

ACCEPTANCE AND USAGE, SOCIAL INFLUENCES, INSTRUCTOR'S PRESENCE AND PERFORMANCE AMONG LEARNERS IN AN ODL INSTITUTION

Raemah Abdullah Hashim
Open University Malaysia
raemah_abdullahhashim@oum.edu.my

Loo Sin Chun
Open University Malaysia
loosinchun@oum.edu.my

Zahir Osman
Open University Malaysia
zahir_osman@oum.edu.my

Yanty Roslinda Harun
Open University Malaysia
yanty@oum.edu.my

Zulaika Zakariah
Open University Malaysia
zulaika@oum.edu.my

Nor Fairuz Syazana Nor Fauzi
Open University Malaysia
norfairuzsyazana@yahoo.com

ABSTRACT

Open Distance Learning has been implemented in Malaysia for several decades to widen the access to education while enriching the quality of learner's experience. Espoused from previous literature, this article aims to study the relationship between independent variables of learner's acceptance and usage of elearning and instructor's presence and learner's performance as the dependent variable while social influences act as the mediation variable among learners in an Open Distance Learning environment. Working adults enrolled for business programmes in one of the Open Distance Learning institutions in Malaysia were surveyed. 148 participants completed a survey questionnaire measuring their responses on the said variables. The study found that there was positive relationship between the two constructs to learner's performance. Social influences fully mediated between the independent and dependent variables. This indicates that peers influence is important during the learning process and the delivery of the teaching and learning enhance the learner's competencies and knowledge. These findings indicate that these variables can be included in Open Distance Learning learning environment. However, there should be also other constructs that can be explored. Suggestions and recommendations on the strength and influences of these variables to working adults were discussed and its applicability in another culture and other Open Distance Learning institutions are elaborated further in this study.

Keywords: *Acceptance and Usage, Social Influences, Instructor, Performance, Open Distance Learning*

INTRODUCTION

Open Distance Learning (ODL) has been implemented in Malaysia for several decades to widen the access to education while enriching the quality of learner's experience. In line with Industry 4.0, elearning has not only become accessible and flexible but also create value for money to the users. It was reported that by 2023, the elearn market is likely to increase to USD 240 billion (Dacebo, 2016). The reason being the low fees as compared to conventional mode of learning and most likely be attractive to adult learners who have their own career. However, having career and trying to complete assignments or going to classes or working on a project can be a challenging. Though recent report indicates that 27% that the demand on job technology skills is most sought (Dacedbo, 2016) however top priority in the useage of elearn is through social or collaborative learning. Thus, in ODL, social influence can be an important factor in influencing their performance besides mobile delivery and data analytics. Past study in conventional environment, academic performance of student is highly influenced by motivation, physical environment and self-efficacy (Araini, 2016) or teacher delivery and communication style (Gilbert, 2018). Nonetheless, little study is done in ODL environment on learners' performance that may be influenced by factors such as teachers' presence and acceptance and usage of technology mediated by social presence. Learners performance in ODL is important not only to the learners' future career development but also assist in reducing the high attrition rate that is common in ODL environment. Therefore, this study investigates these factors influencing the learners performance in an ODL university in Malaysia. In addition, the study is also to test the mediating effect of social influences in the relationship between users' acceptance and usage of technology and teacher's presence. The study hopes to enrich the existing literature on the elearning from the developing countries' perspective.

LITERATURE REVIEW

Rajadurai, Alias, Jaaffar and Wan Hanafi (2018) considers On line Distance learning (ODL) learners not as receivers of knowledge but rather as constructors of knowledge. However, in ODL environment, 'online learning' and 'e-learning' were used interchangeably (Bates, 2005). E-learning has evolved from learning and teaching conducted through the use of technology and electronic devices and tools, to mobile learning (m-learning) and the latest in e-learning research is learning through augmented reality (AR) (Ahmad Fauzi Ali & Aminudin, 2019). The research focused on the evaluation on students' acceptance and the usage of augmented reality (AR) and its effectiveness on construction technology education. They found that the student strongly accepted the usage of AR as a learning tool. This was shown through 68% improvements on students' pre and post-test results.

Technology acceptance and usage based upon the Technology Acceptance Model (TAM) by David (1989), had introduced variables such as perceived ease of use (PEOU) and perceived usefulness (PU) (Ducey, 2013) to the academic community. In recent studies, there were strong support that iterated the relationship of acceptance and usage with learners' performance in e-learning (Mohamad, & Mustapha 2018; Ducey, 2013; Davis, 1989). Recent study also confirmed that factors affecting perceived usefulness and perceived ease of use in the adoption of e-learning system (Baki, Birgoren & Aktepe. 2018) in the e-learning environment. In Malaysian context, Wahab, Othman and Warris (2016) strongly concurred that there was a positive relationship between ease of use of the eLearn and learners' performance. Other studies on the other hand, supported the notion that learners' acceptance of technology and ease of usage contributes to learners' satisfaction (Sun, Tsai, Finger, Chen & Yeh, 2008; Rajadurai Alias, Jaaffar & Wan Hanafi 2018). However, little study is done to address E-learning acceptance and learners' performance in Malaysian context.

Conversely, study by Wolff, Wood-Kustanowitz and Ashkenazi (2014) found that learners' performance has a positive relationship with variable such as instructor's assistance in learners completing their coursework besides learners hours spent studying and the learners' acceptance and willingness to learn. Meanwhile, Wu, Tennyson, and Hsia (2010) highlights that teachers assistance in making accessibility of course materials and assignments were important factors for learners. Study in Kenya in the elearning environment argued that one success factor in student performance in school is teachers presence besides policy being imposed (Ouma, Awuor and Kyambo, 2013). Later study by Seifert, Sheppard and Wakeham (2014) conjured that teacher presence in assisting student learning using technology especially in student learning centered support in enhancement student performance. Effective facilitators foster a strong sense of community by creating places into the course where learners can build relationships and chat about issues outside of the discussion questions (cyber cafes). Barron (2006) however, argued that in building strong elearning environment there is requirement to have teachers' presence that would provide strong bounding with learners while offering high standard of learning. Besides training of teachers at the university, Raaij and Schepers (2006) suggested that some kind of rewards should be given as to motive teacher to make their presence in the elearn environment. Therefore, instructor's presence especially in forums could be effective for learners especially when physical presence is impossible. Instructor presence have been discussed extensively in the past by Garrison, Cleveland-Innes and Fung (2010) applying the Community of Inquiry (COI) model. Teaching presence as highlighted by Garrison (2007) as "interaction and discourse play a key role in higher-order learning but not without structure (design) and leadership (facilitation and direction)" (p. 67). Therefore, in elearn environment to produce high performance learners there should be some kind to collaboration between their instructors and their learners. This indicate the importance of instructors in the enhancing student performance but little study is done in Malaysia.

While it is perceived that student's acceptance and usage affects learner's performance, previous study also proved that it was deliberated by social influences (Park, 2009). Social influences may shape learner's motivation to achieve desirable results. According to Dhaha and Ali (2014), factors that proved to be essential in assessing social influence and acceptance were easiness, usefulness, peer influence and the affordability of the service. According to Krezel, and Krazal. (2017), social factors comprised of factors such as institutional communication and student related factors. Institutional communication as the most influential factors in the context of higher education institutions (HEI) among students consists of printed brochures, advertising and web content (Vetloutsou, Lewis & Paton, 2004; Krezel & Krazel, 2017). Student related factors refers to the student's family, demographics, socioeconomic characteristic and academic abilities (Avery & Hoxby 2004; Desjardin et al. 2004; Ivy 2008; Maringe 2006; Sojkin, Bartkowiak & Skuzza 2014; Hemsley-Brown, J & Oplatka, 2015). Nonetheless, Kelman (1961, 2006) described social influence as a connection between an individual with the primary and secondary reference group through a media channel. Kumar (2018) suggested that variable such as the social media should also be considered to understand better its impact on the learners overall academic performance. Furthermore, flexible assessment system and learning can create a desirable level of motivation to participate in the e-learning environment which may then result to a positive academic performance (Ariani, 2016). This factor had an ancillary effect towards the student's satisfaction with the overall service including their perception towards their social surroundings. The determinants of acceptance, usage and social influence could be the influencer of learner's overall performance. Therefore, educators and managers should make a conscious effort to create a positive social environment to ensure there will have an impact on students' performance. However, the e learning platform should be at any times be 'good way of learning', (Sawang Newton, & Jamieson, 2013). Little studies have sought to use social influence as a mediating factor between variables such as instructor presence and acceptance and usage and learner's performance especially in Malaysia. Thus, this

study hopes to contribute to the literature with this additional feature in the theoretical framework.

Based on the literatures, the following hypotheses have been suggested:

- H1: There is significant relationship between the acceptance and usage of elearning and learners' performance in a distance learning (ODL) Institute
- H2: There is significant relationship between the instructor's presence and learners performance in a distance learning (ODL) Institute
- H3: Social influence mediates the relationship between the acceptance and usage of elearning and learners performance in a distance learning (ODL) Institute
- H4: Social influence mediates the relationship between instructor's presence and learners performance in a distance learning (ODL) Institute

METHODOLOGY AND RESEARCH DESIGN

The overall technique and procedure used to collect data for this research is being discussed in this section. Quantitative research was utilised for this study to investigate the relationship between independent variables of learner's acceptance and usage of elearning and instructor's presence, social influences as the mediating variable and learner's performance as the dependent variable. The relevant units of analysis in this study focused on a ODL Institute. A quantitative cross sectional survey research was employed in this study. Approximately 300 questionnaires were distributed with a total of 148 responses. Response rate of 49% was achieved. As per suggested by Fraenkel, Wallen and Hyun (1996) minimum number of descriptive studies 100 samples is sufficient and for correlation studies 50 samples is deemed necessary. A structured questionnaire consisted of 19 items comprise of four sections.

The first section measured demographics, second section measured learner's acceptance and usage, third section measured social influences, fourth section indicated the instructor's presence and the fifth section learner's performance. The respondents were given one week to answer and return the questionnaire to the researcher by hand at the designated location. The measurement was adapted from past study by Ahmed (2010). The items were measured on a 5-Point Likert-type scale, anchored by 1, "strongly disagree" through to 5, "strongly agree." Content validity of the questionnaire was carried by getting three experts reviews in business management, human resource, and marketing disciplines. They were invited to review and advise in the pre-test stage. Some revisions were made after getting the feedbacks in terms of questions clarity

DATA ANALYSIS AND RESULT

This research was performed in one (1) selected learning centres of open and distance learning university within the central region in Malaysia offering postgraduate programme. This section presented the results of current study on the relationship between independent variables of learner's acceptance and usage, and instructor's presence. Learner's performance as the dependent variable and social influences as the mediator variable. The results are divided into two (2) sub-sections. The first sub-section displayed the demographic characteristics of respondents and the last sub-section explained the hypothesis testing.

Respondents' Profile

A total of 148 respondents completed the questionnaires. Table 1 depicted the items of demographics involved such as genders and age. The sample indicates that female

respondents represented a slightly higher percentage of total samples (74%) when compared to the male respondents (26%). A majority of the respondents were below 35 years of age (54 %) followed by those between 35 to 40 years old (45%). Less than 1 percent of the learners were older than 41.

Table 1: Respondents Profile

Particulars	Variables	Frequency	Percent
Age	Below 35	80	54.05
	35- 40	67	45.27
	Above 41	1	0.68
Gender	Male	38	25.68
	Female	110	74.32

The hypothesis of the study is being tested using Partial Least Squares (PLS) via Smartpls version 3.0. PLS approach is reckon for causal models especially when the sample size is small. To ensure the reliability and the validity of the data and construct for this study internal consistency, convergent validity and discriminant validity were performed. Structural model assessment was performed to test the hypothesis. This study also performed assessment of collinearity and the path coefficients.

In order to establish the internal consistency for this study, Cronbach's Alpha value for all the variables should be above 0.7 as suggested by Sakeran (2013). The same fulfillment in the composite reliability should also exceed the threshold value 0.7 (Nunnally & Berstein, 1994; Nunnally, 1978) For further endorsement, Dijkstra-Henseler's rho (2015) testing for all the variables rho values must be between 0 and 1. Table 2 below indicate all the results meet the satisfaction level.

Table 2: Internal Consistency

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Acceptance & Usage	0.878	0.889	0.908	0.623
Instructor Presence	0.843	0.847	0.885	0.562
Learner's Performance	0.888	0.895	0.922	0.748
Social Influence	0.915	0.918	0.946	0.854

Since the Composite Reliability (CR) only takes into consideration that each indication will have their individual loading, thus indicator reliability is recommended to measure an indicator or more with the intended measures (Urbach & Ahlemann, 2010) which is the convergent validity measures. Outer loading and average variance extracted (AVE) has been directed. As shown in Table 3 measurement model all the indicators loadings consequently not only on their respective constructs but subsequently, all the indicators loadings were much higher in their respective constructs horizontally and vertically. Throughout the outer loading values surpassed the accepted value of greater then 0.5. The CR for this study ranges from 0.655 to 0.946 .as shown in Table 4 below the AVE value for this study is acceptable ranging from 0.623 to 0.854 which is higher than 0.5. Therefore, it can be concluded that there were no issues on convergent validity for this study.

Table 3: Factor Loadings and Cross Loadings

	Instructor Presence	Acceptance & Usage	Learner's Performance	Social Influence
IP1	0.769	0.456	0.449	0.482
IP2	0.810	0.366	0.46	0.457
IP3	0.760	0.472	0.419	0.465
IP4	0.706	0.199	0.472	0.361
IP5	0.788	0.338	0.411	0.452
IP6	0.655	0.354	0.505	0.427
LAU1	0.502	0.704	0.504	0.587
LAU2	0.469	0.762	0.547	0.441
LAU3	0.398	0.753	0.455	0.46
LAU4	0.409	0.876	0.382	0.633
LAU5	0.296	0.840	0.352	0.445
LAU6	0.226	0.789	0.299	0.444
P1	0.548	0.397	0.857	0.385
P2	0.512	0.522	0.878	0.434
P3	0.521	0.463	0.874	0.499
P4	0.506	0.472	0.851	0.478
SI1	0.516	0.522	0.494	0.901
SI3	0.546	0.641	0.458	0.925
SI4	0.577	0.638	0.503	0.946

Table 4: Average Variance Extracted (AVE)

	Average (AVE)	Variance	Extracted
Acceptance & Usage		0.623	
Instructor Presence		0.562	
Learner's Performance		0.748	
Social Influence		0.854	

To ensure that the construct is unique by itself discriminant validity assessment was performed by applying Fornell and Larcker (1982) criterion, cross loading and Heterotrait Monotrait (HTMT) Ratio. The Fornell and Larcker(1982) result in this study indicated that each indicator are highly loaded on the construct it is correlated with. To estimate the cross loading, all the indicators were found higher than its loadings on all other latent variables. In order to address the problem of shortcoming of Fornell & Larcker and cross loading, Heterotrait Monotrait (HTMT) is being tested. Table 6 indicate the HTMT is between 0.562 and 0.708 which is at acceptable level. Thus, discriminant validity is being recognised.

Table 5: Fornell & Larcker

	Acceptance & Usage	Instructor Presence	Learner's Performance	Social Influence
Acceptance & Usage	0.789			
Instructor Presence	0.495	0.75		
Learner's Performance	0.538	0.601	0.865	
Social Influence	0.651	0.592	0.524	0.924

Table 6: Heterotrait Monotrait (HTMT)

	Acceptance & Usage	Instructor Presence	Learner's Performance	Social Influence
Acceptance & Usage				
Instructor Presence	0.562			
Learner's Performance	0.605	0.701		
Social Influence	0.708	0.670	0.576	

Structural Model Assessment

In order to establish the finding of this study, structural model analysis was performed. Firstly, the collinearity issues have to be addressed by examining the Variance Inflated Factor (VIF) as suggested by Hair et al. (2017) all the variables under study should be lower than 5 and 3.3 (acceptance & usage and instructor presence = 1.325 which indicates no collinearity problem as shown in Table 7. Bootstrapping procedures were then executed to evaluate path coefficient of the construct. This had produced significant relationships between acceptance and usage and social influence (t-value=5.882, p=0.001), instructor presence and social influence (t-value=5.420, p=0.001) and social influence and learner's performance (t-value=8,504, p=0.001) as indicated in Table 8, the path coefficient. The result of coefficient of determination was indicated by the R² value of the endogenous constructs. Learner's Performance R² value was reported at 0.275 which is considered weak while social influence R² value was reported moderate at 0.520 (Hair et al. 2017). Therefore, all the direct hypothesis of this study is fully supported. The full path coefficient for this study illustrated in figure 1.0.

Table 7: Collinearity (VIF)

	Acceptance & Usage	Instructor Presence	Learner's Performance	Social Influence
Acceptance & Usage				1.325
Instructor Presence				1.325
Learner's Performance				
Social Influence			1	

Table 8: Path Coefficient

	Original Sample	Sample Mean	Standard Deviation	T Statistics (O/STDEV)	P Values
Acceptance & Usage -> Social Influence	0.475	0.473	0.081	5.882	0.001
Instructor Presence -> Social Influence	0.357	0.363	0.079	4.520	0.001
Social Influence -> Learner's Performance	0.524	0.530	0.062	8.507	0.001

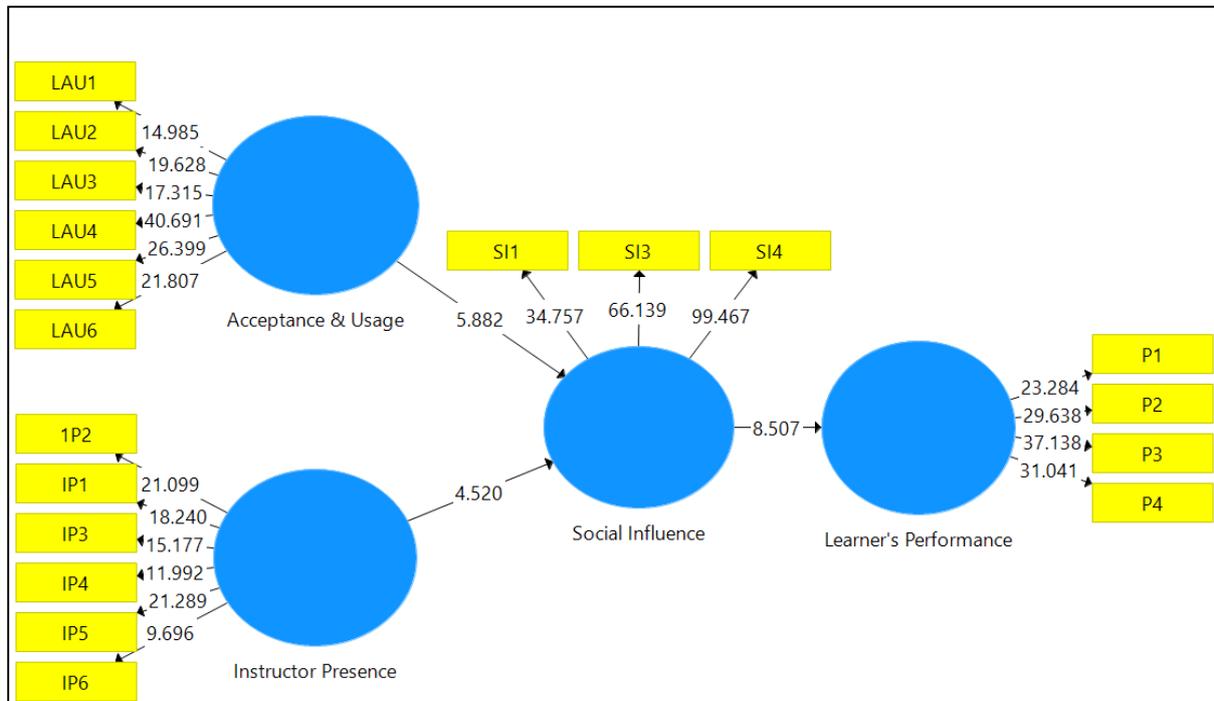


Figure 1: PLS ALGORITHM

To further examine the mediating effect of social influence in the relationship between the acceptance and usage and the relationship between instructor's presence and learners performance among learners of in an on distance learning (ODL) Institute, bootstrapping to examine the relevant path coefficients and blindfolding procedures were performed . The result show both the independent variables have a significant relationship with learner's performance mediated by social influence (acceptance and usage, $t=4.656$, $p=0.001$) (instructor presence, $t=3.815$, $p=0.001$). The 5% Lower Level Confidence Interval (LLCI) and 95% Upper Level Confidence Interval (UCLI) for both relationships does not straddle a 0 (zero) in between [acceptance and usage, LLCI = 0.166, ULCI = 0.341] and [instructor presence, LLCI = 0.115, ULCI = 0.276] indicates that social influence mediates the relationship between acceptance and usage and instructor presence towards learner's performance as suggested by Preacher & Hayes (2008). The result of this indirect effect is shown in Table 9 below.

Table 9: Total Indirect Effect

	Original Sample	Mean	SD	T Statistics	P Values	5% LLCI	95% UCLI
Acceptance & Usage -> Learner's Performance	0.249	0.251	0.053	4.656	0.001	0.166	0.341
Acceptance & Usage -> Social Influence							
Instructor Presence -> Learner's Performance	0.187	0.192	0.049	3.815	0.001	0.115	0.276
Instructor Presence -> Social Influence							
Social Influence -> Learner's Performance							

After confirming the positive significant of the indirect relationships between the construct, several particular routines were taken to predict the mediation effect for this study. A coefficient of determination or R^2 is used to evaluate the model's predictive accuracy as it is

also to portray the effect between exogenous and endogenous variables. The R^2 values for the endogenous variables explained the models as substantial (0.275). There are 3 different reading to evaluate the acceptable R^2 values. Cohen (1988) suggested the R^2 of 0.26, 0.13, 0.02 respectively explain as substantial, moderate, and weak as a degrees of predictive accuracy.

Table 10: Coefficient of Determination R^2

	R Square	R Square Adjusted
Learner's Performance	0.275	0.270
Social Influence	0.520	0.514

Next concern is the effect size or f^2 which is used to assess the impact strength of a predictor construct towards an endogenous construct. Particularly, the effect sizes of 0.02, 0.15 and 0.35 defining that the f^2 values as small, medium and large (Cohen, 1988). This study indicated that social influence has the large effect size (0.379) in producing the R^2 for learner's performance. Meanwhile, both exogenous variables also give large effect size (acceptance and usage = 0.355, instructor presence = 0.2) in producing the R^2 for social influence. The result depicted in Table 11.

Table 11: F square

	Acceptance & Usage	Instructor Presence	Learner's Performance	Social Influence
Acceptance & Usage				0.355
Instructor Presence				0.200
Learner's Performance				
Social Influence			0.379	

The predictive relevance of the path model was later examined by interpreting the Q^2 value by using the blindfolding procedures. Table 12 indicated that the predictive relevance Q^2 of intention to stay has a value of 0.245 and job satisfaction is 0.377. The result explained that the exogenous constructs have a predictive relevance based on the two endogenous constructs as the Q^2 values considerably larger than zero. (Hair et al., 2014; Stone, 2014, Geisser, 1974).

Table 12: Q square

	SSO	SSE	$Q^2 (=1 - SSE/SSO)$
Acceptance & Usage	888	888	
Instructor Presence	888	888	
Learner's Performance	592	481.376	0.187
Social Influence	444	259.334	0.416

A particular concern of effect size q^2 was established to assess the contribution of the exogenous constructs towards the endogenous variables' Q^2 value. The guideline in interpreting the effect size of q^2 value suggested by Hair, Hult, Ringle, and Sarstedt (2016) determined that 0.02 as weak, 0.15 as moderate while a substantial value is 0.35. The calculation of the q^2 had been done manually using the Q^2 values in the formula (Hair et al, 2016) as in the following formula:

$$q^2 = \frac{Q^2 \text{ included} - Q^2 \text{ excluded}}{1 - Q^2 \text{ included}}$$

The result indicates that acceptance and usage has a substantial effect size (0.223) while instructor presence has moderate effect size (0.132).

1. Effect size Acceptance and Usage

$$q^2 = \frac{0.416 - 0.282}{1 - 0.416} = 0.223 \text{ (Substantial effect size)}$$

2. Effect size Instructor Presence

$$q^2 = \frac{0.416 - 0.339}{1 - 0.416} = 0.132 \text{ (Moderate effect size)}$$

DISCUSSION

The result of this study indicates that acceptance and usage of elearning and instructor presence have a significant direct relationship with learner's performance. These finding support the view of Wahab, Othman and Warris (2016) study on blended learning in Malaysia. Furthermore, the study also supported similar studies in applying TAM model in E-learning platform by Mohamad and Mustapha (2018); Ducey (2013) and Davis (1989). This research also found that social influence as a mediator has increased the effect of the relationship between acceptance and usage and instructor presence which supported Kumar (2018) study. Therefore, it can be concluded that, for students to perform better especially in elearning platform, social influence especially from the peers can play an important role.

The study has managerial implications for leaders and policy makers in the open and distance learning university in identifying the factors that may assist students to perform better in their study. It seems also that in this study social influence plays an important role in further enhancing learners' performance. With the present global challenges and into the era of IR 4.0, this study suggests that instructor's presence and learners acceptance and usage of elearning have a profound impact on enhancing their academic performance. Therefore, ODL universities policy makers need to have some strategic planning in enhancing the capability of their academic staff through training and good compensation package while upgrading their information technology.

From theoretical implication perspectives this study adds a relatively new area to the ODL literatures. This research also presents a significant contribution in directing the focus of the study differently where it looks into the mediating effect of social influences in the relationship of independent variables of acceptance and usage of elearning and instructor presence with the dependent variable of student performance. Empirical evidence on this topic has not been extensive and therefore this study brought highlights some significant contributions to the literatures in open learning context in a developing country like Malaysia. Future study should consider replicating the study into other educational tiers or into larger sample group that covers all open learning universities in Malaysia. Future researches should look into developing a more robust measurement for social influences variable based on other theories in management. There are many other variables that can be explored such as quality of lecturers, lecturers characteristic and quality of learning material and assessment that can contribute to enhancing student performance. Researchers should

consider in pursuing a longitudinal method of research design which can further get into more in-depth knowledge into the problem.

Reference

- Ariani, D. W. (2016). Why do I study? The mediating effect of motivation and self-regulation on student performance. *Business, Management and Education*, 14(2), 153-178.
- Ahmed, H. M. S. (2010). Hybrid E-Learning acceptance model: Learner perceptions. *Decision Sciences. Journal of Innovative Education*, 8(2), 313-346.
- Avery, C. and Hoby, C.M. (2004) Do and should financial aid packages affect students' college choices? Retrieved from: <http://www.nber.org/chapters/c10102.pdf>
- Baki, R., Birgoren, B, Aktepe, A. (2018) A meta analysis of factors affecting perceived usefulness and perceived ease of use in the adoption of e-learning systems, Turkish online. *Journal of Distance Education*, 19(4), 1.
- Bates, A.T. (2005) *Technology, e-learning and distance education*: Routledge
- Barron, J. (2006). Top ten secrets of effective e-learning. *Industrial and Commercial Training*, 38(7), 360-364.
- Beqiri, M. S., Chase, N. M., & Bishka, A. (2009). Online course delivery: An empirical investigation of factors affecting student satisfaction. *Journal of Education for Business*, 85(2), 95-100.
- Boateng, R., Mbrokoh, A. S., Boateng, L., Senyo, P. K., & Ansong, E. (2016). Determinants of e-learning adoption among students of developing countries. *The International Journal of Information and Learning Technology*, 33(4), 248-262.
- Cohen, J. (1988). *Statistical power analysis for behavioural science* (2nd Edition). Hillsdale: Lawrence Erlbaum Associates.
- Cohen, J. (1992). A power premier. *Psychologist Bulletin*, 112, 155-159.
- Dacebo (2016). E-learn market trends and forecast 2017-2021. Retrived 7 Febuary 2019, <https://www.smeacademy.eu/uploads/5/2/4/2/52422965/docebo-elearning-trends-report-2017.pdf>
- Davis, F.D. (1989) Perceived usefulness, perceived ease of use and user acceptance of information technology, *MIS Quarterly*, 13(3), 319. <https://doi.org/10.2307/249008>
- DesJardins, S.L., Ahlburg, D.A. & McCall, B.P. (2006) An Integrated model of application, admission, enrolment and financial aid. *Journal of Higher Education* 381-429.
- Dhaha, I. S. Y. A., & Ali, A. Y. S. (2014). Mediating effects of behavioral intention between 3g predictors and service satisfaction. *Jurnal Komunikasi, Malaysian Journal of Communication*, 30, 107-128.
- Ducey, Adam J. (2013) Predicting tablet computer use: An extended technology acceptance model, *Unpublished Graduate Theses and Dissertations*.

- Fraenkel, J. R., & Wallen, N. E. (2003). How to design and evaluate research in education. McGraw-Hill Higher Education.
- Fauzi, A. F. A. A., Ali, K. N., & Amirudin, R. (2019). Evaluating students' readiness, expectancy, acceptance and effectiveness of augmented reality based construction technology education. *International Journal of Built Environment and Sustainability*, 6(1), 7-13.
- Fornell, C. & Bookstein, F. L. (1981). A comparative analysis of two structural equation models: LISREL and PLS applied to market data, in Fornell, C. (Ed.), A second generation of Multivariate analysis, Praeger, New York, 289-324.
- Garrison, D., & Arbaugh, J. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education*, 10(3), 157-172
- Garrison, D., Cleveland-Innes, M., & Fung, T. (2010). Exploring causal relationships among teaching, cognitive and social presence: Student perceptions of the community of inquiry framework. *Internet and Higher Education*, 13(1-2), 31-36
- Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101-107.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.
- Hemsley-Brown, J. and Oplatka, I. (2015) University Choice: What do we know, what do we don't know and what do we still need to find out? *International Journal of Educational Management* 29(3)
- Ivy, J. (2008) A New higher education marketing mix: the 7Ps for MBA marketing. *International Journal of Educational Management* 22(4)
- Kelman, H. (2006) Interests, relationships, identities: three central issues for individuals and groups in negotiating their social environment. *Annual Review of Psychology* 57
- Kelman, H. (1961). Processes of Opinion Change *Public Opinion Quarterly* 25(1)
- Krezel, J and Krazel, Z.A. (2017) Social Influence and Student Choice of a Higher Education Institution. *Journal of Education Culture and Society* .
- Kumar, Gopaldas Pawan. "Variables Impacting Students' Performance in Management Course." *SDMIMD Journal of Management*. 9.2 (2018): 41-46.
- Lee, Y., Kozar, K. A., & Larsen, K. R. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for information systems*. 12(1), 50.
- Mohamad, S.A., Azer, I, Mustapha, M (2018) Assessing the relationship between TAM constructs, technology characteristic and behavioral intention to use E-Learning, *Advances in Social Science, Education and Humanities Research*, 292.
- Maringe, F. (2006.) University and course choice. *International Journal of Educational Management* 20(6)

- Nunnally, J.C., & Berstein, I. H. (1994). *Psychometric Theory*. (3rd Edition). New York: McGraw Hill.
- Nunnally, J.C. (1978). *Psychometric Methods*. (2nd Edition). New York: Mc Graw Hill.
- Van Raaij, E. M., & Schepers, J. J. (2008). The acceptance and use of a virtual learning environment in China. *Computers & Education*, 50(3), 838-852.
- Rajadurai, J., Alias, N., Jaaffar, A.H., Wan Hanafi, W.N. (2018) Learners' satisfaction and academic performance in Open and Distance Learning (ODL) Universities in Malaysia, *Global Business and Management Research*, 10 (3).
- Ouma, G.O., Auor, F.M., & Kyambo, B. (2013). E-LEarning readiness in public school in Kenya. *European Journal of Open, Distance and e-Learning*, 16,2.
- Park, S. Y. (2009). An analysis of the technology acceptance model in understanding university students' behavioral intention to use e-learning. *Educational Technology and Society*, 12(3), 150-162.
- Sekaran, U., & Bougie, R. (2013). *Research methods for business - A skill building approach*. Great Britain: John Wiley and Sons, Ltd, Publication
- Sawang, S., Newton, C., & Jamieson, K. (2013). Increasing learners' satisfaction/intention to adopt more e-learning. *Education and Training*, 55(1), 83-105.
- Sheppard, B., Seifert, T., & Wakeham, M. M. (2014). School leadership and classroom uses of technology. *Synopsis of paper presented at Canadian Association of Educational Administration and Commonwealth Council for Educational Administration and Management. Fredericton, New Brunswick: Canada.*
- Sojkin, B., Bartkowiak, P, and Skuzza,A. (2014) Changes in students choice determinants in Poland. *Higher Education* 69(2)
- Stone, M. (1974). Cross-validation and multinomial prediction. *Biometrika*, 61(3), 509-515
- Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D. (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. *Computers and Education*, 50(4), 1183-1202.
- Urbach, N & Ahlemann, F. (2010). Structural equation modeling in information systems research using partial least squares. *JITTA, Journal of Information Technology Theory and Applications*, 11(2),5.
- Vetloutsou, C., Lewis, J.W. and Paton, R.A (2004) University selection: information requirements and importance. *International Journal of Educational Management,t* 18(3)
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425-478.
- Wolff, B.G, Wood-Kustanowitz,A. M. and Ashkenazi , J.M. (2014) Student performance at a community college: Mode of delivery, employment and academic skills as predictors of success. *Journal of Online Learning and Teaching* 10(2)
- Wu, J.H., Tennyson, R.D. and Hsia, T.L. (2010) A study of student satisfaction in a blended E-learning system environment. *Computers and Education*, 55(1)

Wahab, N. A., Othman, J., & Warris, S. N. (2016). Blended learning in higher education: An overview. *e-Academia Journal UiTMT*, 5 ,2.

White Baker, E., Al-Gahtani, S. S., & Hubona, G. S. (2007). The effects of gender and age on new technology implementation in a developing country: Testing the theory of planned behavior (TPB). *Information Technology & People*, 20(4), 352-375