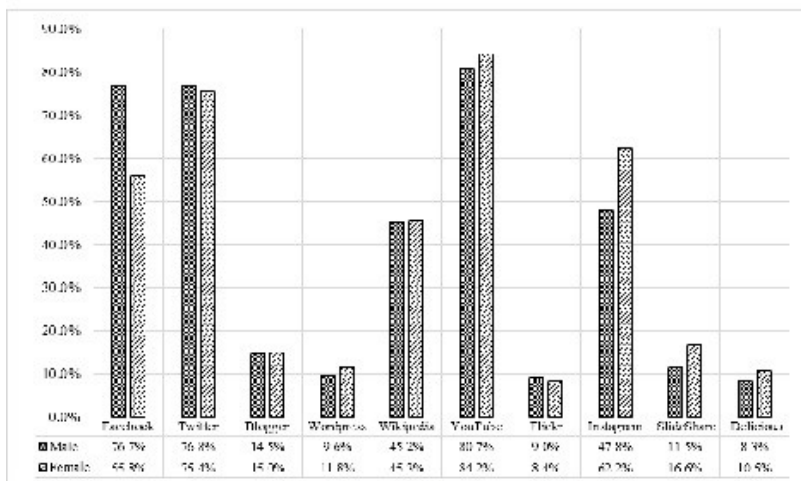|	Facebook	Twitter	Blogger	Wordpress	Wikipedia	YouTube	Flickr	Instagram	Slideshare	Delicious
Male	76.7%	76.8%	14.5%	9.6%	45.2%	80.7%	9.0%	47.8%	11.5%	8.9%
Female	55.9%	75.4%	15.7%	11.8%	45.3%	84.2%	8.4%	62.2%	16.6%	10.5%

Figure 3. Gender comparison in social media tool usage of KAU students

dia category has the highest usage level. Social networks and microblogs are next, followed by photo sharing tools. Fewer students use other options such as slide sharing tools, 3D social networks, and social bookmarks. Figure 2 shows the top 10 most commonly used social media tools across all categories. The survey question was of multiple response type. The figure shows the distribution on re-sponse of students in descending order of social media tool usage. It illustrates the video sharing tool YouTube as the most popular (82%), followed by the microblog Twitter (76%), the social network Facebook (67%) and the photo sharing tool Instagram (55%).

Gender breakdown and significant differences on social media tools. The gender breakdown in social media tool usage is given in Figure 3. Among the gender groups, the top two categories are YouTube followed by Twitter. For the third position category, the male group is repre-sented by Facebook while for the female group it is Insta-gram.
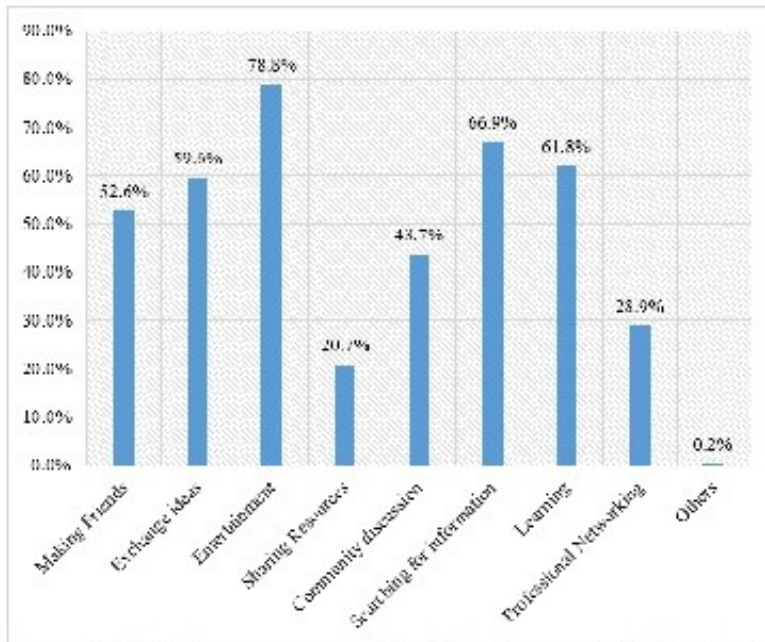
Figure 4. Distribution on purposes of social media usage by KAU students

The value of the Pearson Chi-Square relating to the top ten social media tools of Figure 3 is significant at p less than 0.01. Hence, there exists a strong association between the social media tools and gender. Post-hoc analysis indicates that there is greater proportion of responses by the male students than the female students in the 'Facebook' category and that the difference is significant at the 0.05 level. For YouTube, Instagram and SlideShare tools, there are greater proportions of responses by the female students than the male students and that these differences are significant at the 0.05 level.

Purposes on Usage of Social Media

Figure 4 shows the results on purposes that students use social media for. It shows the distribution of stu-
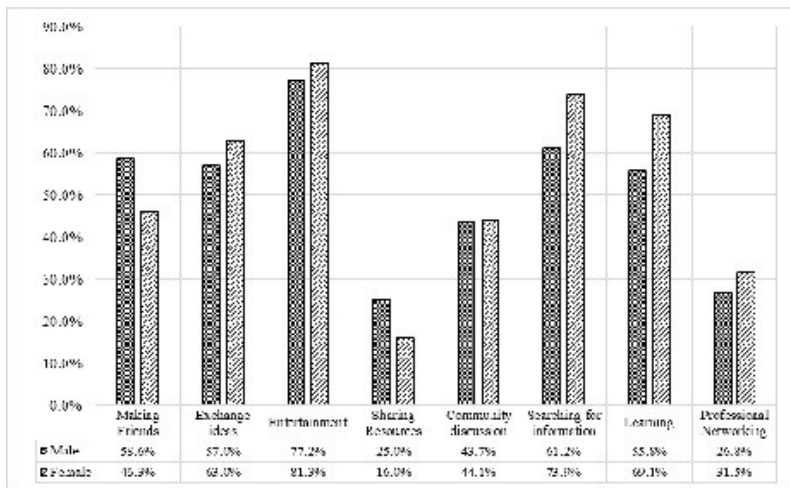
Figure 5. Gender comparison for purposes of social media tool usage of KAU students

dents sample as per the most common purposes. The survey question was a multiple response type. The figure reveals that KAU students use social media tools for a blend of academic and non-academic purposes. Category 'Entertainment' represents the highest category with 79 percent usage level. The second highest is category 'Information searching' with 67 percent and the third highest is category 'Learning' with 62 percent.

Gender breakdown and significant differences on purposes of social media usage. The gender breakdown for purposes of social media tool usage is given in Figure 5. Among the gender groups, the top two categories are 'Entertainment' followed by 'Searching for information'. The female group has a higher proportion for category 'Searching for information,' which is a purpose identified with learning. For the third position category, the male group is represented by 'Making Friends' category while for the female group it is the 'Learning' category.

The value of the Pearson Chi-Square relating to the eight categories of Figure 5 is significant at p less than 0.01. Hence, there exists a strong association between purposes of social media usage and gender. Post-hoc analysis indicates that the proportion for the male group is larger than the proportion for the female group for categories of 'Making friends' and 'Sharing Resources' and that these differences are significant at the 0.05 level. For all the other categories except the category 'Community discussion,' the proportions of the female group are larger than the proportion of the male group and these differences are significant at the 0.05 level.

Evaluating KAU Students' Perceptions on Social Media in Learning

The remaining portion of the questionnaire was designed to investigate KAU students' perceptions regarding the following: a) rating 19 statements as benefits (advantages) that encourage the use of social media for learning; and b) rating 11 statements as problems (disadvantages) that prevent students from using social media for learning. The study factors results are reliable, with Cronbach's alpha values of greater than 90 percent: .957 for advantages (19 items) and .909 for disadvantages (11 items).

Table 4 provides the list of sub-factors on advantages of using social media in learning. Table 5 gives the list of sub-factors on disadvantages of using social media in learning. The variation in opinions is low based on the coefficient of variation for all statements. This indicates that students are aware of the advantages (mean score of 3.77—represents "agree") and disadvantages (mean score

Table 4
Sub-factors on advantages of using social media in learning

1.	Help me exchange opinions regarding subjects
2.	Learn collaboratively with others
3.	Make my learning more convenient
4.	Improve my group-problem solving skills
5.	Improve my interaction with my classmates
6.	Improve my communication with instructors
7.	Help me co-create knowledge
8.	Help me increase my leadership skills
9.	Help me become an independent learner
10.	Makes my learning more interesting
11.	Help gain more info on different subjects
12.	Make learning more competitive
13.	Give better chance for access new to resources
14.	Improve ability to be creative and innovative
15.	Broaden my global views of world issues
16.	Improve my research skills
17.	Help me in taking initiatives
18.	Improve my interest in lifelong learning
19.	Reduce the cost of learning

of 3.00)—represents "unsure") of using social media in learning. The mean value for factor advantages is of attitude 'Agree' while the mean value for factor disadvantages is of attitude 'Unsure'. This indicates that students agree with the advantages but are unsure of the disadvantages.

Investigating dominant issues on advantages of using social media in learning. Out of the items under each

Table 5

Sub-factors on disadvantages of using social media in learning

1.	Cause intrusion on my privacy
2.	Cause misuse and domination
3.	Raise my parents' concerns
4.	Require formal training
5.	Require more work and preparation
6.	More time consuming
7.	Difficult to manage learning activities
8.	Raise concerns over direct contact with instructors
9.	Distract me from studying
10.	Increase my addictive potential
11.	Raise my financial expenses

factor, we selected the top five perceptions by mean values. These help identify support factors in using social media as a learning tool. The summary for perceptions on advantages is given in Table 6. Students believe that they are able acquire more information and have access to learning resources through the use of social media in learning. They also believe that through the use of social media in learning, they are able to co-create knowledge, communicate better with instructors and improve their research skills.

Investigating dominant issues on disadvantages of using social media in learning. Out of the items under each factor, we selected the top five perceptions by mean values. These help highlight potential problems in using social media as a learning tool. The summary for percep-

Table 6
Top 5 perceptions on possible benefits (advantages) on
the use of social media in learning

Advantages (in descending order)	Mean	CV (%)	Perception
Help me gain more information on different subjects	3.98	24.7	Agree
Gives me better chance to access new resources	3.92	25.2	Agree
Help me co-create knowledge	3.90	25.1	Agree
Improve my communication with my instructors	3.89	27.5	Agree
Improve my research skills	3.87	26.6	Agree

tions on disadvantages is given in Table 7. It is interesting
to note that the top two concerns relate to addictiveness
and distraction, respectively. The next two concerns relate
to expectation of additional effort required when using so-
cial media in learning while the last concern highlights the
need for appropriate training, perhaps to formalize the use
of social media for learning.

Discussion

The findings on students' background on the Inter-
net and social media reflect the maturity of KAU students
regarding use of the Internet and social media. It also
agrees with findings from previous studies (Alshareef,
2013; Pempek, Yermolayeva & Calvert, 2009). Pempek

Table 7
Top 5 perceptions on possible problems
(disadvantages) on the use of social media
in learning

Disadvantages (in descending order)	Mean	CV (%)	Perception
Increase my additive potential	3.39	37.8	Unsure
Distract me from studying	3.24	38.9	Unsure
Be more time consuming than the topic is worth	3.21	38.1	Unsure
Require more work and preparation	3.06	37.6	Unsure
Require formal training	3.02	37.7	Unsure

and colleagues found that college students' social networking experiences are high especially on Facebook. The study conducted by Alshareef (2013) on the effects of Web 2.0 and social networks on students' performance in online education in KAU showed a good level of experience in using social media.

As to students' preferred social media tools with YouTube as the most popular (82%), followed by the microblog Twitter (76%) and then the social network Facebook (67%), our finding is in contrast to findings of a recent survey (Guimaraes, 2014) conducted where Facebook remains the top social network for the U.S.

Pertaining to gender breakdown and significant differences on social media tools, some differences in the

proportion of responses are witnessed. As with Facebook, the male students proportion is 77 percent and female students proportion is 56 percent. Furthermore, Facebook does not take a position at the top three categories of the female group. These findings are in contrast with findings of the survey (Guimaraes, 2014) on adoption of social network which state that women in the U.S. are more skewed to Facebook than men by about 10 percentage points.

Pertaining to purposes of using social media, it is worth noting that the responses for searching for information and learning are both above 60 percent. This indicates a moderately high percentage of students use social media for learning. A further investigation reveals that a high percentage (77%) of students represent the union set of learning and searching for information. This combination can be classified under the activity of learning and represents a proportion close to that of the highest category under purposes on usage of social media. These findings are in contrast to the conclusion made by Ahmed and Qazi (2011), which states that social network sites are mainly used for non-academic purposes by students.

On gender breakdown and significant differences on purposes of social media usage, category 'Learning' is within the top three positions for the female group while it is not for the male group. This indicates that the female group leans toward learning more than the male group. These findings are in line with the outcome of a study conducted by Mazman and Usluel (2011) that states that females are more dominant in using social networks for academic purposes compared to the males. The proportion for the male group is larger than the proportion for the female group for categories of 'Making friends' and 'Sharing Re-

sources' and that these differences are significant at the 0.05 level. The finding of males being in favor of the category 'Making friends' is in line with the outcome of study conducted by Mazman and Usluel (2011) which states that males are more dominant in using social media for making new contacts compared to females.

On the investigation of dominant issues pertaining to disadvantages of using social media in learning, the concern of being addicted highlighted as the top concern in our survey has also been highlighted by Thompson and Lougheed (2012).

The study is limited to students of KAU. For future research work, replication of the study in different settings will allow for comparisons and significant differences to be examined.

Conclusions

KAU students are familiar with and use social media. They use different categories of the social media tools for academic and non-academic purposes. They are confident about their skills in dealing with social media with a positive preference slant toward using social media for learning. This is reinforced by the fact that survey results indicate a moderately high majority of students use social media in their studies for one or more courses at KAU, with a similar proportion wanting to integrate social media as a tool in their learning at university. Furthermore, two of the top three categories of purposes for social media tool usage relate to learning; the second highest category being 'Information searching' while the third highest category is 'Learning'. A high percentage (77%) of students represent the union set of searching for information and

learning. This combination represents a proportion very close to that of the highest category.

  Students positively agree on the advantages of social media as a learning tool. However, they are unsure about its disadvantages. On gender significant differences, survey outcomes indicate that the female students group has a stronger inclination toward usage of social media for learning compared to its male counterpart. This finding can help in strategizing piloting options for adoption and phased implementation of social media tools at KAU in the learning context.

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