

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

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ABSTRACT

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

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 increase access to education while enriching the quality of the learner's experience. In line with Industry 4.0, e-learning has not only become accessible and flexible but also create value for money for users. By 2023, the e-learning market is expected to be worth USD 240 billion (Dacebo, 2016). The reasons for this increase are the low fees compared to the conventional mode of learning and the appeal of e-learning to working adult learners. However, having a career while trying to complete assignments, attend classes or work on projects can be challenging. A recent report indicates that though the learners are mostly highly technical especially in the technology era, their top priority in e-learning is through social or collaborative learning (Dacebo, 2016). Thus, in ODL, social influence can be an important factor in influencing learner performance besides mobile delivery and data analytics.

Research in conventional environments has shown that the academic performance of students is highly influenced by motivation, physical environment and self-efficacy (Ariani, 2016) or teacher delivery and communication. Nonetheless, limited research has been conducted on the influence of factors such as teacher presence and acceptance and use of technology on learners' performance in the ODL environment. Learners performance in ODL is important not only for the learners' future career development but also to reduce the high attrition rate that is common in the ODL environment. Therefore, this study investigates these factors that may influence the learner's performance in an ODL university in Malaysia. Besides, the study also aims to test the mediating effect of social influences in the relationship between users' acceptance and usage of technology and the teacher's presence. The study hopes to enrich the existing literature on the e-learning in the context of developing countries.

LITERATURE REVIEW

Rajadurai, Alias, Jaaffar and Wan Hanafi (2018) described online distance learners as constructors, rather than receivers, of knowledge. However, in the ODL environment, "online learning" and "e-learning" are 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). The latest in e-learning research is learning through augmented reality (AR) (Ahmad Fauzi Ali & Aminudin, 2019). Their research focused on evaluating students' acceptance and the usage of augmented reality (AR) and its effectiveness on construction technology education (Ahmad Fauzi Ali & Aminudin, 2019). They found that students strongly accepted the usage of AR as a learning tool (Ahmad Fauzi Ali & Aminudin, 2019). This was shown through a 68% improvement in the students' pre and post-test results (Ahmad Fauzi Ali & Aminudin, 2019).

Technology acceptance and usage theory, based upon the Technology Acceptance Model (TAM) by Davis (1989), introduced variables such as perceived ease of use (PEOU) and perceived usefulness (PU) (Ducey, 2013) to the academic community. In recent studies, there has been strong evidence that iterated the relationship of acceptance and usage with learners' performance in e-learning (Davis, 1989; Ducey, 2013; Mohamad & Mustapha 2018). A recent study also confirmed that factors such as self-efficacy, subjective norms, interaction, enjoyment, anxiety and compatibility affect perceived usefulness and perceived ease of use in the adoption of e-learning system in the e-learning environment (Baki, Birgoren & Aktepe, 2018). In the Malaysian context, Wahab, Othman and Warris (2016) asserted 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 (Rajadurai et. al, 2018; Sun, Tsai, Finger, Chen & Yeh, 2008). However, little research has been done to investigate e-learning acceptance and learners' performance in the Malaysian context.

Conversely, a study by Wolff, Wood-Kustanowitz and Ashkenazi (2014) found that learners' performance has a positive relationship with variables such as instructor's assistance to learners in completing their coursework, besides the hours' learners spend studying and the learners' acceptance and willingness to learn. Meanwhile, Wu, Tennyson and Hsia (2010) highlighted that teachers' assistance in making course materials and assignments accessible was an important factor for learners. A study in the Kenyan e-learning environment suggested that a success factor in student performance in school was teachers' presence besides the policies being imposed (Ouma, Awuor & Kyambo, 2013). Sheppard, Seifert and Wakeham (2014) found that teacher presence in assisting student learning using technology, especially in student-centred learning, enhanced students' performance. Effective facilitators can foster a strong sense of community by creating places in the course where learners can build relationships and chat about issues outside of the discussion questions. Barron (2006), however, argued that in building strong e-learning environments, teachers' presence is necessary to provide strong bonding with learners while offering a high standard of learning. Besides training of teachers at the university, Van Raaij and Schepers (2006) suggested that some kind of rewards should be given to motivate teachers to be present in the e-learning environment. Therefore, an instructor's presence, especially in forums, could be effective for learners especially when physical presence is impossible. Instructor presence has been discussed extensively in the past by Garrison, Cleveland-Innes and Fung (2010) applying the Community of Inquiry (COI) model. Teaching presence is highlighted by Garrison and Arbaugh (2007), who stated that "interaction and discourse play a key role in higher-order learning but not without structure (design) and leadership (facilitation and direction)" (p. 67). Therefore, for e-learning environments to produce high-performance learners, there should be some kind of collaboration between their instructors and their learners. The literature discussed here indicates the importance of instructors in enhancing student performance, yet this has not been studied much in Malaysia.

While it is perceived that student acceptance and usage affect their performance, research has also proven that these effects are mediated by social influence (Park, 2009). Social influences may shape a 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 include institutional communication and student-related factors. Institutional communication was found to be the most influential factor in the context of higher education institutions (HEI), including communication with students through printed brochures, advertising and web content (Vetloutsou, Lewis & Paton, 2004). Whereas, student-related factors include the student's family, demographics, socioeconomic characteristics and academic abilities (Avery & Hoxby, 2004; Desjardin et al. 2004; Hemsley-Brown & Oplatka, 2015; Ivy, 2008; Maringe, 2006; Sojkin, Bartkowiak & Skuzza, 2014). Nonetheless, Kelman (1961, 2006) described social influence as a connection between an individual and the primary and secondary reference group through a media channel. Besides, Kumar (2018) suggested that variables such as social media should also be considered to better understand the impact on learners' overall academic performance. Furthermore, it was suggested that a flexible learning and assessment system can create a desirable level of motivation among students to participate in the e-learning environment which may then result in positive academic performance (Ariani, 2016). Therefore, educators and managers should make a conscious effort to create a positive social environment to ensure there will be a positive impact on students' performance. However, the e-learning platform is suggested by Sawang Newton, & Jamieson, (2013) as "good way of learning" at all times. Few 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 examine the relationship between learner's acceptance and usage of e-learning, instructor's presence and learner's performance, mediated by social influences among learners in a distance learning (ODL) environment. In doing so, it aims to contribute to the literature in ODL.

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

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

Quantitative research was utilised for this study to investigate the relationship between independent variables of learners' acceptance and usage of e-learning and instructor's presence, with social influences as the mediating variable and learners' performance as the dependent variable. The relevant units of analysis in this study is on learners at an ODL university. Cross-Sectional survey research was employed in this study. A total population of 800 learners who had been enrolled in the ODL university for more than a year were chosen in this study. Approximately 300 questionnaires were distributed with a total of 148 responses. The response rate of 49% was achieved. As suggested by Fraenkel, Wallen and Hyun (1996), the minimum number of samples for descriptive studies is 100 and for correlation studies, at least 50 samples are deemed necessary.

Data were collected via a structured questionnaire, which comprised 19 items. Apart from the section on demographics, there were four sections; the first section measured the learner's acceptance and usage; the second section measured social influences, the third section indicated the instructor's presence and the fourth section measures 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 a 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 verified by getting three experts reviewers from the business management, human resource, and marketing disciplines, respectively. They were invited to review and advise in the pre-test stage. Some revisions were made after getting their feedback, in terms of question clarity

DATA ANALYSIS AND RESULTS

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

Respondents' Profile

A total of 148 respondents completed the questionnaires. Table 1 depicts the demographic profile of respondents in terms of gender and age. The sample indicates that female respondents represented a slightly higher percentage of the 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 and 40 years old (45%). Less than 1 per cent 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 was tested using Partial Least Squares (PLS) via Smartpls version 3.0. PLS approach is recommended for causal models especially when the sample size is small. To ensure the reliability and the validity of the data and construct for the internal consistency of this study, convergent validity and discriminant validity were performed. The structural model assessment was performed to test the hypothesis. This study also performed an assessment of collinearity and the path coefficients.

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 fulfilment in the composite reliability should also exceed the threshold value of 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 indicates that 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, 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 all loadings fall in their respective constructs. Throughout the outer loading values surpassed the accepted value of greater than 0.5. The CR for this study ranges from 0.655 to 0.946 as shown in Table 4. 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 Variance Extracted (AVE)
Acceptance & Usage	0.623
Instructor Presence	0.562
Learner's Performance	0.748
Social Influence	0.854

To ensure that the construct is unique discriminant validity assessment was performed by applying Fornell and Larcker's (1982) criterion, cross loading and Heterotrait Monotrait (HTMT) Ratio. The Fornell and Larcker (1982) result in this study showed that each indicator was highly loaded on the construct it is correlated with. To estimate the cross loading, all the indicators were found higher than their loadings on all other latent variables. In order to address the problem of shortcomings in Fornell and Larcker and cross loading, Heterotrait Monotrait (HTMT) was tested. Table 6 indicates the HTMT was between 0.562 and 0.708, which is at acceptable level. Thus, discriminant validity was 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 findings of this study, structural model analysis was performed. Firstly, the collinearity issues had 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 were 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 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 hypotheses of this study were fully supported. The full path coefficient for this study is illustrated in Figure 1.

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

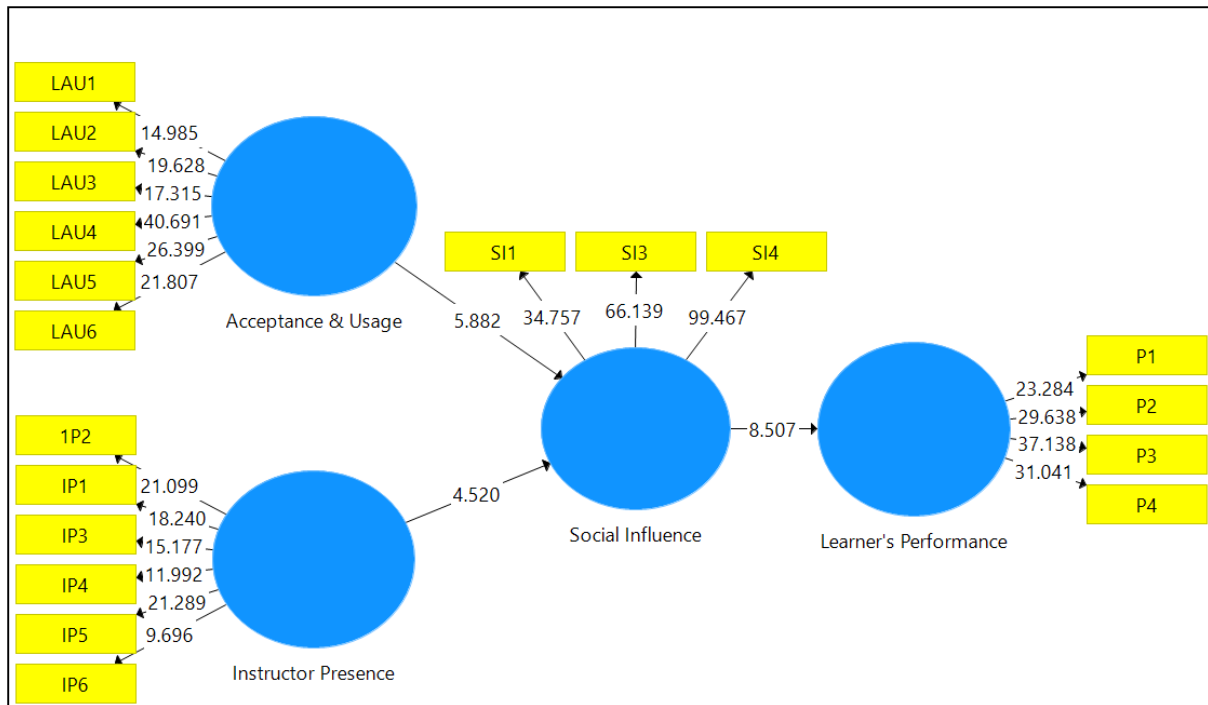


Figure 1: PLS ALGORITHM

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 a distance learning (ODL) institute, bootstrapping to examine the relevant path coefficients and blindfolding procedures were performed. The results 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 (ULCI) 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 and 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 -> Social Influence -> Learner's Performance	0.249	0.251	0.053	4.656	0.001	0.166	0.341
Instructor Presence -> Social Influence -> Learner's Performance	0.187	0.192	0.049	3.815	0.001	0.115	0.276

After confirming the positive significance 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 was 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 degree of predictive accuracy.

Table 10: Coefficient of Determination R²

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

The next concern is the effect size or f², 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 are defined as small, medium and large f² values, respectively (Cohen, 1988). This study indicated that social influence has a large effect size (0.379) in producing the R² for learner's performance. Meanwhile, both exogenous variables also give a large effect size (acceptance and usage = 0.355, instructor presence = 0.200) in producing the R² for social influence. The result is 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 Q² value by using blindfolding procedures. Table 12 indicated that the predictive relevance Q² of intention to stay has a value of 0.245 and job satisfaction is 0.377. The result shows that the exogenous constructs have a predictive relevance based on the two endogenous constructs as the Q² values are considerably larger than zero. (Hair et al., 2014; Geisser, 1974; Stone, 2014).

Table 12: Q square

	SSO	SSE	Q² (=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 q² was established to assess the contribution of the exogenous constructs towards the endogenous variables' Q² value. The guideline in interpreting the effect size of q² value as suggested by Hair et al. (2016) determines 0.02 as weak, 0.15 as moderate and 0.35 as substantial. The calculation of the q² had been done manually using the Q² 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 a 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 e-learning and instructor presence have a significant direct relationship with learners' performance. These results support the view of Wahab, Othman and Warris (2016) about blended learning in Malaysia. Furthermore, the study also corroborates similar studies that have applied the TAM model in an e-learning platform (Davis, 1989; Ducey, 2013; Mohamad & Mustapha 2018). The results imply that student performance can be enhanced if the e-learning platform is fully accepted, which may be due to ease of use or the availability of good materials such as modules, videos, lectures, forums and chatting platforms. This study also found that instructors are also important to guide learners in their search for knowledge. Besides, this research found that social influence as a mediator increased the effect of the relationship between acceptance and usage and instructor presence, which supports Kumar's (2018) findings. Thus, for better learner performance in e-learning platforms, social influence, especially from the peers, can play an important role in motivating and making learning more collaborative rather than an activity to be done in isolation.

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. With the present global challenges as we move into the era of IR 4.0, this study suggests that instructor's presence and learners' acceptance and usage of e-learning have a profound impact on enhancing learners' academic performance. Therefore, ODL universities policymakers need to have strategic plan to enhance the capability of their academic staff through training and good compensation packages while upgrading their information technology.

CONCLUSION

In terms of theoretical implications, this study adds a relatively new area to the ODL literature. 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 e-learning and instructor presence, with the dependent variable of student performance. Empirical evidence on this topic has not been extensive and therefore this study offers some significant contributions to the literature on open learning in a developing country like Malaysia. Future studies should consider replicating this study into other educational tiers or into a larger sample group that

covers all open learning universities in Malaysia. Future researchers should look into developing a more robust measurement for social influences variable based on other theories in management. Many other variables can contribute to enhancing student performance that can be explored, such as quality of lecturers, lecturer characteristics and quality of learning material and assessment. Researchers should consider pursuing a longitudinal research design, which can obtain more in-depth knowledge about the problem.

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