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STUDENTS' INTENTION TO USE ANIMATION AND STORYTELLING: USING THE UTAUT MODEL

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Abstract

The objective of this research is to inspect the factors that impacting students' intention to use animation and storytelling into courses by engaging the Unified Theory of Acceptance and Use of Technology (UTAUT) model as the guiding principle. Data was analyzed using Pearson correlation among 300 students studying at public tertiary institutions in Malaysia which offer Multimedia courses and are located in states like Kuala Lumpur, Penang, Johor Baharu, Sabah, and Sarawak. The results of the correlation analysis revealed that social influence was the most vital factor impacting students' intention to use animation and storytelling into courses followed by effort expectancy and performance expectancy. This finding infers that besides strong support from the university, people such as peers and academic supervisors in addition to supporting collaborative learning environments can also influence the students' intention to use animation and storytelling into courses. The empirical evidence acquired in this research provide the managements of universities with remarkable insights for outlining strategies for boosting the usage of animation and storytelling into courses among students including peer groups. This can be executed by focusing on making the academic courses and curriculum in the university to be implanted with more effective, and gratifying technologies within the fun learning environment. Future research direction is also presented.

Keywords: Animation, Storytelling, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition.

1. Introduction

Continuous demand for technology-related learning method is expanding in this digital age as there are various avenues to retrieve information and watch videos via the Internet including social networking sites such as Facebook, Instagram, Tumblr, WhatsApp, etc. Consumers are looking forwards to experiencing a significant enjoyment during the exploration of interactive features that has been incorporated in the online videos including animation and storytelling for learning or business purposes. Encouragingly, in 2016, more than 8 billion videos were watched daily with 100 million hours were spent to access Facebook and over 500 million hours of videos were watched daily via YouTube (TechCrunch, 2016). Further, CISCO (2016) stated that by 2020, over 80% of all consumer Internet traffic will be used for watching online videos. These statistics divulged that students' uses videos as a diversity of instructional delivery methods to engage within their own learning ability such as do, connect, play, and share (Berk & Trieber, 2009; Prensky, 2006), particularly learning tasks and activities in a fun learning environment (Keller, 2008; Spector & Merrill, 2008).

1.1. Unified theory of acceptance and use of technology (UTAUT)

The UTAUT model established by Venkatesh et al. (2003) assesses users' intentions to use and actual use behavior of an information system (see Figure 1). Behavioral intention is defined as "the person's subjective probability that he or she will perform the behavior in question" (Venkatesh et al., 2003, p. 451). The UTAUT model has been utilized in numerous contexts to examine users' intention to use technologies such as mHealth (Hoque & Sorwar, 2017), automated road transport systems (Madigan et al., 2017), and mobile payment (Khalilzadeh et al., 2017). These researchers acknowledged that the acceptance and use of a technology from consumer perspective are affected by aspects such as performance expectancy, effort expectancy, social influence and facilitating conditions.
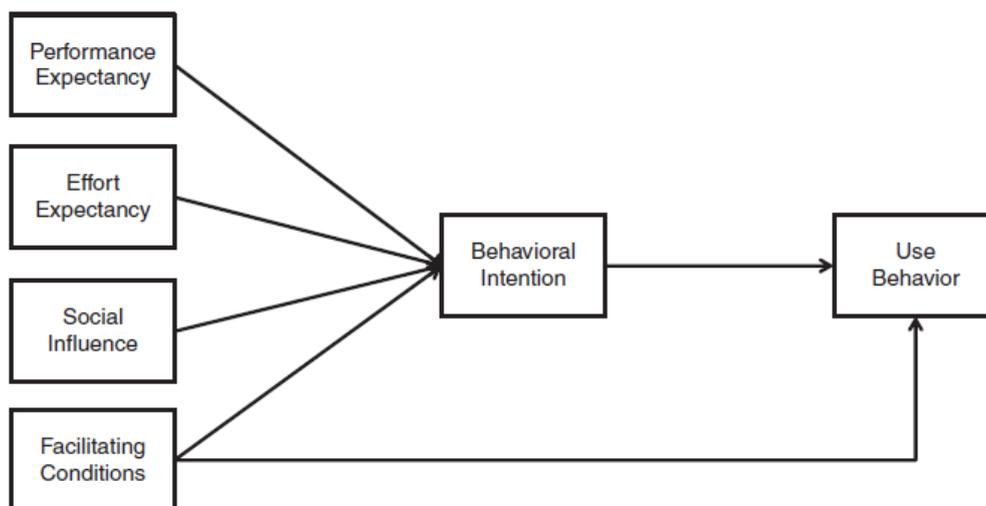

Figure 01. The Unified Theory of Acceptance and Use of Technology (UTAUT) Model

1.2. Performance expectancy

Performance expectancy is referred to as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003, p. 447). In the present study, performance expectancy is considered as students' belief that using animation and storytelling is useful and helps them to unleash their creativity. Earlier scholars avowed that performance expectancy significantly influenced students' intention to use technology such as ERP software training in business schools (Chauhan & Jaiswal, 2016). Correspondingly, Lakhal and Khechine (2016) asserted that performance expectancy was a relevant factor to predict intentions to use e-learning. These results put forward that:

H1: Performance expectancy has a positive association with students' intention to use animation and storytelling into courses.

1.3. Effort expectancy

Effort expectancy is referred as "the degree of ease associated with the use of the system" (Venkatesh et al., 2003, p. 450). This study describes effort expectancy as students' belief that using animation and storytelling in the multimedia design process at tertiary level would be easy to use and without difficulty. Preceding research discovered that there is positive effect between the effort expectancy and behavioral intention to use technology (Venkatesh et al., 2003). In tandem with this, intention to use ERP software training was found to be affected by this factor, as researched by Chauhan and Jaiswal (2016). Comparable to this positive findings were also found in Lakhal and Khechine (2016), and Macedo (2017). In relation to the past researches above, it is posited that:

H2: Effort expectancy has a positive association with students' intention to use animation and storytelling into courses.

1.4. Social influence

Social influence is referred as "the degree to which an individual perceives that encouragement receives from people that are close and important to them believe he or she should use the new system" (Venkatesh et al., 2003, p. 451). The current study considers social influence as influence and support from people such as friends, educators and the university to encourage usage of animation and storytelling in the multimedia design process at tertiary level. Prior scholars affirmed that social influence affect individuals' behavioral intention to engage in distance learning (Wang et al., 2010), and use interactive whiteboards (Sumak & Sorgo, 2016; Tosuntas et al., 2015). Results also cohere with Lakhal and Khechine (2016), and Macedo (2017). Therefore, this present study conjectures that:

H3: Social influence has a positive association with students' intention to use animation and storytelling into courses.

1.5. Facilitating conditions

Facilitating conditions are referred as "the degree to which an individual believes that organizational and technical infrastructure exist to support use of the system" (Venkatesh et al., 2003, p. 453). This study considers facilitating conditions as the accessibility of the environment and infrastructure available in the university, including individuals' knowledge, skills, and support that arouse students' willingness to use animation and storytelling in the multimedia design process at tertiary level. The links between facilitating conditions and behavioral intention to use a technology is significant as found in prior studies (Macedo, 2017; Wang et al., 2010). Indeed, Sumak and Sorgo (2016) also share similar beliefs whereby when people are equipped with necessary knowledge and resources, their intention to use the technology is higher as it is compatible with other systems that they are used to. In view of that, it is postulated that:

H4: Facilitating conditions have a positive association with students' intention to use animation and storytelling into courses.

In conformity with the foregoing research, the proposed theoretical model is exemplified in Figure 2.

Figure 02. Proposed Theoretical Model

2. Problem Statement

A research that predicted older adults' acceptance and use of the information and communication technology was recently carried out by Macedo (2017) and preceding scholars have stressed that additional studies that delve into this issues among students context are pertinent (Carlotto & Jaques, 2016; Lowe & Boucheix, 2016; Suki & Suki, 2016). Indeed, minimal research was carried out on this emergent behavior of learning communities towards new technologies acceptance including animation and storytelling in a developing nation that applying a quantitative research design using multivariate data analysis.

3. Research Questions

What are the factors that impacting students' intention to use animation and storytelling?

4.   Purpose of the Study

The objective of this research is to inspect the factors that impacting students' intention to use animation and storytelling into courses by engaging the Unified Theory of Acceptance and Use of Technology (UTAUT) model as the guiding principle. This model is "a useful tool for managers needing to assess the likelihood of success for new technology introductions and helps them understand the drivers of acceptance" (Venkatesh et al. 2003, p. 425).

5.   Research Methods

5.1. Sampling and population

A self-administered questionnaire was distributed in November 2016 over a period of two weeks among 350 students studying at public tertiary institutions in Malaysia which offer Multimedia courses and are located in states like Kuala Lumpur, Penang, Johor Baharu, Sabah, and Sarawak. Of this, 300 respondents completed the questionnaire and usable for data analysis, with response rate of 86%. This sample size is satisfactory as it is within the suggested threshold outlined by Hair et al. (2010).

5.2. Questionnaire development

In the two-section of the self-administered questionnaire, Section A entailed the respondents' demographic profiles like gender, age, and educational level, while Section B detailed 19 items adapted from the UTAUT model which were measured on a five-point Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree).

5.3. Statistical technique

In the two-section of the self-administered questionnaire, Section A entailed the respondents' demographic profiles like gender, age, and educational level, while Section B detailed 19 items adapted from the UTAUT model which were measured on a five-point Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree).

6.   Findings

The demographic characteristics of the respondents are presented in Table 1 which consists of gender, age, and education level. Of 300 respondents, 48% were males and 52% were females. There were 41% of the respondents aged below 23 years old, 25% aged 24-28 years, and 34% aged 29 years old and above. In terms of education level, 38% held Degree and 22% held STPM / Matriculation, 19% held SPM, 16% held Diploma, and 5% held Master.

Table 01. Socio-demographic Characteristics of Respondents

Variables	Frequency	Percentage
Gender		
Male	143	47.7
Female	157	52.3
Age (years old)		
≤ 18	25	8.3
19-23	97	32.3
24-28	76	25.4
29-33	42	14.0
≥ 34	60	20.0
Education Level		
SPM	58	19.3
STPM/Matriculation	67	22.3
Diploma	47	15.7
Degree	113	37.7
Master	15	5.0

6.1. Reliability analysis

The internal consistency of the construct measures were checked via Cronbach's alpha. Hair et al. (2010) acclaimed that the construct is considered to have acceptable threshold when its Cronbach's alpha exceeded 0.70. In the present study, this requirement is achieved with Cronbach's alpha ranging from 0.742 to 0.829, signifying all factor items had strong internal reliability.

Table 02. Reliability Analysis

Items	No. of Items	Cronbach's Alpha
Performance Expectancy	4	0.829
Effort Expectancy	4	0.766
Social Influence	4	0.824
Facilitating Conditions	4	0.742
Behavioural Intention	3	0.773

6.2. Correlation analysis

Pearson correlation is executed to inspect the strength of the associations of the factors that impacting students' intention to use animation and storytelling into courses by engaging the UTAUT model as the guiding principle. Figure 2 unveils the associations between the constructs are statistically significant ($p<0.01$). Specifically, the test whether there is a positive effect between performance expectancy and students' intention to use animation and storytelling into courses is investigated in H1. As portrays in Figure 3, this posited relationships is significant and positive at $p<0.01$ with $r=0.519$, inferring H1 is supported. The subsequent hypothesis, H2 examined whether effort expectancy significantly associated with students'

intention to use animation and storytelling into courses. With $r=0.525$ and $p<0.01$, this findings inferred a positive and significant association between the linkages. Hence, accepting H2 as expected.
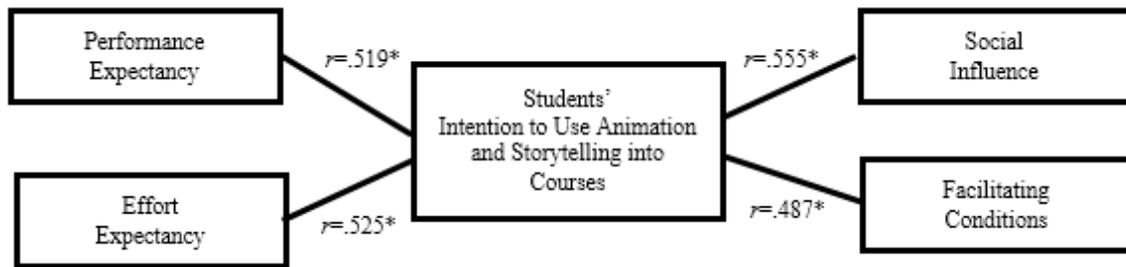
Figure 03. Results of Structural Model

Additionally, H3 postulates that social influence and students' intention to use animation and storytelling into courses has a positive association. Based on the correlation coefficients, both factors are significantly associated ($r=0.555$, $p<0.01$), leading to sustaining H3. An examination whether facilitating conditions have a positive association with students' intention to use animation and storytelling into courses is hypothesised in the last hypothesis, H4. The results in Figure 3 show that facilitating conditions are also had a positive and significant linkages to students' intention to use animation and storytelling into courses ($r=0.487$, $p<0.01$), for that reason, H4 was also supported.

7. Conclusion

This study assessed the factors that impacting students' intention to use animation and storytelling into courses by engaging the UTAUT model as the guiding principle. The correlation analysis revealed that performance expectancy had a significant association with students' intention to use animation and storytelling into courses. Thus, H1 was supported. The results infer that students' intention to use animation and storytelling into courses are highly influenced by the perceived advantages associated with its usage. Indeed, the use of mobile phones as an educational tool among students is also affected by perceived usefulness (Suki & Suki, 2013). The results comply with the works of Chauhan and Jaiswal (2016), and Lakhal and Khechine (2016). Additionally, by referring to the correlation coefficient values, effort expectancy also had a significant positive association with students' intention to use animation and storytelling into courses thus, retaining H2 as expected. The rationale is that learning to operate and use animation and storytelling is easy and students later become skilful in unleashing their creativity at tertiary level. The significant impact of effort expectancy on students' intention to use technologies is confirmed in the studies of Lakhal and Khechine (2016), and Macedo (2017).

Next, the correlation analysis yielded an acceptance of H3; where it was discovered that social influence has a positive and significant impact on students' intention to use animation and storytelling into courses. This strong relationship denotes that besides strong support from the university, students' intention to use animation and storytelling are also influenced by people surrounding them who include peers and academic supervisors in addition to supporting collaborative learning environments. This finding corroborates the results attained by Lakhal and Khechine (2016), and Macedo (2017). Furthermore,

students' intention to use animation and storytelling into courses is significantly and positively affected by facilitating conditions. Hence, H4 was retained. This verifies past research findings (e.g. Macedo, 2017; Wang et al., 2010). When students are equipped with necessary knowledge and resources to use animation and storytelling into courses, they will be attuned to any technologies that they use to unleash their creativity.

On the basis of the correlation analysis carried out in the present study, the findings supported all construct relationships of the UTAUT model and concluded that social influence was the most vital factor impacting students' intention to use animation and storytelling into courses. The empirical evidence acquired in this research provide the managements of universities with remarkable insights for outlining strategies for boosting the usage of animation and storytelling into courses among students including peer groups. This can be executed by focusing on making the academic courses and curriculum in the university to be implanted with more effective, and gratifying technologies within the fun learning environment. Further, the adoption of the construct measures from the UTAUT model that emphasized on the students' setting than employees' context and investigated in a developing nation also delivers a better understanding on which factor plays a crucial role in technology acceptance. Hence, the study enlarges to prevailing body of knowledge on the aspects of technology acceptance among students and furnishes a noteworthy theoretical contribution to the literature.

Future research is suggested to extend the size of the sample and conduct cross-cultural studies to expand the generalization of the findings. Moreover, examination of the moderating effect of gender and mediating effect of trust and loyalty are also rewarding for further exploration (Suki, 2012; Suki & Suki, 2016).

Acknowledgments

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