

# GENDER DIFFERENCES ON PERCEPTIONS OF SOCIAL MEDIA AS A LEARNING TOOL

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## Abstract

*Social media is seen by some as a new media for enhancing the learning environment. It is rich in tools which can help enhance interaction, discussion and sharing of learning resources. This study investigates gender differences and similarities on King Abdulaziz University (KAU) students' perceptions of social media as a learning tool. Data were collected using a specially designed survey during the academic year 2013/2014. The sample size was 2605 students of different ages and genders. The results indicate that a majority of KAU students of both gender groups are using social media and have the desire to integrate social media as a tool in their learning at university. Survey outcomes indicate that in general the female students have a much stronger inclination towards usage of social media for learning compared with the male students. The findings include identification of dominant gender-based and common perceptions of the advantages and disadvantages of social media use in learning. The findings can also help discern possible issues relating to using social media as a learning tool.*

**Keywords** Social media; learning; student perception; student preference; gender difference; media in education

## 1. Introduction

Social media has impacted the social fabric of our society, changing the nature of social relationships. New technologies help facilitate and provide flexibility in communicating and sharing of resources. However, excessive use of social media tools by college students 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.

Although ample research exists on the impact of social media on college students and instructors, few have focused on Saudi Arabia. Hence, this study should contribute valuable findings as it seeks 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 perceptions 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 utilized as a foundation for more in-depth research.

The main contribution of the study lies in identifying gender-based students' usage, differences in preferences and perception of social media as a learning tool which can help in adoption of these 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 valuable source of information, as they offer a deeper insight into students' association with the new media.

## 2. Literature Review

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 its 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. Alshareef (2013) examined the effects of Web 2.0 and social networks on students' performance in online education in 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-items 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.

## 3. Research Methodology

This study used both primary and secondary sources. 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.

The survey included a total of 2605 full-time undergraduate students who were randomly selected from various colleges of KAU. The target students represented a homogeneous mix (male/female), different age groups (20 years and over or under 20 years of age) and disciplines to sufficiently preserve optimal diversity within the collected data required for subsequent analysis.

The questionnaire outcome on students maintained 95% confidence level with a confidence interval of 4%. The questionnaire was pre-tested on a number of university students from various majors. The questionnaire was, then, revised by six 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 questionnaires 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. Next, students were 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 and their preference on the integration of social media in learning. The third part addressed on questions related to students' perspectives on the benefits of social media use in learning. While the fourth part focused on their perceptions of the negative aspects related to social media use in learning.

Questionnaires were distributed to the respondents in lecture halls, classrooms and laboratories. 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. Results were analyzed and summarized, in order to draw conclusions and make recommendations.

The raw data from the returned questionnaires were then coded and entered into the statistical system for exploration of both 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 internal consistency.

#### 4. Results and Discussion

A total of 2605 students participated in the survey on social media as a learning tool. The total sample size meant an acceptable error of  $\pm 4\%$  at 95% confidence level for the university population. The overall sample included 1418 males and 1187 females. In terms of gender, the sample population comprised 54 percent male and 46 percent female students. The majority of student respondents (68.8%) were aged 20 years and above. The sampled gender and age cohorts provide a consistent representative sample of the ratios of the overall KAU student population.

In investigating significant difference, the Pears on 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 (adjust p-values for multiple comparisons Bonferroni method).

##### 4.1 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 1, together with their corresponding responses. The responses indicated that KAU students are familiar with and are immersed in the Internet and social media use.

**Table 1.** KAU students' background in Internet and social media

|   |                         | <i>Gender</i> |          |               |          |
|---|-------------------------|---------------|----------|---------------|----------|
|   |                         | <i>Male</i>   |          | <i>Female</i> |          |
|   |                         | <i>Count</i>  | <i>%</i> | <i>Count</i>  | <i>%</i> |
| On average how many hours do you spend using internet per week? | less than 5             | 410           | 28.9     | 195           | 16.4     |
|   | from 5 to less than 10  | 348           | 24.5     | 318           | 26.8     |
|   | from 10 to less than 15 | 320           | 22.6     | 286           | 24.1     |
|   | 15 hours or more        | 340           | 24.0     | 388           | 32.7     |
| Do you currently have a personal social media account?          | Yes                     | 1296          | 91.4     | 1172          | 98.7     |
|   | No                      | 122           | 8.6      | 15            | 1.3      |

|   |                        |     |      |     |      |
|---|------------------------|-----|------|-----|------|
| On average how many hours do you spend using social media per week?                 | none                   | 122 | 8.6  | 15  | 1.3  |
|   | less than 3            | 286 | 20.2 | 137 | 11.5 |
|   | from 3 to less than 6  | 334 | 23.6 | 243 | 20.5 |
|   | from 6 to less than 10 | 334 | 23.6 | 317 | 26.7 |
|   | 10 hours or more       | 342 | 24.1 | 475 | 40.0 |
| Using social media for?   | none                   | 128 | 9.0  | 15  | 1.3  |
|   | less than 1 year       | 181 | 12.8 | 77  | 6.5  |
|   | 1-3 years              | 443 | 31.2 | 363 | 30.6 |
|   | more than 3 years      | 666 | 47.0 | 732 | 61.7 |
| Which language do you prefer when you visit social media?                           | English                | 98  | 7.2  | 96  | 8.1  |
|   | Arabic                 | 533 | 39.3 | 490 | 41.3 |
|   | Both                   | 724 | 53.4 | 600 | 50.6 |
| In how many of courses in your study at this university are you using social media? | none                   | 498 | 36.9 | 259 | 21.8 |
|   | one course             | 218 | 16.1 | 137 | 11.6 |
|   | Two courses            | 283 | 20.9 | 192 | 16.2 |
|   | Three courses or more  | 352 | 26.1 | 598 | 50.4 |
| Would you like to integrate social media as a tool in your learning?                | Yes                    | 851 | 62.8 | 870 | 73.4 |
|   | No                     | 206 | 15.2 | 156 | 13.2 |
|   | I don't know           | 298 | 22.0 | 159 | 13.4 |

The majority of students from the male group are using Internet for 5 hours or more per week while the majority of students from the female group are using Internet for 10 hours or more per week. Furthermore, the major category for the male group is the 'less than 5 hours' category while for the female group, it is the '15 hours or more' category. The value of the Pearson Chi-Square is significant at  $p$  less than 0.01. Hence, the responses have strong significant difference. Post-hoc analysis indicates that the proportion of female students under category '15 hours or more' is greater than the proportion of male students and this difference is significant at the 0.05 level. The proportion of male students under category 'less than 5 hours' is greater than the female students and this difference is significant at the 0.05 level. These indicate that the female students are dominant in the highest category and are heavier users of the Internet.

More than 90% students of both gender groups have a personal social media account. The value of the Pearson Chi-Square is significant at  $p$  less than 0.01. Hence, the responses have strong significant difference. Post-hoc analysis indicates that the proportion of female students under category 'Yes' is greater than the proportion of male students and this difference is significant at the 0.05 level. The proportion of male students under category 'No' is greater than the female students and this difference is significant at the 0.05 level. These indicate that the female students have higher social media account density.

On the average number of hours students spend using social media per week, the majority of students from the male group are using social media for 3 hours or more per week while the majority of students from the female group are using social media for 6 hours or more per week. Furthermore, the major category for the both groups is the '10 hours or more'. The value of the Pearson Chi-Square is significant at  $p$  less than 0.01. Hence, the responses have strong significant difference. Post-hoc analysis indicates that the proportion of female students under category '10 hours or more' is greater than the proportion of male students and this difference is significant at the 0.05 level. The proportion of male students under category 'less than 3 hours' is greater than the female students and this difference is significant at the 0.05 level. These indicate that the female students are dominant in the highest category and are heavier users of social media. This finding is in line with the outcome of study conducted by Thompson & Loughheed (2012). However, these findings are in contrast to the findings made by Gerlich, Browning and Westermann (2010) which indicate that amongst the students they surveyed, no significant differences exist between males and females in their Internet and social media usage.

47 percent of male students and 62 percent (majority) of female students have been using social media tools for more than 3 years. The value of the Pearson Chi-Square is significant at  $p$  less than 0.01. Hence, the responses have strong significant difference. Post-hoc analysis indicates that the proportion of female students under category 'more than 3 years' is greater than the proportion of male students and this difference is significant at the 0.05 level. The proportion of male students under the category 'less than 1 year' is greater than the proportion of female students and this difference is significant at the 0.05 level. This indicates that female students are more matured than male students in terms of duration of social media usage.

These findings 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 and his co-researchers found that college students' social networking experiences are high. 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.

On the preferred language when visiting or using social media, the majority of students from both gender groups selected category 'Both' (English and Arabic languages). This indicates that students of both gender groups are mostly bilingual in their use of social media. The value of the Pearson Chi-Square has  $p$  greater than 0.01. Hence, the responses are not significantly different.

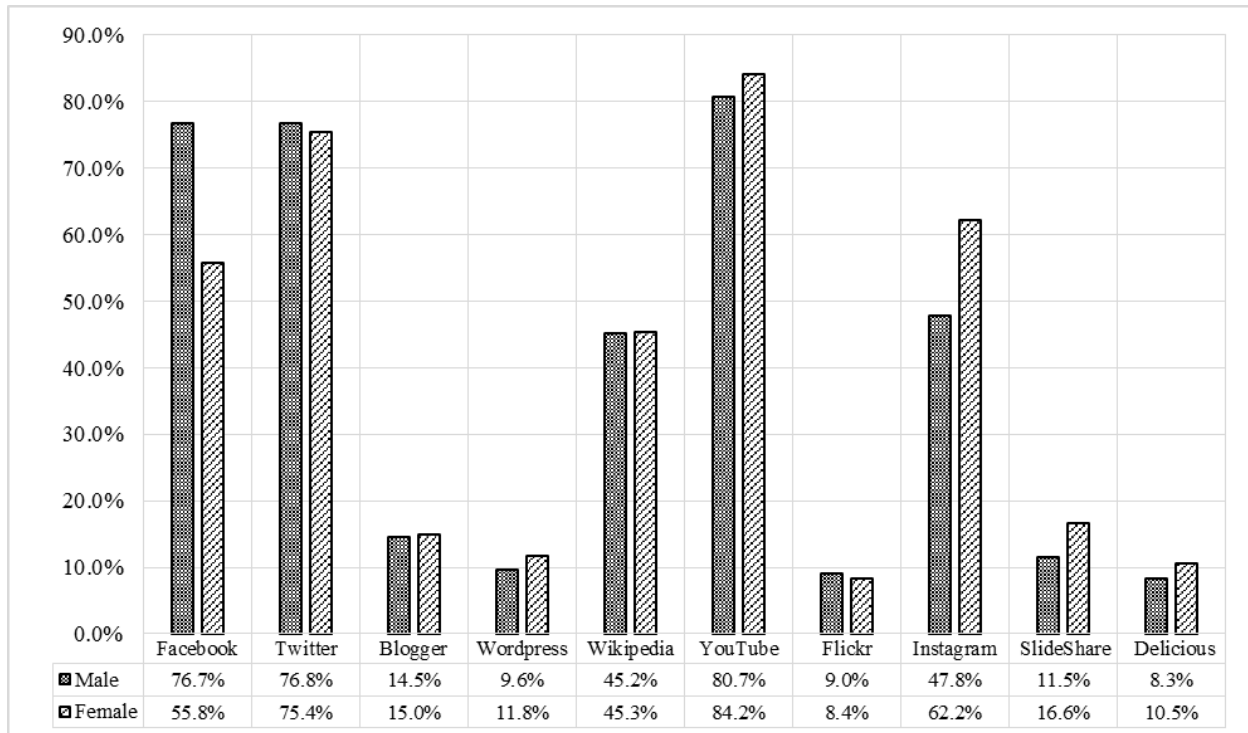
The majority of students from the male group are using social media tools in one course or more of their studies at university while the majority of students from the female group are using 3 courses or more. The major category for the male group is the 'None' category while for the female group, it is the '3 courses or more' category. The value of the Pearson Chi-Square is significant at  $p$  less than 0.01. Hence, the responses have strong significant difference. Post-hoc analysis indicates that the proportion of female students under category '3 courses or more' is greater than the proportion of male students and this difference is significant at the 0.05 level. The proportions of male students under the 3 remaining categories are greater than that of the female students and these differences are significant at the 0.05 level. These indicate that the female students are dominant in the highest category and are heavier users of social media for their studies at university. These findings are in line with the outcome of a study conducted by Mazman and Usluel (2011) which states that females are more dominant in using social networks for academic purposes compared to the males.

In response to the question on whether students would like to integrate social media as a tool in their learning, both the gender groups have positive majority with the female group having a higher majority of 73 percent. The value of the Pearson Chi-Square is significant at  $p$  less than 0.01. Hence, the responses have strong significant difference. Post-hoc analysis indicates that the proportion of responses for the female students in the 'Yes' category is greater than the proportion of responses for the male students indicating stronger preference. However, the proportion of male students under category 'I don't know' is greater than the female students and this difference is significant at the 0.05 level. This indicates that the proportion of unsure students on integrating social media as a learning tool is higher for the male students.



#### 4.2 KAU students' preferred social media tools

We sought to answer the questions related to social media tools most commonly used by students. The gender breakdown in social media tool usage is given in Figure 1. Amongst the gender groups, the top two categories are 'YouTube' followed by 'Twitter'. For the third position category, the male group is represented by Facebook while for the female group it is Instagram. Some differences in the proportion of responses are witnessed. In the case of Facebook, the male students' proportion is 77 percent while the female students' proportion is 56 percent. Furthermore, Facebook does not take a position at the top three categories of the female group. Instagram has higher preference level compared to Facebook for the female students group, unlike the male 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.



**Figure 1.** Gender breakdown in social media tool usage

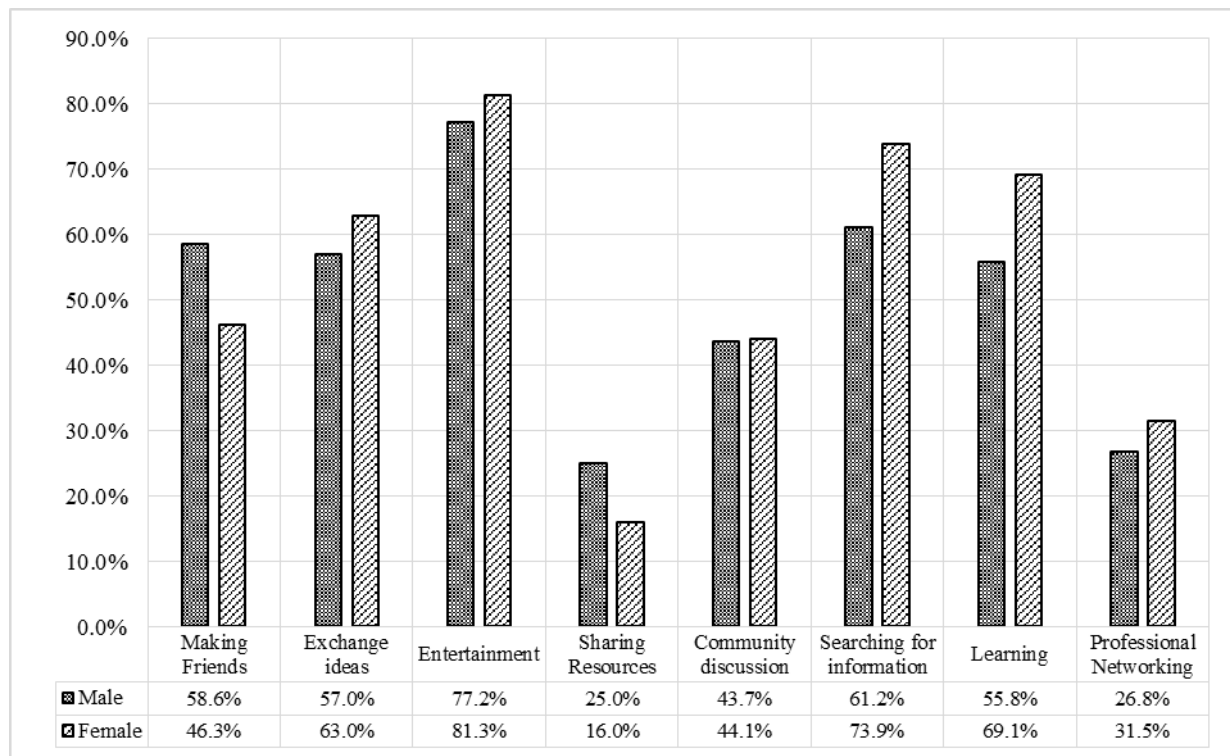
The value of the Pearson Chi-Square relating to the top ten social media tools of Figure 3 is significant at  $p$  less than 0.01. Hence, there exists a strong association between the social media tools and gender. Post-hoc analysis indicates that there is greater proportion of responses by the male 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.

#### 4.3 Purposes on usage of Social Media

Figure 2 shows the gender breakdown for purposes of social media tool usage. It shows the distribution of students sample as per the most common purposes. The survey question was of multiple response type. The figure reveals that KAU students use social media tools for a blend of academic and non-academic purposes.

Amongst 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. This indicates that the female group leans towards learning more than the

male group. 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.



**Figure 2.** Gender breakdown for purposes of social media tool usage

The value of the Pearson Chi-Square relating to the eight categories of Figure 2 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 greater 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 greater than the proportions of the male group and these differences are significant at the 0.05 level.

#### 4.4 Evaluating KAU students' perceptions of social media usage in learning

The remaining portion of the questionnaire was designed to investigate KAU students' perceptions of 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. Data regarding students' perceptions of the advantages of using social media for learning were collected using a five-point Likert level of agreement scale.

Table 2 provides the list of sub-factors on advantages of using social media in learning. Table 3 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 and disadvantages of using social media in learning.

**Table 2.** 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                    |

**Table 3.** 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' concern                           |
| 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                         |

Table 4 shows the overall rating of responses on the two factors, advantages and disadvantages. Based on Table 5 which provides the mean and corresponding agreement attitude, the mean values for factor advantages of both groups are of attitude 'Agree' while the mean values for factor disadvantages for both groups are of attitude 'Unsure'. This indicates that both gender groups agree with the advantages but are unsure of the disadvantages.

**Table 4.** Mean distribution over factors for advantages and disadvantages

|   | <i>Gender</i> |               |
|---|---------------|---------------|
|   | <i>Male</i>   | <i>Female</i> |
|   | <i>Mean</i>   | <i>Mean</i>   |
| Advantages of using Social Media Networks in teaching and learning    | 3.7439        | 3.7902        |
| Disadvantages of using Social Media Networks in teaching and learning | 3.0127        | 2.9941        |

**Table 5.** Mean and corresponding agreement attitude

| Value of weighted mean | Agreement attitude |
|------------------------|--------------------|
| From 1 to 1.79         | Strongly Disagree  |
| From 1.80 to 2.59      | Disagree           |
| From 2.60 to 3.39      | Unsure             |
| From 3.39 to 4.19      | Agree              |
| From 4.20 to 5         | Strongly Agree     |

#### 4.4.1 Investigating dominant issues on advantages of using social media in teaching and learning

Out of the items under each factor, we selected the top six sub-factors by mean values from both gender groups and combine them into a comparison list. This helps identify support factors in using social media as a learning tool. The summary for sub-factors on advantages is given in Table 6.



**Table 6.** Summary table for combined top six sub-factors on disadvantages of using social media in learning

| Factor  | Male Mean | Position Within Top 6 for Males | Female Mean | Position Within Top 6 for Females | Dominant Gender Type |
|---|-----------|---------------------------------|-------------|-----------------------------------|----------------------|
| Help me exchange opinions regarding subjects        | 3.71      |                                 | 4.04        | 4                                 | Female               |
| Learn collaboratively with others                   | 3.77      | 4                               | 3.99        |                                   | Female               |
| Improve my communication with instructors           | 3.77      | 4                               | 4.08        | 2                                 | Female               |
| Help me co-create knowledge                         | 3.82      | 3                               | 4.04        | 4                                 | Female               |
| Help me gain more information on different subjects | 3.88      | 1                               | 4.16        | 1                                 | Female               |
| Give better chance for access to new resources      | 3.86      | 2                               | 4.06        | 3                                 | Female               |
| Broaden my global views of world issues             | 3.74      |                                 | 4.04        | 4                                 | Female               |
| Reduce the cost of learning                         | 3.77      | 6                               | 3.85        |                                   | Female               |

The above table highlights the combined top six perceptions of the two gender groups with mean values and dominant gender information pertaining to advantages to learning. The table highlights four common factors listed below in decreasing priority (order of means):

- Help me gain more information on different subjects
- Improve my communication with instructors
- Give better chance for access to new resources
- Help me co-create knowledge

It is interesting to note that students believe they are able to acquire more information and have access to learning resources through the use of social media in learning. It is also worth noting that four uncommon factors in the top six list of both gender groups are the factors 'Learn collaboratively with others' and 'Reduce cost of learning' of the male group while for the female group, the factors are 'Help me exchange opinions regarding subjects' and 'Broaden my global views of world issues'. Here we can see the difference in emphasis and priority of the two gender groups with the male group having interest in learning collaboratively and reducing cost of learning while the female group emphasizes exchanging opinions and broadening global view.

The female group has dominant perceptions over the male group relating to the advantages on earning on all the factors listed below in decreasing priority (order of means):

- Help me gain more information on different subjects
- Improve my communication with instructors
- Give better chance for access to new resources
- Help me co-create knowledge
- Broaden my global views of world issues
- Help me exchange opinions regarding subjects
- Learn collaboratively with others
- Reduce the cost of learning

#### 4.4.2 Investigating dominant issues on disadvantages of using social media in learning

Out of the items under each factor, we selected the top 6 sub-factors by mean values from both gender groups and combine them into a comparison list. This helps highlight potential problems in using social media as a learning tool. The summary for sub-factors on disadvantages is given in Table 7.

**Table 7.** Summary table for combined top six sub-factors on disadvantages of using social media in learning

| Factor                            | Male Mean | Position Within Top 6 for Males | Female Mean | Position Within Top 6 for Females | Dominant Gender Type |
|-----------------------------------|-----------|---------------------------------|-------------|-----------------------------------|----------------------|
| Raise my parents' concern         | 2.80      |                                 | 3.06        | 5                                 | Female               |
| Require formal training           | 2.99      | 5                               | 3.05        | 6                                 | Female               |
| Require more work and preparation | 3.04      | 4                               | 3.08        | 4                                 | Female               |
| More time consuming               | 3.11      | 3                               | 3.35        | 3                                 | Female               |
| Distract me from studying         | 3.15      | 2                               | 3.36        | 2                                 | Female               |
| Increase my addictive potential   | 3.27      | 1                               | 3.56        | 1                                 | Female               |
| Raise my financial expenses       | 2.94      | 6                               | 2.99        |                                   | Female               |

The above table highlights the combined top six sub-factors of the two gender groups with mean values and dominant gender information pertaining to disadvantages on teaching and learning. The table highlights five common factors listed below in decreasing priority (order of means):

- Increase my addictive potential
- Distract me from studying
- More time consuming
- Require more work and preparation
- Require formal training

It is interesting to note that the top two concerns relate to addiction and distraction, respectively. The item of concern pertaining to addiction has also been highlighted in Thompson and Lougheed (2012). Two uncommon factors in the combined top six list of both gender groups include the factor 'Raise my financial expenses' of the male group and 'Raise my parents' concern' of the female group, reflecting concern over increase in financial cost and parental anxiety, respectively.

The female group has dominant perceptions over the male group relating to the disadvantages on teaching and learning on all the factors which are listed below in decreasing priority (order of means):

- Increase my addictive potential
- Distract me from studying
- More time consuming
- Require more work and preparation
- Raise my parents' concern
- Require formal training

## 5. 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 have a positive preference slant towards using social media for learning as the majority of students from the male group are using social media tools in one course or more of their studies at university while the majority of students from the female group are using 3 courses or more. However, survey results indicate that the female students are dominant in the highest category (3 courses or more) and are heavier users of social media for their studies at university. Both the gender groups have positive majority in response to question on whether they would like to integrate social media as a tool in their learning with the female group having a higher majority of 73 percent.

On social media tools, the top two categories are 'YouTube' followed by 'Twitter.' For the third position category, the male group is represented by category 'Facebook' while for the female group it is category 'Instagram'. In the case of category 'Facebook', the female proportion is much lower than that of the male. Furthermore, category 'Facebook' does not take a position at the top three categories of the female group. The top two categories for purposes of social media use are 'Entertainment' followed by 'Searching for information' for both gender groups. 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. However, the 'Learning' category is not within the top 3 categories of the male group. This indicates that the female students are ahead in using social media for learning.

Students of both gender groups agree on the advantages of social media as a learning tool. However, male students do not have strong perceptions as compared to their female counterpart. Survey outcomes indicate that in general the female students group has a much stronger inclination towards usage of social media for learning compared to their male counterpart. This finding can help in strategizing piloting option for adoption and phased implementation of social media tools in the learning context.

### Brief Biographies

Dr. Abdullah Mohorjy is a professor and the Vice President of King Abdulaziz University.

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Dr. Khairuddin Hashim is a professor at the Center for Strategic Studies of King Abdulaziz University. He graduated with a Ph.D. in Computing Science from the University of Bath, United Kingdom. He has research interest, publications and international conference presentations on: e-learning, social media, requirements engineering, software reuse, software risk management, software project management and human computer interactions.

Dr. Ibrahim Kutbi is a professor and the Director of the Center for Strategic Studies of King Abdulaziz University.

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