The Impact of Facebook Usage on Academic Performance

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Abstract—This research intends to examine how spending time on Facebook affects students’ academic performance. It explores behavioural factors affecting students utilising Facebook. Questionnaires were personally distributed to 667 undergraduate and postgraduate students from the University of Malaya to determine their intentions for using Facebook, which will allow us to discern the symptoms related to excessive Facebook usage by students. The AMOS software was used to hypothesise the relationship between the variables. The results show that students use Facebook for entertainment, relaxing/escaping, and passing time, but not for socialising and social information. Spending time on Facebook has a positive effect on their academic performance, which indicated that the time spent on Facebook did not affect their education. It is anticipated that the findings from this study would provide clear insights on how the behavioural factors of a student affect their academic performance. This research would help educationists, parents, and the students themselves development appropriate measures to control and curb excessive usage of Facebook or using Facebook as a learning tool.

Keywords—Facebook, Academic Performance, Learning tool, Social media, Pass time, Entertainment.

I. INTRODUCTION

The advent of Social Networking Sites (SNS) such as Facebook, MySpace, and Twitter attracted millions of users across the globe. SNS are fast becoming integral to the daily lives of its users [1]. Nielsen [2] pointed out that Facebook is the most popular and heavily-used social network site among students, which consist of a large and diverse group, representing all demographic groups. Previous researches investigate the motives of using Facebook, which include loneliness [3], pass time [4], socialization [5], information seeking [5], personality [6], entertainment [4]) and relax/escape [4]. Other researches study the impact of using Facebook on academic performance [3] [7], social life [8], social adjustment [3] and academic motivation [3]. However, other researches highlighted the problems faced by university and college students from the use of SNS, to the detriment of social adjustment and academic performances. For example, several researchers believe that students’ academic performance have deteriorated tremendously due to the recurring usage of Facebook while studying [9]. Research shows that excessive texting, especially on social network sites, is associated with unhealthy behaviours among the younger generation, encompassing higher levels of stress, poor academics, poor sleep patterns, and parental permissiveness [10].

There is not many research on the influence of these factors towards using Facebook and its impact on students’ academic performance among students in Malaysia. Incidentally, Malaysia is among the top five countries in terms of the number of Facebook accounts created [7]. Most university students have Facebook accounts, and they spend a lot of hours on it updating their status and communicating with friends. There is two research questions that needs to be answered in this work: what is the purpose of using Facebook among Malaysian students? And what is the effect of using Facebook upon the students’ academic performance? The main aim of this study is to identify the main reason of using Facebook and its effect on students’ academic performance.
II. RESEARCH FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Social networking sites are used by individuals for various purposes, such as communication, work related activities, and socialization. According to Perse & Ferguson [11], the three main reasons people use SNS are for learning, entertainment, and passing time. The following section will discuss these factors vis-à-vis the usage of Facebook.

A. Pass time

Most people use SNS as a means of diversion or passing time [12]. Sheldon [13] pointed out that college students who are anxious and fear face-to-face (FTF) communication used Facebook to pass time and as an outlet for their loneliness. Since many students tend to spend their free time surfing SNS, they are able to express themselves, experience greater integration with their peers, find new friends, and maintain a continuous exchange of knowledge and information with their online friends [14].

H1: There is a positive relationship between passing time and using Facebook

B. Relax/Escape

On the whole, people who use SNS such as Facebook tend to share thoughts and photos with friends and family [15]. Keeping in touch with high school friends and colleagues allow people to unwind and relax with others within the network [15]. For students, interacting through Facebook for relaxing or escaping from study routine could elevate levels of satisfaction with family and friends, resulting in a pleasant life and enhancing academic accomplishment [14].

H2: There is a positive relationship between relax/escape and using Facebook

C. Entertainment

Literature shows that most people use Facebook for entertainment and recreation [16]. Nyland et al. [17] pointed out that most users accessed Facebook for recreational and entertainment purposes. However, this justification has been found to negatively affect social capital. There are also many users who use it to share fun and enjoyable activities with others [16]. Indeed, people are likely to upload materials that are related to entertainment in Facebook [18].

H3: There is a positive relationship between entertainment and using Facebook

D. Socialization

Facebook is an effective socialization tool. Many users reported that their main reasons of joining Facebook and spending time on it is to stay in touch with old friends and maintain or reinforce relationship with colleagues [19, 20], hence strengthening their respective social networks [21]. Furthermore, SNS could serve as an effective platform to solicit universities’ alumni in order to maintain strong ties with the entirety of their large respective alumni populations [22]. As such, these sites provide a low-cost and supplemental means of communication for universities to assist alumni in maintaining a strong network connection [22].

H4: There is a positive relationship between socialization and using Facebook

E. Social Information

Ellison et al. [23] reported that engaging in social information-seeking behaviours on Facebook, such as wanting to learn more about people with whom the user are connected to offline, is closely related to increased social capital. Facebook is a valuable tool that collects information from several different Facebook users [24]. Online social networks (OSNs), such as Facebook, provides opportunities for its users to obtain detailed information about their contacts, including personal background, interests, music tastes, and whereabouts [20]. It is also plausible that Facebook provides a strong platform to expand knowledge, for example, through reading friend’s shared posts about a news feature or local event [25]

H5: There is a positive relationship between seeking social information and using Facebook

F. Habitual Use

Previous studies showed that there are two main types of use for SNS, which are habitual use and compulsive use. According to LaRose [26], a habit crops up when an individual engages in a particular behaviour without conscious knowledge, awareness, or intention [27]. Habitual behaviour is closely related to routine activities, which is associated with long-term involvement with a behaviour [28]. However, repetitive behaviours are manifestations of a mental construct of habit rather than its defining quality, even though both are highly correlated [28]. Facebook Intensity (FBI) in SNS can be affiliated with habits via overlaps in their operational definitions [19].

H6: There is a negative relationship between Facebook usage and academic performance(s).

G. Academic Performance

Previous research revealed that most students use Facebook while studying, which could negatively
affect their academic performance due to the distraction afforded by Facebook [29]. It has been observed that Facebook users reported spending less time studying compared to non-Facebook users [25]. Higher rates of Internet usage during classroom periods are associated with lower exam scores [30]. Kirschner and Karpinski [31] suggested that there is a significant negative relationship between the use of Facebook and academic performance. A study on university students found that frequently checking updates on Facebook is negatively associated with their engagement in educationally relevant activities [32]. Based on college students’ response to a survey, it was discovered that non-Facebook users had higher Grade Point Averages (GPAs) compared to Facebook users [25]. The research model of this study is shown in Figure 1.

![Figure 1: Research Model](image)

III. METHOD

A. Sample and procedures

Data was collected using a questionnaire that was completed by undergraduate and postgraduate students from the University of Malaya. From 1000 distributed questionnaires, 667 questionnaires were collected and 660 questionnaires were usable for further analysis. The measurement for passing time, relax/escape, and entertainment was adopted from Kaye [4], while the measurement for socialization, social information, use and academic performance was adopted from Park et al. [5], Ferguson and Perse [11], and Wohn and LaRose [33]. The constructs in this study were measured using the 7-point Likert scale, with anchors ranging from 1 = strongly disagree to 7 = strongly agree, to evaluate the determinants, usage of Facebook, and its corresponding effect on academic performance.

IV. RESULTS

A. Respondent’s profile

There were 32.7% and 67.3% male and female respondents, respectively. The majority of the respondents were between 20 - 25 years old (49.4%), and most were Chinese (41.4%) and Malays (33.9%). 58.7% respondents were undergraduates, 36.8% who were pursuing their Master’s program, and only 4.6% of the respondents were PhD students. The majority of students (21.4%) allegedly logged onto Facebook once or never, while 75.3% of students had 1 or no postings on Facebook. Moreover, there were 27.4% of students who spent ~11 - 30 minutes per day on Facebook, while ~20.5% of students utilized Facebook for less than 10 minutes per day.

B. Reliability

The Cronbach’s alpha values show the level of internal consistency (Cronbach alpha). In this study, Facebook Use (.849), Passing Time (.831), Relax/Escape (.842), Entertainment (.873), Social Information (.760), and Socialization (.783) reported excellent values for reliability.

C. Measurement model

Measurements validation and model testing were conducted using structural equation modelling (SEM) and a covariance-based analysis (AMOS). According to the path estimates, standardized residuals, and modification indices, some of the items were deleted from the model CFA to improve its fit indices. The final fit for the model in the calibration sample was acceptable, with Chi-square = 2362.63, GFI=0.880, AGFI=0.860, CFI=0.908, RMSEA=0.04, and CMIN/DF=2.004. The measurement model was used to test the construct validity and reliability through CFA. The results of the measurement model indicate that the standardised regression weights for all the items exceeded 0.70. The convergent validity and discriminant validity of the scales were assessed. The former was tested and evaluated based on composite reliability (CR) and the Average Variance Extracted (AVE). The results of composite reliability (CR) of all the constructs were ~0.70 and above (ranging from 0.69 to 0.88) (see Table 1), while the output of the Average Variance Extracted (AVE) exceeded 0.5 (ranging from 0.7 - 0.8) (See Table 1). Additionally, the estimated parameters were all statistically significant between both the latent and measured variables, thus indicating that the convergent validity has invariably been met.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>CR</th>
<th>AVE</th>
<th>Square root of AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic performance</td>
<td>.828</td>
<td>0.87</td>
<td>0.932</td>
</tr>
<tr>
<td>Use</td>
<td>.871</td>
<td>0.83</td>
<td>0.911</td>
</tr>
<tr>
<td>Pass time</td>
<td>.852</td>
<td>0.83</td>
<td>0.911</td>
</tr>
<tr>
<td>Relax/Escape</td>
<td>.736</td>
<td>0.88</td>
<td>0.938</td>
</tr>
<tr>
<td>Entertainment</td>
<td>.774</td>
<td>0.79</td>
<td>0.888</td>
</tr>
<tr>
<td>Social Information</td>
<td>.784</td>
<td>0.80</td>
<td>0.891</td>
</tr>
<tr>
<td>Socializing</td>
<td>.805</td>
<td>0.80</td>
<td>0.891</td>
</tr>
</tbody>
</table>

D. Structural Model
Once an acceptable measurement model is available, the structural model was assessed. The results of the structural model showed that the model achieved a good level of fit, \( \chi^2 = 3145.83, \chi^2 / df = 2.403, \) GFI = 0.838, AGFI = 0.822, TLI = 0.852, CFI = 0.859, RMSEA = 0.046. As shown in Table 2, the results revealed that the paths from passing time to use (\( \beta = 0.229, p < 0.008 \)) are positive and significant, supporting H1. Other factors such as Relax/Escape (\( \beta = 0.159, p < 0.046 \)), and entertainment (\( \beta = 0.444, p < 0.000 \)), are also positive and significant, therefore, H2 and H3 is supported. The relationship between the use of Facebook and academic performance is positive and significant (\( \beta = 0.232, p < 0.022 \)), while socializing (\( \beta = -0.076, p < 0.672 \)) and social information (\( \beta = 0.048, p < 0.782 \)) are not determinants of using Facebook.

### Table 2 - Hypothesis Testing on Behaviour Intention and Use Behaviour

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>( \beta )</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pass time → Use Facebook</td>
<td>0.229</td>
<td>0.036</td>
<td>6.48</td>
<td>0.008**</td>
</tr>
<tr>
<td>Relax/Escape → Use Facebook</td>
<td>0.159</td>
<td>0.023</td>
<td>2.09</td>
<td>0.046*</td>
</tr>
<tr>
<td>Entertainment → Use Facebook</td>
<td>0.444</td>
<td>0.036</td>
<td>3.60</td>
<td>0.000**</td>
</tr>
<tr>
<td>Socializing → Use Facebook</td>
<td>-0.076</td>
<td>0.047</td>
<td>-0.42</td>
<td>0.672</td>
</tr>
<tr>
<td>Social information → Use Facebook</td>
<td>0.048</td>
<td>0.064</td>
<td>0.76</td>
<td>0.782</td>
</tr>
<tr>
<td>Use → Academic performance</td>
<td>0.232</td>
<td>0.028</td>
<td>6.22</td>
<td>0.000</td>
</tr>
</tbody>
</table>

V. DISCUSSION AND CONCLUSION

The findings of this study show that passing time, relax/escape, and entertainment are the main reasons of using Facebook among Malaysian students. This is consistent with Perse & Ferguson [11], Ul Haq & Chand [15], and Waters & Ackerman [16], all of whom argued that students use Facebook for entertainment, passing time, and relaxing. Surprisingly, socializing and social information are not the determinants of using Facebook amongst Malaysian students. This differs from previous research, which considers socialization as the main reason of using Facebook. As the effect of socialization on the usage is negative, this suggest that students may be more active in other channels instead of Facebook. Social information is not a significant factor to use Facebook amongst students, which indicated that they do not rely on the information posted on Facebook, and are using other channels to seek information. It was also found that the usage of Facebook effect students’ academic performance, but the effect is positive, which is consistent with Sulaiman et al. [7], but contradicts Karpinski [31], who argued that Facebook usage has a negative relationship with the Grade Point Averages (GPAs) of its users. This indicated that many other factors can determine the academic performance, and using Facebook may not be the factor that negatively affect the students’ academic performance. Moreover, the results of this study highlighted that socializing is not the main reason of using Facebook, as pointed out previously, and many students use Facebook for entertainment, passing time, and relaxing, while they may not communicate with others via Facebook. Furthermore, seeking social information is not the purpose of using Facebook, instead, students use other channels to obtain information. This can be due to the credibility of the information shared in Facebook, and the level of trust that can be explored in future researches.

A. MANAGERIAL IMPLICATION

The conceptual model was developed to predict the behavioural pattern of students towards the use of Facebook. As a matter of fact, excellent academic performance is an important factor because students represents the future workforce in a country. In order to ensure excellent academic performance, the level of academic motivation needs to be increased. Indeed, they would be able to scrutinize the effects of Facebook on academic performance, and would have the opportunity to manage and optimistically curb negative effects.

University and college managers could make use of the results of this study to monitor the usage of Facebook among students, as the results revealed that using Facebook does not negatively affect students’ academic performance. This paves the way for using Facebook as a communication and teaching tools.

ACKNOWLEDGEMENTS

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REFERENCES

[1] Sabir, R.I., Ahmad, W. and Noor, N. , Adoption of Social Networking Sites among Pakistani University Students: