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The Use of YouTube for Knowledge Sharing in Learning

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ABSTRACT

Background: In line with the development of technology, learning systems evolved from traditional classroom to e-learning systems. However, the main challenge in the e-learning system is the lack of internet access. In addition, lecturer takes a long time to give feedback to students, and the students take a long time to access lack of interesting contents. Furthermore, e-learning also does not provide enough space for students to share their knowledge easily. Therefore, lecturers use other initiatives such as social media, especially YouTube, to share learning contents. YouTube is an application that provides a flexible platform and versatility for the user and it can be used in classroom. However, studies on the use of YouTube for the purpose of learning is still limited, particularly in Malaysia. Past studies only focused on the intent and actual use of the technology in different ways of learning. **Objective:** This study examines the factors that encourage the use of YouTube in the classroom for students to share their knowledge in learning. A conceptual model was built based on the result of YouTube adaptation by seven models based on the Technology Acceptance Model (TAM) and also the Unified Theory of Acceptance and Use of Technology (UTAUT). **Results:** A survey involving 152 UKM students from the Faculty of Science and Technology, Faculty of Economics and Management and the Faculty of Social Sciences and Humanities was conducted using questionnaires for data collection. The data were analyzed using the Statistics Package for the Social Sciences (SPSS) 21.0 software. **Conclusion:** This study develops a model of using YouTube for knowledge sharing in learning that can contribute to further academic research in higher education institutions.

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INTRODUCTION

E-learning is a learning system that uses the Internet as the main channel (Mohamed Amin, 2011). Learning is not conveyed in a traditional, face-to-face interaction, but through lectures using the information technology as an enabler. This educational electronic approach benefits students and those who offer educational service (Zuraidah, 2010). Information technology tools are used for knowledge sharing in learning such as Web 2.0 with its important element, namely social media as the Internet-based applications that were built ideologically and allow the creations and exchange of user contents. One of the social media applications is YouTube, and it is used as a tool to share knowledge for the purpose of learning. As YouTube is an increasingly popular social media in Malaysia, it is used for learning in the classroom (Sadaf, 2013).

However, studies on the use of social media such as YouTube does not help students much in education although the media can help to increase learning through knowledge sharing activities (DeWitt *et al*., 2013). At the same time, the study on knowledge sharing in learning is still limited to only Balcikanli (2009) and Balubaid (2013), who proposed the use of Youtube. Video sharing via YouTube in the classroom gives benefits to students because they can share the content of knowledge, increase their understanding on the topic, and help them to facilitate the involvement during the performance. Furthermore, it is easy to become viral and use real examples for students (Sadaf, 2013). In addition, lecturers can upload contents on YouTube to ease students to view, create, and share with friends (Clifton and Mann, 2010). The use of YouTube as a medium for knowledge sharing is not perfect without a model. Knowledge sharing model that comprehends the use of YouTube as a social media tool by students and lecturers in institutions of higher learning is still lacking in Malaysia. Therefore, a sharing model of YouTube, particularly for knowledge sharing and learning in higher education institutions in Malaysia, has been developed.

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To build the proposed model, this study was conducted based on the factors that influence the use of YouTube for knowledge sharing in education. The factors are perceived as usefulness, easy application, performance expectancy, social influence, facilitating conditions, behavioral intention, and actual use. At the moment, web-based learning 2.0 is ready to face the challenges of formal education and can be used to build a network, as well as the community, for experience sharing (Mason and Rennie, 2007).

Literature Review:

Knowledge sharing initiative in learning:

Knowledge sharing is the exchange of experiences, events, thoughts or insights about everything in general to get a good understanding of a reasonable doubt in order to enhance learning and expertise (Balubaid, 2013). Knowledge sharing is an important activity in teaching and learning. Thus, a variety of knowledge-sharing initiatives have been implemented in the institutions of higher learning. One of the initiatives is to encourage the use of social media and social software in learning. The use of social media and social software has the potential to become a platform for knowledge sharing (Kaeomanee *et al*., 2012).

In a study involving 227 students from various universities in Indonesia, (Kaeomanee *et al*., 2012) mentioned that the Ministry of Higher Education found 77 percent of the lecturers who participated in the study used the e-learning approach by applying the social software tools or social media. The instruments used were social networking sites, wikis and blogs, and content sharing sites such as Slideshare and YouTube. Indirectly, it is an initiative to support the use of social media in learning for knowledge sharing. However, there are disadvantages of using social media in learning, such as monitoring students activities, difficulties to control students in the use of the media for lecturers, the issues of accessibility to the Internet that is also considered to stunt the use of social media in learning, and confidentiality issues that need to be addressed if the information privacy is not protected and make students feel uncomfortable to interact (Chuah, 2013). Despite the lack of social media advantages, it will have the privilege of learning objectives. For example, social media can facilitate the sharing of knowledge and information openly. Interactions that take place virtually and not in person make students to feel free to share knowledge.

Research on knowledge sharing in learning using social media is still limited in Malaysia. The use of social media in knowledge sharing needs to be expanded because based on past studies, = social media is proven to be a platform that is capable to provide assistance in learning, especially in the institutions of higher learning in Malaysia. Thus, studies using social media for knowledge sharing in education have been conducted in order to improve the approach of using technology in education.

YouTube in Learning:

YouTube is a video sharing website that provides a feature for users to upload, view and share video (*www.youtube.com*). YouTube was introduced in 2005 as an educational tool and a great motivator (Duffy, 2008). In other words, it has the potential to expose students to new skills and connect them to a variety of online communities. YouTube is also part of a trend among the Net Generation students that emphasizes active learning (Mohamed Amin, 2011). In addition, the use of social media such as YouTube in the classroom helps students to engage in exploration-based approach in learning, where the questions are encouraged than memorization. However, the right infrastructure is needed to ensure the best practice (Cardine, 2008).

Studies have found that YouTube can be a useful platform for interactive learning, collaboration, communication, content development and knowledge sharing (Balubaid, 2013; Sadaf, 2013). Therefore, many researchers have taken some steps in reviewing the picture, potential, challenges and the impact of the use of YouTube in learning. The reviews were on the application of YouTube to get attention in various fields such as higher education institutions (Tan and Pearce, 2011), nursing (Clifton and Mann, 2011) and performing arts (DeWitt *et al*., 2013).

The results of past studies have led to a detailed study in investigating the factors of YouTube, especially in the classroom for knowledge sharing in education.

Research Conceptual Model:

Technology Acceptance Model (TAM) is the theoretical basis for building a conceptual model for elements such as perceived usefulness and perceived ease of use, which are the main factors that influence behavior intention and actual use. In addition, these two key elements are often used to assess the impact of technology in education (Persico *et al*., 2013). Studies on TAM model, particularly on knowledge sharing in learning by using YouTube, are still limited. UTAUT model has been chosen as the theoretical basis to build a model for elements such as performance expectancy, which can contribute to the prediction of behavioral intention to use new technology (Bere, 2014). This study also focused on the elements such as social influence and facilitating conditions. The integration of elements in the TAM and UTAUT models can be used as a guide and reference for future research, especially in the field of technology and education. The conceptual model for this study is shown in Figure 1:

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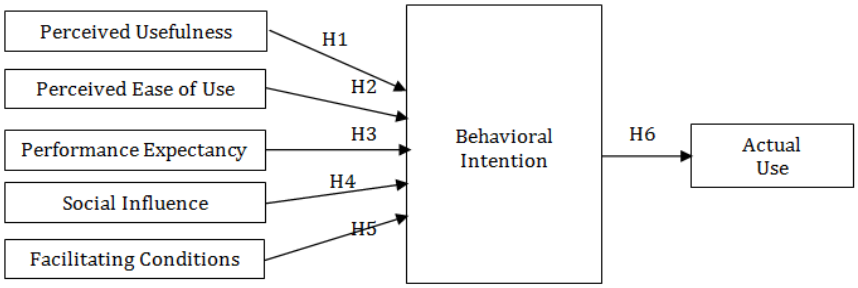

Fig. 1: Research Conceptual Model.

Research Method:

This study used a survey method with a set of questionnaires as the data collection instrument. The approach used was a quantitative approach. Samples for this study were selected using purposive sampling technique in selecting samples from a group of subjects with some specific features that only the respondents possessed and associated with the study. Most students who studied the subject of *Biotechnology* and *Ingredient* from Food Science and Nutrition program, the subject of *Technology in Education* from History program, and the subject of *Industry and International Business* from Economics program in Universiti Kebangsaan Malaysia were chosen as the samples. A total of 152 students consisted of 65 males and 87 females were selected to answer a set of questionnaires that was distributed by the respective lecturers online. These students tend to use YouTube as a tool to share knowledge in the learning process in the classroom.

For the purpose of this study, questionnaires were constructed and modified from past studies. These include (Marchewka *et al*., 2007; Terzis and Economides, 2011; Kaeomanee *et al*., 2012; Padilla-Melendez *et al*., 2012; Sadaf, 2013; Bere, 2014), as shown in Table 1.

Table 1: The Use of YouTube among Students.

Variables Studied	No. of Item	Source	Type of Scale
Perceived Ease of Use	3	(Padilla-Melendez *et al*., 2012)	5 point Likert scale
Perceived Usefulness	4	(Padilla-Melendez *et al*., 2012)	5 point Likert scale
Performance Expectancy	7	(Marchewka *et al*., 2007; Bere, 2014)	5 point Likert scale
Social Influence	5	(Bere, 2014)	5 point Likert scale
Facilitating Conditions	5	(Marchewka *et al*., 2007; Terzis and Economides, 2011; Sadaf, 2013)	5 point Likert scale
Behavioral Intention	4	(Kaeomanee *et al*., 2012; Bere, 2014)	5 point Likert scale
Actual Use	8	(Bere, 2014)	Categorical Scale

Data Analysis:

Descriptive Analysis and Pearson's Correlation:

Descriptive analysis was used to answer the questions in all categories, including the mean and standard deviation. Descriptive analysis was also used to examine the demographic characteristics such as gender, age, semester, email, YouTube users and electronic devices used to access YouTube. The study included 42.8% male and 57.2% female. The average age was in the range of 21 to 23 years old. Students involved were mainly the fifth semester students of the Faculty of Science and Technology, the Faculty of Economics and Management, and the Faculty of Social Sciences and Humanities, UKM. Students chose laptop as the tool to access YouTube, with a total of 89.5% among all electronic devices because it is more convenient and simple to use. Descriptive analysis of the study is shown in Table 2 and Table 3:

Statistical analysis of Pearson's correlation was chosen to determine the relationship between these two variables. Pearson's correlation measures the linear relationship between two variables, whether it is significant or otherwise. The data were analyzed using the Pearson's correlation to find the relationship between the variables (Perceived Usefulness (PU), Perceived Ease of Use (PEU), Performance Expectancy (PE), Social Influence (SI), Facilitating Conditions (FC), Behavioral Intention (BI), and Actual Use (AU).) There was a significant relationship between the variables: BI and AU, BI and (PU, FC, SI). Through the analysis, Behavioral Intention (BI) had a significant influence on the Actual Use (AU) of YouTube for knowledge sharing in learning with a strong correlation (r=0.85). Furthermore, the Facilitating Conditions (FC), Perceived Usefulness (PU) and Social Influence (SI) had a significant influence on Behavioral Intention (BI) for knowledge sharing in learning with the correlation values of r=0.77, r=0.65 and r=0.61 respectively. Perceived Ease of Use (PEU) and Performance Expectancy (PE) did not have a significant relationship, with the low correlations of r=0.49 and r=0.28 respectively. Therefore, the assumption for Perceived Ease of Use (PEU) and Performance Expectancy (PE) was dropped from the study.

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Table. 2: Descriptive Analysis of Students' Demographics.

Category		Frequency (N)	Percentage (%)
Gender	Male	65	42.8
	Female	87	57.2
Age	18 – 20 years old	11	7.2
	21 – 23 years old	138	90.8
	24 – 26 years old	2	1.3
	27 – 29 years old	0	0
	>30 years	1	0.7
Semester	One	11	7.2
	Two	1	0.7
	Three	3	2.0
	Four	16	10.5
	Five	115	75.7
	Six	2	1.3
	>Seven	4	2.6
		152	100

Table. 3: The Use of Electronic Devices for Accessing YouTube.

Electronic Tools	Frequency	Percentage
Laptop	136	89.5
Desktop Computer	16	10.5

Pearson's correlation analysis was conducted to answer the third (RQ3) and fourth (RQ4) research questions as follows:

RQ3: What are the factors that encourage the use of YouTube in learning among students?

RQ4: Are all the factors have a significant impact on the use of YouTube for knowledge sharing in learning?

To answer the questions above, the proposed model in Figure 1 was analyzed first to identify the factors that drive the relationship between each of the factors and give significant impact on the use of YouTube for knowledge sharing in learning.

Structural Equation Modeling (SEM) was used to analyze the model proposed. This technique aims to test the hypotheses generated by the relationship between each variable. Generally, the process involves two types of SEM models of measurement and structural equation. Model measurements are provided by the relationship between latent variables, indicators and error variance (Hair *et al*., 2006; Chua, 2009). This review is the adequate measurement model and the structural equation model. Equivalence measurement and structural equation models were evaluated based on different fit of indices. Based on the SEM analysis, the accepted hypothesis was the Behavior Intention had a significant influence on Actual Use of YouTube for knowledge sharing in learning. Next, Facilitating Conditions, Perceived Usefulness and Social Influence had a significant effect on Behavioral Intention for knowledge sharing in learning. The hypotheses rejected were the Perceived Ease of Use and Performance Expectancy. Therefore, it can be concluded that the hypotheses (H1, H4, H5, and H6) supported the hypothesis of this study and the research questions were answered.

Conclusion and Recommendations:

The application of YouTube in higher education institutions for knowledge sharing in learning can increase interests in subjects and facilitate various tasks undertaken primarily for students. YouTube has the potential to expose students to adapt new skills, and it is becoming a part of trend among the Net Generation students. Furthermore, YouTube has an advantage where it can help students to engage through the exploration-based approach in learning, where questions are encouraged rather than writing.

However, lecturers have to follow the guideline sets in order to maximize the potential of the application. In addition, higher education institutions need to improve the information technology facilities available, such as the accessibility of the Internet. It is aimed to facilitate and promote the use of YouTube in formal learning, especially for lecturers and students. This study will contribute and become a source of academic reference on YouTube as an educational medium in higher education institutions.

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