Examining the Factors that Influence Blended Learning Satisfaction Among Tertiary Students in a Public University in Malaysia

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Abstract: Blended learning is not a new phenomenon in the academic world. It is widely use anywhere as it integrates face-to-face teaching with web-based learning. Due to the growth in the usage of blended learning in the context of tertiary education, there is an increase need to measure its quality via student’s satisfaction. Student’s satisfaction is a key factor in the success of blended learning. It represents a public relation asset for a university. Indeed, studies on the extent of blended learning satisfaction are still limited, especially in the context of Malaysia. Thus, this study intends to adopt Technology Acceptance Model (TAM) (perceived usefulness (PU), perceived ease of use (PEOU) and perceived enjoyment (PE) in explaining blended learning satisfaction among tertiary students. Hence, the aims of this study are: (1) to determine the level of blended learning satisfaction among tertiary students; (2) to identify the relationship between perceived usefulness (PU), perceived ease of use (PEOU), perceived enjoyment (PE) and blended learning. Thus, it is expected that the findings of this study will enlighten the efforts in achieving student’s satisfaction on blended learning subsequently leading to an effective implementation of the learning approach in higher education institution.

Key words: Blended learning satisfaction • Perceived usefulness • Perceived ease of use • Perceived enjoyment and public higher education institution

INTRODUCTION

Students are important elements in blended learning as they are viewed as consumers to university, due to the fact that their satisfactions matter to enrolment effort [1] defined blended learning satisfaction as the effect of student attitude or sum of student feeling from gathering all benefits that a student expect to receive from blended learning environment. Despite the fact that many studies have been conducted on online learning, studies specifically on factors that lead to satisfaction on blended learning are still scarce [2]. The evolution of information technology surged the growth of online educational programs which has changed the traditional system of education to the used of latest technology [3]. Even though Malaysia is still in its infancy stage in implementing teaching and learning using technology, many public universities in Malaysia are currently improving their teaching methods to be fully electronic institutions in the future [4]. Blended learning has become a well-known technology-based approach used both in private and public higher education institutions especially in Malaysia. According to Graham [5] blended learning refers to an arrangement of various instructional methods, online delivery which also includes face-to-face instruction between students and instructor. Indeed, blended learning satisfaction is a result of student’s attitude and belief from gathering benefits that student expect to receive from a blended learning environment [1].

Due to a variety of factors that are still explored which can influence BLS among tertiary students, it is imperative to identify the issues. Hence, the aims of this study are to: (1) to determine the level of blended learning satisfaction among tertiary students; (2) to identify the relationship between perceived usefulness (PU), perceived ease of use (PEOU), perceived enjoyment (PE) and blended learning.

Blended Learning: The literature revealed several definitions of blended learning. Blended learning concept is derived from two words which is ‘blend’ and ‘learning’. [6] clarified that the word ‘blend’ as means to merge thing
and ‘learning’ represent an integration of new knowledge. [7] stated that blended learning enable the students to involve in learning outside the limits of the classroom, using synchronous tools such as skype and web conferencing and asynchronous tools that include social networking sites.

**TAM Model:** One of the well-known models that relate to technology acceptance and usage is known as technology acceptance model (TAM), as proposed by Davis in 1986. According to Legris, Ingham and Collerette, [8] TAM is proven to be a reliable theoretical model to explain and also predicts a customer’s behavior towards information technology. In addition, [9] it is stated that TAM has two cognitive beliefs includes perceived usefulness and perceived ease of the system. In addition to these two factors, several studies conducted by Wu, Chen & Lin [10], Chesney [11] have found that perceived enjoyment to be a robust construct that is associated with the core constructs of the TAM namely perceived usefulness and perceived ease of use in elaborating the intention to use technology. It is similar to the study conducted by Park [12] it is proven that TAM is a good theoretical tool to understand user’s acceptance of blended learning.

**Perceived Usefulness (PU):** According to Davis [9], one of the elements under TAM is perceived usefulness. It refers to the degree of a person’s trust in using certain system to encourage his or her performance. He also stated that, perceived usefulness is referred to as a person’s confidence that a particular technology will enhance his/her job performance. Furthermore, PU is divided into two (2) major scopes which are PU for the organization and PU for the individual. For the organization, PU reflects the use of new tech that can lead to better profits. For individual, PU reflects technology’s influence for better performance and motivation [13]. This clearly indicates that PU highlights individual’s confidence towards a particular tech that helps job enhancement and performance [9]. The higher the self-belief of an individual in using blended learning, the higher the perceived satisfaction in using the technologies. Therefore, it is hypothesized that:

**H:** There is a positive significant relationship between perceived usefulness and satisfaction on blended learning.

**Perceived Enjoyment (PE):** Perceived enjoyment on the other hand is PE is defined by the magnitude of gratification achieved when a particular system is used despite its outcome [15-16]. Another perception of PE is the intensity of satisfaction achieved during computer usage regardless of the concomitant [9]. As perceived enjoyment is found to be an important construct that is associated with TAM [17], it is expected that the higher the magnitude of gratification, the higher the user satisfaction. Additionally, Nusair and Kandampully [18] defined enjoyment (playfulness) as a device that attracts the attention of the online system users with enjoyable inputs; it might include features such as animation, music, video and other multimedia effects. Therefore, it is hypothesized that:

**H:** There is a positive significant relationship between perceived enjoyment and satisfaction on blended learning.

A quantitative research design was adopted for this study. This study was conducted in a public higher education institution using purposive sampling. Data were collected using questionnaires which were distributed to the students from various faculties who
have experienced blended learning as a mode of learning. The respondents were guaranteed anonymity and confidentiality of the data provided in which is used for academic purposes only. The instruments for blended learning were adapted from Chiu, Hsu and Sun [19] and Wu and Wang [20] which have been proven to be reliable and valid. While the instruments for perceived ease of use and perceived usefulness was taken from [9] and instruments for perceived enjoyment were adopted from Lee [21] which has been proven to be reliable. The survey questionnaire used five point likert scale ranging from (1= Strongly Disagree, 2= Disagree, 3= Neither Agree Nor Disagree, 4= Agree and 5= Strongly Agree. All data were analyzed using Statistical Package for Social Sciences (SPSS). Descriptive statistics were used to establish frequency distribution for demographic profiles and providing descriptive statistics on the variables tested. Correlation analysis was used to understand the inter-correlation exist among the variables. Finally, multiple regression analysis was employed to test the hypotheses of the study.

RESULTS AND DISCUSSION

Data were obtained from 212 students from various faculties in a public higher education institution in Malaysia. The respondents of this study were consisted of 31.6 percent male and 68.4 percent of female.

Result Analysis: To test the internal consistency of the variables, reliability test using Cronbach alpha was utilized in the study. Based on Table 1, all variables were found to be acceptable based on their reliability values which ranged from 0.8 to 0.9. This is in line with many suggestions in the literature where reliability of 0.8 is considered good for a survey instrument. Among the independent variables, perceived ease of use show the highest mean of 3.60. The standard deviation for all variables ranges from 0.6 to 0.7 as per Table 2.

Pearson Correlation analysis was conducted to determine the direction, strength and significance of relationships between variables in the study. The correlation analysis was done in order to see the association between dependent variable and independent variables. Based on Table 3 below, all variables used in the study were interrelated to each other. Perceived usefulness was found to be the highest to be correlated to blended learning satisfaction (r=0.57, p<0.01). The table indicated all correlation values are ranging from 0.40 and above, followed by perceived enjoyment (r=0.47, p<0.01) and perceived ease of use (r=0.39, p<0.01).

In investigating the relationship between independent variables (perceived ease of use, perceived usefulness, perceived enjoyment) and dependent variable (blended learning satisfaction), multiple regressions were used in the analysis. The result of multiple regression analysis is shown in Table 4 below. The R² for the model below is 0.37. Meanwhile, the adjusted R² is 0.36. Therefore, the variance of the model which consisted of independent variables (perceived usefulness, perceived ease of use and perceived enjoyment) contribute to blended learning satisfaction at 37 percent.

Based on the regression analysis, only two independent variables were found to be linked to blended learning satisfaction namely perceived usefulness (β= .42, p<0.01) and perceived enjoyment (β= .18, p=0.01). Perceived usefulness was found to be the highest contributor to blended learning satisfaction.

Based on the result, it was found that perceived usefulness has the most significant contribution on blended learning satisfaction. According to Davis [9], perceived usefulness is important because it has a positive direct effect on the intention of adopters to practice technology in education which in this case refers to blended learning. In addition, Park [12] who conducted a study on South Korea higher education found that perceived usefulness has a positive significant relationship with behavioral purpose to use e-learning.

This is followed by perceived enjoyment which was found to have second highest influence on blended learning satisfaction. This result is similar to Goetz [22] which found that enjoyment has a clear linkage to learning behavior, such as self-regulated learning and creative problem solving. In addition, the findings of the study is similar to a study conducted by Lin, Wu and Tsai [23] that suggested that perceived playfulness has a positive effect on user’s satisfaction.

Contrary to previous findings, this study did not find any relationship between perceived ease of use and blended learning satisfaction. According to previous researchers Wu et al. [1], although e-learning can increase access flexibility and improve cost effectiveness, e-learning users can suffer from lack of social interaction between learners and instructors. In this case, students may find it difficult to learn as they are used to interacting with peers while learning.

This study has a few limitations that needs to be addressed for future research. Firstly, the sample obtained in this study is based purely on one public higher education institution in Malaysia. This result should be generalized to other public universities in Malaysia;
Table 2: Reliability and descriptive analysis

<table>
<thead>
<tr>
<th></th>
<th>Cronbach’s Alpha</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blended Learning satisfaction</td>
<td>0.91</td>
<td>3.44</td>
<td>0.71</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>0.81</td>
<td>3.60</td>
<td>0.66</td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>0.80</td>
<td>3.53</td>
<td>0.64</td>
</tr>
<tr>
<td>Perceived Enjoyment</td>
<td>0.89</td>
<td>3.47</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Note: All items used a 5-point Likert scale with (1=Strongly disagree, 2=Disagree, 3= Agree neither nor disagree, 4=Agree and 5=Strongly agree)

Table 3: Pearson Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>Blended Learning Satisfaction</th>
<th>Perceived Ease of Use</th>
<th>Perceived Usefulness</th>
<th>Perceived Enjoyment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blended Learning satisfaction</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>.39**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>.57**</td>
<td>.45**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Perceived Enjoyment</td>
<td>.47**</td>
<td>.46**</td>
<td>.56**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed)

Table 4: Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable Usage (B) Customer Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Ease of Use</td>
<td>.12</td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>.42**</td>
</tr>
<tr>
<td>Perceived Enjoyment</td>
<td>.18**</td>
</tr>
<tr>
<td>F Value</td>
<td>40.61**</td>
</tr>
<tr>
<td>R²</td>
<td>.37</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.36</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01

hence, future studies involving public and private universities in Malaysia should be conducted. Secondly, as suggested in the literature, studies on blended learning satisfaction should utilize longitudinal study design as perceptions on blended learning can be captured across time. Since this study is conducted cross-sectionally, future study should consider using longitudinal type of study. Finally, this study is limited to direct relationship between independent and dependent variables. Ideally, moderating and mediating variables should be included to further understand the relationships between variables. Overall, the results indicate that tertiary students have a positive attitude towards blended learning satisfaction. Specifically, blended learning satisfaction is most influenced by the perceived usefulness and perceived enjoyment rather than perceived ease of use.

CONCLUSION

As a conclusion, this study would provide significantly to public higher education institutions, academics and the nation as a whole. As for academic field, blended learning is not a new phenomenon; most of public higher education institutions use blended learning as an important mode of learning. It is hoped that this study would serve as a platform in using technology while learning. Additionally, it also can be call as an alternative learning rather than just traditional way of using classroom as methods of learning.

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