The role of system quality and content quality in explaining e-learning continuance intention: An Evidence from Malaysian e-learning users

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Abstract. System quality and content quality has long been adopted to study e-learning acceptance. However, it’s role in explaining confirmation stage (continuance intention) is still in vague. The current study combines systems quality and content quality in a theoretical framework to examine it’s impact on users continuance intention. The research model and hypotheses was tested using 427 Malaysian e-learning users via SPSS. Results indicate that both predictors were significantly related to e-learning continuance intention. The findings from this study provide useful insights for further research.

1 Introduction
E-learning is based on the progress made in IT. The need for structured and enjoyable learning has motivated the IT designer to create this software to improve student experiences. E-learning users can enjoy a great deal of advantage including versatility and comfort, interactivity, collaborative, environmentally friendly, enjoyable and engaging flexibility, availability and the ability to expand learning opportunities for a larger group of people in society [1]. E-learning is not only used in schools and higher learning institutions, but also in the workplace [2]. Studies of [3] discussed e-learning's impact in the modern era.

2 Literature Review

2.1 E-learning in Malaysia
E-learning channels are seen as facilitators of learning processes and achievements in the education strategy [4], [5]. E-learning is characterized as a more accessible approach to learning that brings new educational opportunities away from the classroom environment in many fields of education [6] and also referred as any type of educational media that is delivered in an electronic form[7]. The introduction of e-learning began in the late 1990s in the Malaysian context.[8], [9]. According to Azhari & Ming [10] as founded in Adams et al. [8] there were implementation problems such as the lack of qualified lecturers, facilities and infrastructure, the willingness of students to embrace e-learning and the Learning
Management System (LMS) tools. As for Malaysian higher educational setting, The Universiti Teknologi Malaysia (UTM) Center for Teaching and Learning (CTL) is one of the Malaysian government universities providing e-learning and supporting various education and technology-based courses. [11]

According to Cidral et al. [3], e-learning is a web-based learning ecosystem combining several stakeholders with technology and processes. Cidral et al.[3 ] found that if we consider e-learning platform in terms of collaboration modules, stakeholders would benefit. In Malaysian context, study by Mohd Yusof, Lee Wah, Mohamed, & Othman [12] found that SPM students especially english subject can take advantage of the e-learning approach.

2.2 Hypothesis development

2.3 System quality

E-learning system consistency is an important element to a successful e-learning user experience. It is also known, among other things, as having an impact on efficiency, functionality, and usability. The efficiency of the program is the level of difficulties and it’s output Studies by [13] also illustrate the value of interactivity, usability, composition, visual logic, and e-learning system stability to make sure better user experience and learning. Research shows that the program's consistency has a positive impact on usage and satisfaction [3] [14]. [14] The researchers believe that the program's quality has a clear and positive effect on the individual's results. Consequently, the current study assumes that:

H1: System quality has a positive influence on the e-learning continuance intention

2.4 Content quality

According to [15] the performance of content in e-learning depends on the development and management of the learning environment. Learners place great emphasis on content where a quality content is well organized and efficiently delivered. Study by [16] found that content quality had significant effects on continuance intention to use mHealth services. Therefore, we formulate the following relationship:

H2: Content quality has a positive influence on the e-learning continuance intention

![Figure 1. Research model](image)

3 Methodology

For our research intent, a self-administered questionnaire was used. A random sampling method was used in this study with a sample of 416 students from Universiti Malaysia Pahang (UMP) and Universiti Teknologi Mara (UiTM) Jengka. This study used questionnaire instruments adapted from previous researchers with good reliability. All items were five-point, Likert-type scales ranging from “strongly
disagree’(1), until ‘strongly agree’ (5). The scales of the system quality are borrowed from Delone dan McLean [14]; Chiu, Chiu, & Chang [17] and Tella [18]. For measuring content quality, the items are adopted from Delone dan McLean [14] and Tella [18] and for measuring continuance intention.

3.1 Data analysis
We employed multiple linear regression as our analysis approach with the help of the Statistical Package for the Social Sciences Ver. 19 (SPSS 19).

4 Results
4.1 Sample characteristic
The data distribution showed that 41.1% of the respondents in this study were male and 58.9% were female. In the population of high school students, the number of female students exceeds the number of males. In terms of race, a total of 375 students (88.2%) are Malays while the Chinese are a total of 35 students (8.2%). Indian students make up 16 (3.7%) and the rest of the nation is just one (0.2%). The majority of the respondents in this study (99.5%) were between the ages of 18-25. This data also shows that Malaysian Public University (IPTA) students over 26 years of age are the smallest (only 0.2%) in the surveyed sample. (see Table 1).

Table 1 : Descriptive statistics

| Variables | categories | Frequency | Percent |
|-----------|------------|-----------|---------|
| gender    | Male       | 175       | 41.0    |
|           | Female     | 252       | 59.0    |
| Race      | Malay      | 375       | 87.8    |
|           | Chinese    | 35        | 8.2     |
|           | Indian     | 16        | 3.7     |
|           | Others     | 1         | .2      |
| Age       | 18-25      | 425       | 99.5    |
|           | 26-35      | 1         | .2      |
|           | 51 and above | 1    | .2      |

4.2 Hypothesis testing
Based on the information from table 2, content quality ($\beta = 0.44, p < 0.05$) is related positively with e-learning continuance intention, providing support for $H_1$. In addition, system quality ($\beta = 0.46, p < 0.05$) were also significant predictors for continuance intention to use e-learning, thereby supporting $H_2$.

Table 2. Hypothesis testing

| Variables | Unstandardized Coefficients | Standardized Coefficients | Significant test |
|-----------|-----------------------------|---------------------------|-----------------|
|           | B               | Std. Error | Beta | t   | Sig. |
| AVE_CONTENT | .479             | .049      | .438 | 9.794 | .000 |
| AVE_SYSTEM  | .515             | .050      | .459 | 10.265 | .000 |
5 Discussion, conclusion and limitation
The purpose of this study is to shed light on the critical factors of e-learning users among students at Malaysian Public Universities. Our research model's overall explanatory power was fairly high; an R-square of 74% for the e-learning continuance intention, suggesting that both variables are capable of explaining a relatively high proportion of the variation in the continuance intention to use e-learning. In summary, the results show that both content quality and system quality have a positive effect on users continuance intention to use e-learning. Based on these findings, it is clearly shown that when people think that something has a high quality in terms of its content, they will tend to continue to use it. Meanwhile, individuals who had an experience with a high quality of an e-learning system are more likely to continue to use e-learning.

5.1 Conclusion
The study adapted two most reknown information system success variables from Delone dan McLean [14] which is system quality and content quality to explain users continuance intention toward e-learning systems. Research findings found that system quality and content quality were both significant determinants of the intention to pursue using e-learning. Overall effect on e-learning continuance intention, system quality was proven to be more important than content quality. In order to improve the acceptance of e-learning platforms, developers and practitioners need to consider allowing the e-learning system to meet the quality criteria that can better meet the learning expectations of students.

5.2 Limitation
We also acknowledge, however, that our research has a number of limitations that should be overcome in the future. First, our study conclusions are based on cross-sectional results. A better test of our claim, however, would be to use a longitudinal study to analyze this factor more precisely. Second, while our model provides some insights to explain the intention to continue e-learning, some possible moderating effects between both variables and the intention to continue e-learning are not well comprehended. Future research may benefit from elucidating the possible moderator, such as gender.

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