Facebook has rapidly become the most popular Social Networking Site (SNS) among faculty and students in higher education institutions in recent years. Due to the various interactive and collaborative features Facebook supports, it offers great opportunities for higher education institutions to support student engagement and improve different aspects of teaching and learning. To understand the social aspects of Facebook use among students and how they perceive using it for academic purposes, an exploratory survey has been distributed to 105 local and international students at a large public technology university in Malaysia. Results reveal consistent patterns of usage compared to what has been reported in literature reviews in relation to the intent of use and the current use for educational purposes. A comparison was conducted of male and female, international and local, postgraduate and undergraduate students respectively, using nonparametric tests. The results indicate that the students’ perception of using Facebook for academic purposes is not significantly related to students’ gender or students’ background; while it is significantly related to study level and students’ experience. Moreover, based on the overall results of the survey and literature reviews, the paper presents recommendations and suggestions for further research of social networking in a higher education context.

Keywords: Social Networking Sites, Facebook, Student Engagement, Academic Performance, Academic Purposes, Social Purposes.

1. Introduction

Facebook is increasingly gaining more popularity and is already recognized as the most dominant SNS used among students in higher education [1][2][3][4][5][6]. An investigation into the high level of Facebook use among students and the time students spend on it reveals that the most common use is for social purposes. This includes keeping in touch with friends and maintaining existing relationships, rather than for educational purposes [1] [2][7][8].

The enormous growth in the number of students who use Facebook, as well as the amount of the time students spend on it, opens opportunities and creates challenges for higher education institutions. This can include studying more appropriate ways of using Facebook to support student engagement in academic activities, as well as improving students’ learning and outcomes.

Social software, such as Facebook, Twitter, Myspace and other SNSs provide a variety of opportunities to facilitate student learning, among which are to interact, communicate, collaborate, and share content for educational purposes. According to Alexander [10], SNS support social learning and content sharing. Furthermore, McLoughlin and Lee [11] summarized the social software affordances to facilitate teaching and learning into four main categories, namely: connectivity and social support, collaborative information discovery and sharing, content creation, knowledge and information aggregation and content modification.

In contrast, in such a social and open environment, the limitations of the medium cannot be ignored [11]. Pedagogical uncertainty [12], privacy, and the limited control over the data still significant challenges of using SNSs for educational purposes. Furthermore, the more time students spend on social networking might have negative impacts on students learning and outcomes [13][14].

Some higher education institutions have already started to encourage students and faculties to use these networks for educational purposes and some have not; for both, they are still in the beginning
stages. From the early stages of Facebook adoption in higher education, a need has existed to study these social networks from a wider perspective as to how far they can be used to enhance the teaching and learning process and to create an interactive learning environment, either in blended or open learning situations.

For a better understanding of social networking and its application in higher education, it is essential to understand students’ behavior and how they perceive having social networking for educational purposes. Users’ activities on SNSs are extremely varied, particularly in socializing and communication, and no separation between academic and social aspects. Therefore, understanding students’ behaviors and preferences is essential for effective communication, collaboration and interaction through these social technologies. These issues may differ from one country to another [7] and from one academic institution to another [15].

As a result, this article presents the following results, specifically: purposes of Facebook use among students, time spent on this activity and students’ perceptions regarding the use of Facebook for academic purposes. In addition, this article presents a comparison between male and female, international and local, postgraduate and undergraduate students respectively in relation to students’ perceptions of the academic use of Facebook.

2. Literature

2.1 Facebook as leading SNS in higher education

Facebook is a SNS where people may engage in the following activities: stay connected with friends and family, discover what is going on in the world, as well as sharing and expressing what matters to them [16]. According to Heiberger and Harper [17], Facebook is a synthesis of many internet-based communication tools including: personal static pages, synchronous and asynchronous chats, picture uploading, group formation, event hosting, RSS feeds, blogs, mass and individual messaging and email. In addition, it has two unique qualities, namely: networks and friends. Facebook was founded by Mark Zuckerberg in February 2004 as a Harvard online SNS and it was opened for public access in 2006 [18]. The level of use of Facebook has steadily increased over time; in December 2006, Facebook had more than 12 million users. Since then, the number of active users has increased to reach the following figures: 350 million in December 2009, 750 million users in September 2011 and finally a staggering total of 955 million monthly active users at the end of June 2012. Recently, Facebook has reached 1.15 billion monthly active users, 699 million daily active users, and 819 million who used Facebook mobile products as of June 2013 [16].

In the higher education context, Facebook is the most popular site having a large number of users. Its widespread use would seem to show that it is the preferable SNS among university students across all age groups [6]. Many research studies show that the majority of college students use Facebook [3][4][5][6]. For example, previous study results indicate that some 99% of students in higher education use Facebook [5], and in ECAR study, results revealed that 90% of students reported they used Facebook as a daily activity [2].

2.2. Facebook in academic context

In e-learning and blended learning environments, web 2.0 tools and services can provide a good alternative towards more open and learner-centered educational technologies [19]. In an academic environment, students can use SNSs to help each other in their academic studies, build bonds with their classmates and promote supplementary interaction between them and their instructors [20]. Among other social networking tools and services that promote social interaction, Facebook is the most popular SNS among students in college and universities [3][6] and it makes sense to propose it as a higher education learning tool [21][17]. The rapid growth and significant growing number of students have made Facebook of great importance for many researchers wishing to study this phenomenon and its implication on different aspects of students’ learning. In a study [7] the extant studies of Facebook in higher education have been summarized into three categories, including: the extent of Facebook use, the effects of Facebook use and students’ attitudes toward Facebook. It was subsequently concluded that the use of Facebook in the field of education is very limited.
In this paper, the main themes of previous studies of Facebook conducted in an academic context were summarized into three categories, specifically: Facebook and academic use, Facebook and academic performance, as well as Facebook and student engagement.

2.2.1. Facebook and academic use

Despite the high rate of usage in higher education institutions, the most common reason for use remains social interaction and communication; while the use for academic purposes is still very much at the beginning [7]. For example, only 4% out of a total of 68,169 wall postings were related to education [22]; whilst 10% of 312 undergraduate students used Facebook as a means of discussing academic work with other students [23]. Regarding the level of communication between students and academic staff, 91% of 312 students [23] and 85.5% of 110 students [24] reported that they had never communicated with an academic staff member using Facebook. The limited use in education might be due to following factors, namely: the relative recentness of the topic [21], the lack of business case for implementation [25] and the relationship of this technology to socio-cultural factors.

2.2.2. Facebook and academic performance

There are only relatively few studies which have examined the relationship between Facebook use and point average (GPA) [15][26][27][28]. The relationship between Facebook usage and academic performance found to be negatively [15][26][14] and positively related [15]. Time spent on Facebook was strongly and significantly negatively related to overall GPA [15]. In more detail, the results revealed that using Facebook for collecting and sharing information was positively predictive of the outcome variables (GPA and hours spent studying), while using Facebook for socializing was negatively predictive of the GPA and hours spent studying [15]. Further, other researchers found that Facebook users have significantly lower GPAs [26][14]. On the other hand, some studies reported no relationship existing between Facebook use and academic performance [28][27]. Previous studies showed that Facebook use could affect academic performance positively and negatively; however, the influencing factor is what type of activities users perform online and how much time students invest on Facebook for academic purposes. Facebook is a medium that supports different communication features and tools that can be used for different purposes; therefore, considering how Facebook features and tools can be used for conducting teaching and learning activities is essential when examining students’ grades and outcomes.

2.2.3. Facebook and student engagement

Several studies have been conducted to study the relationship between SNS use and student engagement in learning activities [17][29]. In one study, results revealed a positive relationship between Facebook use and college student engagement [17], while others suggested that Facebook use can both positively and negatively affect student engagement based on the respective outcome [15]. The main concern of the previous studies of Facebook and student engagement lay in studying the relationship between SNS use and student engagement. However, it can be seen that the current engagement is predominantly in social, rather than academic, activities. Faculty and students can use Facebook in relevant educational ways that promote student engagement [29][3]. Given that Facebook continues to be popular in higher education, further research is needed to enhance the level of academic engagement commensurate with the current high level of social engagement.

3. Purpose of the study and research questions

This research seeks to study SNS use for social and academic purposes among students at University Technology Malaysia (UTM) towards further investigation of users’ experiences and preferences in using these social technologies to support teaching and learning practices. Given that the context is essential for social networking studies, the purpose of this survey is to gather information about student use of Facebook including, particularly: time of use, purpose of use and students’ perceptions of Facebook use regarding education. Moreover, the study
investigates the relationship between demographic variables (gender differences, students’ background, study level and years of experience respectively) and students’ perception of using Facebook for academic purposes. The following research questions were addressed in this study:

Q1. What are the purposes of Facebook use among students.
Q2. What is the average time spent by students on both academic and non-academic purposes.
Q3. Do students prefer to have Facebook for social reasons or for education?
Q4. Is there a significant difference between male and female students in relation to their perception of using Facebook for academic purposes?
Q5. Is there a significant difference between local and international students in relation to their perception of using Facebook for academic purposes?
Q6. Is there a significant difference between undergraduate and postgraduate students regarding their perception of using Facebook for academic purposes?
Q7. Does the experience of students when using Facebook significantly relate to their perception of its use for academic purposes?
Q8. Do students wish to have a Facebook relationship with peers and faculty?

4. Methods
4.1 Instrument

In order to explore some aspects of social networking in an academic context, such as: time spent on Facebook for academic and non-academic activities, purposes of use, perceptions of use for academic reasons and some other aspects of social and academic use, a questionnaire was designed. It included some items created specifically for the purposes of the study, whilst other items were adapted from [13] survey. The questionnaire consists of 10 items covering some important issues that have been discussed in the literature. These include: gender differences, background, study level and time spent on Facebook. Items 1-7 and 10 were created especially for the purpose of this research. Items 1-4 describe demographic factors including age, gender, background, as well as the level of study. Item 5 reflects the students’ respective level of experience in this network. Items 6-7 refer to time spent on Facebook for social and academic motivations. Items 8-9 were adapted from [13] to measure some aspects of Facebook use and students’ perceptions of using Facebook in education. Item number 10 was created to explore students’ preferences for having Facebook relationships with their instructors and peers.

4.2. Data collection procedures

Data were collected from 108 students at a large public technological university in Malaysia (UTM). Respondents were classified into male and female, undergraduate and postgraduate, local and international students respectively. The majority of students (105 students (97.2%)) did have Facebook accounts, while only 3 students (2.8%) stated that they did not use Facebook. The sample consists of 62 (59.6%) local students and 42 (40.4%) international students. Male students comprised 56 (54.4%) and 47 (45.6%) were female. The distribution of students across study levels were 61 (58.7%) undergraduate students and 43 (41.3%) were postgraduate.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Types</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Background</td>
<td>Local</td>
<td>62</td>
<td>59.6%</td>
</tr>
<tr>
<td></td>
<td>International</td>
<td>42</td>
<td>40.4%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>104</td>
<td>100%</td>
</tr>
<tr>
<td>2 Gender</td>
<td>Male</td>
<td>56</td>
<td>54.4%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>47</td>
<td>45.6%</td>
</tr>
</tbody>
</table>
4.3 Data analysis procedures

Frequency analysis measurements were performed to describe the demographic characteristics and to attempt to describe Facebook use among students for academic and non-academic purposes. In addition, due to the nominal nature of the data, non-parametric Pearson Chi-square tests were used to compare male and female, postgraduate and undergraduate, local and international students respectively, in relation to students’ perceptions of using Facebook for academic purposes.

5. Results discussions

5.1. Research question 1: purpose of Facebook use

Four options were stated for this item in order to measure the purposes of Facebook use among students. These were, namely: to keep in touch with my friends, to let others know what is happening in one’s life, communicate with friends on classwork, sharing of news and other issues. Results as shown in Table 3 show that the dominant use of Facebook (88.6%) is to keep in touch with friends, followed by letting others know what is happening in one’s life (48.6%) and communication of news (44.8%). A comparatively low percentage of use (38.1%) was recorded for academic purposes, which was stated as being communicating with friends on classwork.

This percentage of academic use (38.1%) is higher than what had previously been reported in other literature studies; for example, only 10% of students reported using Facebook for discussing academic work with other students [23].

Although the current frequency of academic use for Facebook shows little improvement compared with the literature, this percentage is still the lowest in comparison with other purposes, such as maintaining relationships or sharing news. The discussion in the literature studies reveals that the reasons for such low levels of academic use might be related to the relative recentness of social networking in the education context and to the lack of effective guidance for its implementation [25][21]. It can be concluded, therefore, that academic use in the study context is still also limited compared with other Facebook purposes and use.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep in touch with my friends</td>
<td>93</td>
<td>88.6%</td>
</tr>
<tr>
<td>Let others know what is happening in my life</td>
<td>51</td>
<td>48.6%</td>
</tr>
<tr>
<td>Communicate with my friends on class work</td>
<td>40</td>
<td>38.1%</td>
</tr>
<tr>
<td>News</td>
<td>47</td>
<td>44.8%</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>15</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

5.2. Time spent on Facebook

5.2.1 Research question 2a: time spent on Facebook for nonacademic activities

Students were asked to estimate their time spent using Facebook for both academic and non-academic activities based on four categorical responses. These comprised, namely: less than 1 hour, 1-2 hours, 2-3 hours and more than 3 hours. As shown in Table 3, the majority of students spend 1 hour to 2 hours a day (33.7%); however the total percentage for users who
spend more than one hour is 78.9%. This indicates that the majority of students spend too much
time daily on SNSs.
In another study [13] results revealed that students spent a mean of 101.09 minutes per
day on Facebook. The more time students spend on Facebook might have negative impacts on
their academic performance and outcomes.

Table 3. Frequencies and percentages of time spent on Facebook for non-academic purposes

<table>
<thead>
<tr>
<th>Experience</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 hour</td>
<td>22</td>
<td>21.1</td>
</tr>
<tr>
<td>1-2 hours</td>
<td>35</td>
<td>33.7</td>
</tr>
<tr>
<td>2-3 hours</td>
<td>32</td>
<td>30.8</td>
</tr>
<tr>
<td>More than 3 hours</td>
<td>15</td>
<td>14.4</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>100.0</td>
</tr>
</tbody>
</table>

5.2.2. Research question 2b: time spent on Facebook for academic activities

Table 4 shows that the majority of students spend less time on academic activities than on
Facebook. Out of 39 students who use Facebook for academic pursuits, it was determined that
36 students (92.3%) spent less than 1 hour on academic activities, compared with extensive use
for social, news and other purposes. In the second category, only three students (7.7%) were
discovered to spend more than one hour on academic pursuits. The other categories, (2-3 hours
and more than 3 hours) did not appear in the list for academic use compared with social use.
The overall result indicates that the use for academic purposes is still limited and the discussion
that needs to be raised is how students can spend much more time and effort on academic use
within Facebook and other SNSs rather than concentrating on the question of to use or not to
use.

Table 4. Frequencies and percentages of time spent on Facebook for academic activities

<table>
<thead>
<tr>
<th>Time spent</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 hour</td>
<td>36</td>
<td>92.3%</td>
</tr>
<tr>
<td>1-2 hours</td>
<td>3</td>
<td>7.7%</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>100.0</td>
</tr>
</tbody>
</table>

5.3. Research question 3: students’ perceptions of academic use of Facebook

In the current study, results as shown in Table 5 indicate that (59.6%) of respondents
reported that they prefer to use Facebook for personal and social activities rather than for
educational activities. On the other hand, (40.4%) of respondents reported that it would be
convenient to use Facebook for education. This result is similar to what has been reported in
recent literature. According to recent reports from EDUCAUSE Center for Applied Research
(ECAR) for 2011 and 2012, 58% [1] and 57% [2] of college students reported that they are less
comfortable using Facebook for academic purposes.

Table 5. Frequencies and percentages of students’ perception of using Facebook for educational
purposes

<table>
<thead>
<tr>
<th>Perception</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>It would be convenient</td>
<td>42</td>
<td>40.4%</td>
</tr>
<tr>
<td>Facebook is personal/ social not for education</td>
<td>62</td>
<td>59.6%</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Although in the current exploratory survey results revealed a good level of academic use of Facebook (38.1%), the majority of students prefer not to use Facebook for academic activities. The most important factor found in the current study as shown in Table 6 is that even students who currently use Facebook for academic purposes (38.5%) do not prefer to use Facebook for academic activities as much as they do for social purposes. This raised an important question of “to what extent they found it worthy to use Facebook for academic purposes?”. This needs to be investigated further in future studies that will be more specific regarding academic issues.

**Table 6.** Frequencies and percentages of students’ perception (those currently use for academic purpose) of using Facebook for educational purposes

<table>
<thead>
<tr>
<th>Perception</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>It would be convenient</td>
<td>24</td>
<td>61.5%</td>
</tr>
<tr>
<td>Facebook is personal/social not for education</td>
<td>15</td>
<td>38.5%</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

5.4. Research questions 4-7: relationship between gender, study level, background, experience and perception of Facebook use for academic purposes

As can be seen in Table 7, results of a Pearson Chi square test indicated that no significant difference was found between male and female students in terms of their perception towards using Facebook for academic activities (p=.523). The same situation also exists in relation to students’ background; this was found not to be significantly related to the perception of using Facebook for academic purposes (p=.128). On the other hand, study level and students’ experience in using Facebook was found to be significantly related to students’ perception towards the use of Facebook for academic pursuits. Significant differences were found to exist between undergraduate and postgraduate students in their perception of Facebook usage for academic purposes (p=.005). Postgraduate students tend to have a positive perception toward using Facebook for academic activities, while undergraduate students tend to prefer to use it more for social purposes. In terms of students’ experience, these results indicate that there is a significant difference between short and long experience in using Facebook (p=.008). Students with more than 2 years’ experience were found to be more positive towards the concept of academic use of Facebook compared with those who have had less than two years’ experience. It was further determined that the latter do prefer to use Facebook for social and non-academic activities.

**Table 7.** Frequencies, percentages and Chi square of students’ perceptions on using Facebook for academic purposes, including gender, study level, background, and experience factors.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Perception Level</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>It would be convenient</td>
<td>20</td>
<td>36.4%</td>
<td>35</td>
<td>63.6%</td>
<td>.523</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td></td>
<td>20</td>
<td>42.6%</td>
<td>27</td>
<td>57.4%</td>
<td></td>
</tr>
<tr>
<td>Study level</td>
<td>Undergraduate</td>
<td>Facebook is personal/social not for education</td>
<td>17</td>
<td>28.3%</td>
<td>43</td>
<td>71.7%</td>
<td>.005*</td>
</tr>
<tr>
<td></td>
<td>Postgraduate</td>
<td></td>
<td>24</td>
<td>55.8%</td>
<td>19</td>
<td>44.2%</td>
<td></td>
</tr>
<tr>
<td>Background</td>
<td>Local</td>
<td></td>
<td>28</td>
<td>45.9%</td>
<td>33</td>
<td>54.1%</td>
<td>.128</td>
</tr>
<tr>
<td></td>
<td>International</td>
<td></td>
<td>13</td>
<td>31.0%</td>
<td>29</td>
<td>69.0%</td>
<td></td>
</tr>
<tr>
<td>Experience</td>
<td>1-2 years</td>
<td></td>
<td>7</td>
<td>25.0%</td>
<td>21</td>
<td>75.0%</td>
<td>.008*</td>
</tr>
<tr>
<td></td>
<td>More than 2 years</td>
<td></td>
<td>27</td>
<td>56.2%</td>
<td>21</td>
<td>43.8%</td>
<td></td>
</tr>
</tbody>
</table>

* P<.05
5.5. Research question 8: students’ preferences for having a Facebook relationship with peers and lecturers

Understanding a student’s preferences is essential for student-student interaction, as well as student-teacher interaction in SNSs. Promoting SNS as a learning technology differs from other learning technologies having different perspectives. In social networking, electing either not to put information available online or, alternatively, to deliver information in one way to students, involves two ways of interaction in a dynamic social online system.

Results of this exploratory survey indicate that students prefer to have a Facebook relationship with their peers (79%) more so than with their lecturers. This result supports what was reported in the literature reviews [30][31], namely that students prefer to have a professional relationship with the faculty rather than a social one. Hence, the results raised the importance of considering students’ behavior and their preferences when discussing social networking in an academic context which needs to be explored in more open or semi-structured methods.

6. Conclusion and future research

In this article, some aspects of Facebook uses among students in higher education have been explored and discussed; specifically the academic aspects, including: the level of current use for educational purposes, time spent on Facebook for academic activities, as well as students’ perceptions towards the use of Facebook for academic purposes. In addition to this, the relationship between students’ perception of academic use of Facebook and demographic variables was examined, including: gender, student’s background, study level and experience in the use of Facebook.

The results of this study confirmed that the daily use of Facebook among university students is increasing significantly, as well as the time students spend on it. It was found that 97.2% of students use Facebook, with 78.9% of them spending more than one hour a day for non-academic purposes, including social interaction with friends, news-sharing and other activities. This result is consistent with some studies that were in range between 90% [1] and 99% [5].

The results of the study indicate that academic use of Facebook is still limited in terms of both the number of students who use Facebook for academic reasons and the time students spend on academic motivations. Only 36% of students currently use Facebook for some academic activities; the majority of them (92.3%) spend less than one hour a day on academic pursuits.

Another issue presented in the paper raised the issue that 38.5% of the students who are currently using Facebook for academic purposes have a negative perception of the use of Facebook for education. This raises a series of questions regarding the nature of the current academic use and its relationship with lecturers and the learning environment, which needs to be investigated in further studies.

Moreover, with regard to the relationship of the variables (including gender, student’s background, study level and experience with students’ perception using Facebook for educational aspects), it was found that students’ perception of using Facebook for academic purposes was not significantly related to a student’s respective background. It is, however, significantly related to the level of study and students’ experience.

In relation to students’ preferences in having a Facebook relationship with peers and lecturers, students reported that they would prefer to have a Facebook friendship with students rather than with teachers. Hence, future research should investigate the reasons why students do not wish to communicate with teachers as readily as they do with their peers. In addition to this, the academic use of faculty is not covered in this study; this can be investigated in the form of a holistic study to investigate what might motivate and demotivate students and the faculty to interact and collaborate academically on Facebook and other SNSs.

To sum up, the current study aims to contribute to a better understanding of students’ behavior when using Facebook in a higher education context. It seeks to achieve this by exploring some aspects of social and academic use, as well as by studying the relationship of students’ perceptions of the academic use of Facebook with different variables, including: gender, student’s background, study level and experience. The limitations of this study are mainly related to three issues, namely: small sample size, the nature of ordinal data, as well as using only nonparametric measurements. Further studies in this area are highly recommended to explore and investigate these issues and other aspects of Facebook within the higher education context.
context for educational purposes using continuous data with a set of parametric and nonparametric measurements.

7. References


Facebook in Higher Education: Students' Use and Perceptions
Abdulsalam K. Alhazmi, Azizah Abdul Rahman,