

ACCEPTANCE OF THE MADRASATI (M) LMS AMONG PUBLIC SCHOOL TEACHERS AS AFFECTED BY BEHAVIORAL INTENTION IN RIYADH

HAMAD MUAYBID ALHARBI¹, HABIBAH AB JALIL^{1*}, MUHD KHAIZER OMAR², MOHD HAZWAN MOHD PUAD²

¹Department of Foundation Studies, Faculty of Educational Studies, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

²Department of Science and Technical Education, Faculty of Educational Studies, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

*Corresponding Author: habibahjalil@upm.edu.my

ABSTRACT

The utilisation of Madrasati (M) LMS among school teachers has become crucial in teaching and learning in Saudi Arabia, specifically in Riyadh. However, the acceptance and utilisation of the M LMS are still poor in KSA. Teachers' acceptance and use of M LMS are linked to the Unified Theory of Acceptance and Use of Technology (UTAUT) and Technology Acceptance Model (TAM) factors. This study aims to determine whether performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), attitude, and competence to use M significantly influence behavioral intention (BI) to utilise M among teachers in Saudi public schools in Riyadh. Consistent with this objective, the quantitative research design, specifically the survey technique, was used to collect data from a sample of 374 public school teachers in Riyadh. The results revealed that UTAUT (PE, EE, SI, FC) and TAM (competence) factors significantly affected M LMS utilisation among teachers, while attitude had no significant effect on M LMS utilisation. The study found that out of six tested hypotheses, H1, H2, H3, H4, and H6 were accepted, while H5 was rejected. It can be concluded that PE, EE, SI, FC, and competence significantly affect M LMS utilisation among teachers in Riyadh.

Keywords: *Acceptance, LMS, Madrasati, School Teachers, TAM*

1. INTRODUCTION

Teachers' teaching practices play a crucial role in the effective content delivery to pupils in public schools. In this regard, teaching practices create a strong foundation for learning. On the other hand, the teaching process and practices are influenced by teachers' behaviours and attitudes linked to differences in their PE, EE, SI, and FC as affected by their distinct behaviours[1]. These behaviours are presumed to affect the quality of teaching in schools[2]. Furthermore, studies also reported that behavioral intention signifies teachers' deliberate intention to engage in a specific activity[3]. Hence, there is an ongoing debate on whether teaching behavioral intentions are independent of the curricular teaching background [4].

Factors including PE, EE, SI, and FC directly determine technology acceptance (behavioral intention) and its use (behaviour) among teachers in schools[5]. These factors are considered crucial in measuring the possible issues with new technology and its acceptance among school teachers in Riyadh [6]. Studies have established a significant relationship between these factors and behavioral intention using factors highlighted in UTAUT [7]. Also, [6] found a negative relationship between behavioral intention and UTAUT factors, while [8] showed that UTAUT factors affect the adoption of the new technology (e-learning) among teachers in KSA. Similarly, [9] applied the UTAUT model to evaluate teachers' behavioral motivation toward technology acceptance and utilisation in KSA. The study found that teachers only use a specific technology when they perceive its significance and

benefits in easing the teaching and learning process. Similarly, TAM was found to predict the use of technology through behavioral intentions that affect attitude toward the use, perceived uses, ease of use and competencies in using LMS[3&10].

These knowledge gaps include the lack of definitive variables of teachers' behavioral intention(BI) toward M LMS adoption and utilisation and insufficient evidence on how PE, EE, SI, and FC affect the teachers' utilisation of M LMS in public schools. In addition, there is no clear evidence on how these factors may affect teachers' BI and utilisation of M LMS M technology in Riyadh. Therefore, it is crucial to examine the factors influencing teachers' BI and M utilisation in Riyadh's public schools. This study aims to determine whether PE, EE, FC, SI, attitude to use M LMS, and competence to use M LMS significantly influence the BI to utilise M LMS among teachers in Saudi public schools in Riyadh. This study outlined six hypotheses. Hypothesis 1 (H1) stipulates that PE directly affects behavioral intention to utilise Madrasati (M) among teachers in Saudi public schools in Riyadh. The second hypothesis (H2) states that EE directly affects behavioral intention to utilise M LMS among teachers in Saudi public schools in Riyadh. The third hypothesis (H3) is that SI directly affects teachers' behavioral intention to utilise M LMS in Saudi public schools in Riyadh. In contrast, according to Hypothesis 4 (H4), FC directly affects the behavioral intention to utilise M LMS among Saudi public school teachers in Riyadh, and Hypothesis 5 (H5) states that there is a direct relationship between BI to use M LMS and attitude to use M LMS among teachers in Saudi public schools in Riyadh. The sixth hypothesis (H6) states a direct relationship between competence to use M LMS and behavioral intention to use M LMS among teachers in Saudi public schools in Riyadh.

2. LITERATURE REVIEW

2.1 Performance Expectancy

Performance expectancy reflects how users believe in using a system to support their performance. It is very important, as the users have to be assured that the use of the system helps them perform better in particular tasks [11]. Expectancy theory deals with the mental process of making a choice. Individuals behave in a certain way because they are motivated to select a specific behaviour over others[12]. Performance expectancy has been

noted as the most important factor influencing LMS utilisation [13].

2.2 Effort Expectancy

Expectancy is how effortlessly potential users perceive the use of technology to ease their usage. Effort expectancy decreases as users become more familiar with new technology [14]. [15] found that teachers use new technology if they find it easy to use and require less effort. Any ambiguous system will draw apathy from the users. The overall ease with which the system is accessed determines the effort expectancy.

2.3 Social Influence

Teachers tend to use new technology if others encourage them, which suggests social influence [16]. Social influence has been recognised as one of the most critical factors in adopting new technology[17]. Teachers play a profound role in shaping students' perceptions of using or snubbing technology in the learning process, thereby influencing other students, families, and social actors [14].

2.4 Facilitating Conditions

The role of FC in enhancing acceptance and LMS utilisation has been reported in various contexts. Teachers use new technology if they know that they have someone to help them when they face difficulties using it [18]. However, FC has moderating effects on the intention to use e-learning [19]. Some major FC includes the lack of access to technology, infrastructure and technical support.

2.5 Attitude to use M LMS

Teachers' technology use is highly influenced by their attitudes towards using new technology[20]. [21] found that the level of satisfaction among users is an effective way to judge the usefulness of technology. Satisfaction also helps give an idea of whether a particular technology will be continued in any field. [22] discovered that consumer attitude, particularly cognitive attitude, affects how they accept an information system. Hence, it is an important variable in assessing behaviour toward information system use. A positive attitude toward LMS among teachers is essential for the system to be effectively integrated into the teaching process [15].

2.6 Competence to use M LMS

Competence plays an essential role in technology adoption in the context of education. One of the primary reasons teachers refuse to incorporate new technology into their teaching practices is a lack of technological competence [23]. Technological competence is an important factor in determining the rate of technology use because it directly influences the use of IT among teachers [24]. In Saudi Arabia, computer and internet skills constitute key factors for using the internet for educational purposes [25]. In this light, fundamental skills in computer hardware and software are not only prerequisites to efficiently handling technology, but fundamental knowledge is necessary for using technology [26].

2.7 Behavioral Intention to use M LMS

Behavioral intention is an individual's conscious or thoughtful purpose of engaging in positive or negative behaviour [27]. This shows that a person will engage in certain activities or tasks when they intend to be involved with them. Regarding technology utilisation, behavioral intention refers to the users' intention to use technology [28]. Behaviour intention plays a crucial role in learning development as it explains how new behaviours are adopted and how habits develop. Behavioral intention factors can also influence the use of an LMS. Studies that used UTAUT have reported a significant relationship between PE, FC, EE, and behavioral intention has been reported [28](Pangaribuan & Wulandari, 2018).

2.8 Conceptual Framework

This study is based on the UTAUT and TAM models. Specifically, it explores the behavioral intentions of public school teachers in Riyadh to utilise M LMS. The UTAUT and TAM models are illustrated in Figure 1. The conceptual framework is based on these models. The UTAUT measures PE, EE, SI, and FC, while TAM measures attitude to use M LMS and competence to use M LMS, as influenced by behavioral intention, which is presumed to impact teachers' behaviour and M LMS utilisation in Riyadh. Based on this framework, the independent variables include PE, EE, SI, FC, attitude, and competence, the dependent variable is behavioral intention to use M LM.

The main target group for this study comprises public school teachers in Riyadh, Saudi Arabia. These teachers were selected because M LMS has been implemented in Saudi public schools

since 2020. This study assumes that the teachers have already gained sufficient experience using M technology in the teaching process after a year of implementation. The conceptual framework effectively determines how the selected UTAUT, and TAM factors influence a teacher's behavioral intention to use M LMS.

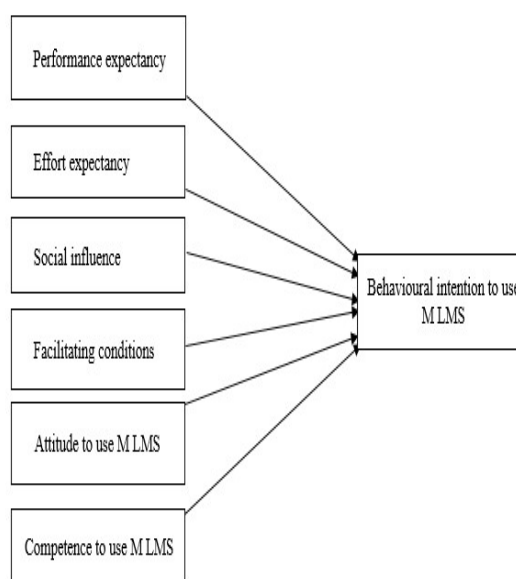


Figure 1: Research Conceptual Framework

3. METHODOLOGY

3.1 Research Design

The quantitative research design, specifically the survey method, was used to determine the factors (PE, EE, SI, FC, attitude to use M LMS, and competence to use M LMS) influencing teachers' behavioral intentions toward M LMS utilisation in Saudi public schools in Riyadh. The main reason for using this method is that quantitative research provides a more scientific approach to dealing with human samples and examining the cause and effects of relationships.

3.2 The population of the study

Riyadh has a population of over 7.5 million, with a high general literacy level of 95.32%. The rate is increasing at 7.84% annually [29]. The sample is representative of the general population in Saudi Arabia. The target population of this study is teachers teaching in public middle and secondary schools in Riyadh, KSA, which implement the Madrasati online learning approaches. According to information provided by M LMS administrators and management, 13,782

public school teachers are currently using Madrasati in all phases in Riyadh, representing the population of this study. The sample size for this study was determined at 374 samples using Cochran's formula (Raosoft® software). Teachers in public schools in Riyadh were chosen as they are the ones at the helm of the Madrasati (M) LMS implementation. It is assumed that they have sufficient experience using the M LMS [30] as most teachers have used it for at least six months.

3.3 Instrumentation and data collections

This study applied the survey method. The survey design instrument was used to gather facts, opinions, and behaviour patterns from a group of individuals (primary participants) by posing questions through questionnaires [31]. This study used a 5-point Likert scale for the survey questionnaires as they are the most widely used instrument in quantitative research on technology adoption and e-learning [32]. The respondents were asked to express their agreement or disagreement of the statement in each item based on a five-point rating scale of 1 to 5- 1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Agree Strongly.

The questionnaire was conducted online through Google Form. Copies of the questionnaire were sent to all targeted teachers in public schools adopting Madrasati in Riyadh, KSA. The emails sent contained a direct link to the survey with a consent letter. Simple random sampling was used to avoid gender and age bias during the data collections. The selection and usage of the emails were carefully done in random manner to avoid one group being over sample over the other. The survey was shared during school working hours and at an appropriate time (free time) for the teachers because they usually have less time to access their email during the weekends. A cover letter or consent form is attached to the questionnaire survey.

Although a minimum sample size of 374 was adequate to examine the hypotheses for this study, 500 survey questionnaires were randomly distributed online to the target respondents. The researcher of this study decided to oversample in anticipation of problems such as sampling errors or prospective participants being uncooperative and not willing to complete the questionnaires. Of 500 questionnaires distributed, 425 responses were returned. Before data analysis, the questionnaires were screened for missing data. A total of 12 responses were found to contain errors and incomplete values. Therefore, only 413 responses

were used for the actual data analysis. The return rate of the valid data was a total of 85%. According to [33], a 60% rate of return could be considered adequate for analysis and reporting.

There were no special selection criteria applied to factors or subfactors (PE, EE, SI, FC, attitude to use M LMS, competence to use M LMS) selection. This is because these factors are constructs in the UTAUT model. The inclusive criteria used were on teachers' participation in the study. These criteria include (i) that teachers must be secondary school teachers where the M LMS has been adopted as a teaching tool. (ii) Teachers must have at least 6 months of experience using the M LMS. (iii) The teachers must be classroom instructors. (iv) The teacher must have school email.

3.4 Reliability and Cronbach's alpha (α)

A Cronbach's alpha test was performed to assess the internal consistency of every variable. [34] indicated that 0.7 is a satisfactory reliability coefficient. In this regard, PE ($\alpha=0.730$), EE ($\alpha=0.867$), SI ($\alpha=0.878$), FC ($\alpha=0.846$), and BI (0.835) all show high and satisfactory reliability, while competence has the highest reliability ($\alpha=0.968$) followed by attitudes ($\alpha=0.878$). This result showed that all six variables are reliable. Their reliability values exceeded the recommended threshold of 0.700, which paved the way for data analysis through Cronbach's Alpha statistics.

3.5 Data Analysis

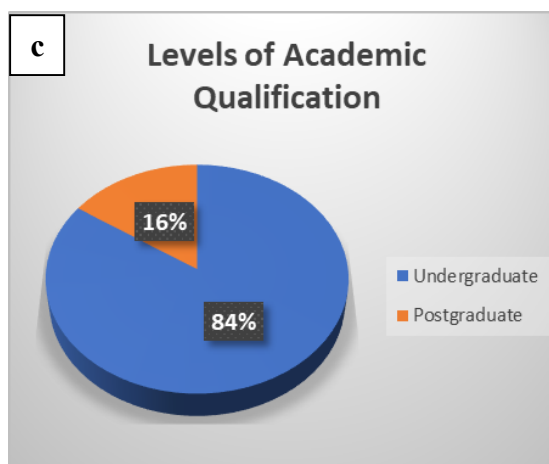
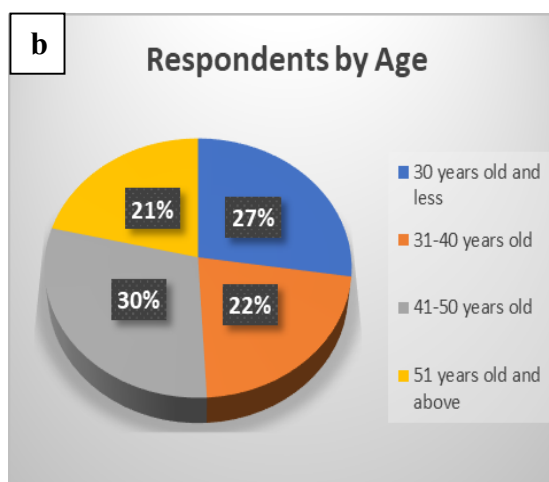
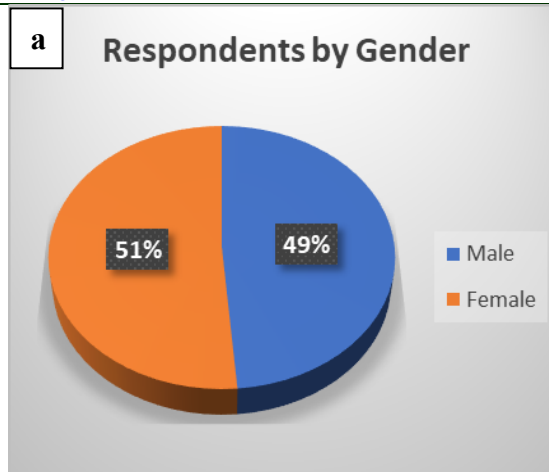
This study used the Statistical Package for Social Science (SPSS, version 23) to analyse the quantitative data. The data were analysed descriptively, including percentages, means, and SD. The significance level was set at $p < 0.05$ for all variables. All collected responses were checked carefully for missing and outliers, resulting in 413 responses being used. The data collected was also entered into the Structural Equation Modelling (SEM) using AMOS v23 to test the proposed hypotheses. Using AMOS, the data were analysed in three stages: Confirmatory Factor Analysis (CFA), measurement model analysis, and structural model analysis, according to [35]. The skewness and kurtosis were performed to determine data normality. The skewness values range from -0.038 to 1.506, and kurtosis values range from -1.506 to -0.038. As a result, the data was assumed to be normally distributed. This study has not encountered any measurement, data processing, or analysis issues.

Data that does not follow the expected distribution is identified using anomaly detection. Most of the data (over 95%) obtained in this study has a normal distribution. Less than 5% of the data, which included outliers in the FC and attitude data, was judged anomalous. Since these data were outliers and represented some of the population's inherent variances for this study, normalization was applied because they could not be removed from the dataset. Since the interquartile range (IQR) approach is straightforward and efficient, it was employed, and the data was normalized. The difference between the 75th and 25th percentiles of the 5-percent data was calculated by dividing the median by the interquartile range (IQR). The attitude and FC outliers become more evenly distributed when these outliers are eliminated, which improves the effectiveness of other variables. Therefore, it appeared that eliminating outliers first, then transforming, was the optimal approach used.

4. RESULTS

The demographic information of the teachers is displayed in Figure 2. Based on the results, the highest percentage of respondents are female at 51% and male (49%) (Figures 2a). About 27% of the respondents are 30 years old or less, while 22% are aged between 31 to 40, the highest number (30%) is between 41-to 50, while the lowest percentage is 51 years old or above with 21% (Figures 2b). The participants' levels of academic qualification are presented in Figure 2c, with the highest number of respondents (84.50%) having an undergraduate-level qualification, while the remaining (15.50%) have a postgraduate level qualification.

The respondents' experience is based on their length of service, specifically years of employment. The results showed that most respondents had 8–14 years of experience (41%), while those aged 29 and above constituted the least experienced (7%). Moreover, most participants attended more than three workshops (37%), while the least attended three workshops (17%).



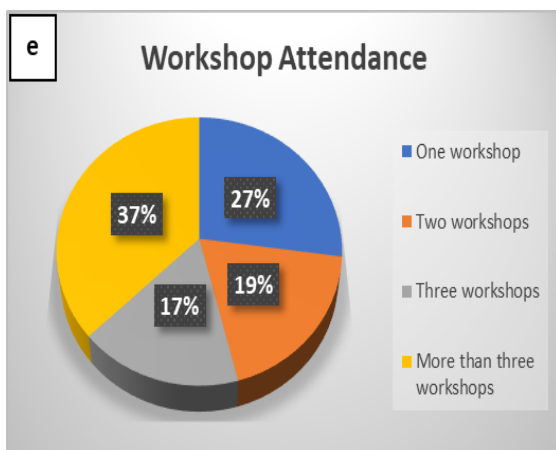
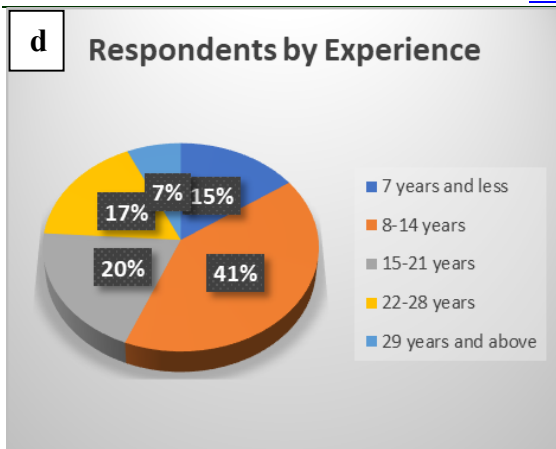


Figure 2: Demographic variables respondents by (a) gender and (b) age, (c) education level, (d) experience, and (e) workshop attendance

4.1.1 Factors Influencing the behavioral intentions toward M LMS utilisation

The findings were based on PE, EE, SI, FC, attitude to use M LMS, and competence to use M LMS as influenced by BI for M LMS utilisation outcomes among teachers in Riyadh.

4.2 Performance Expectancy

Figure 3(a) displays the result of PE. Regarding the first hypothesis, the mean of PE was $m=3.77$ and $SD=0.98$, which was considered high. About 43.83% of the respondents strongly agreed with these items, while the item with the lowest mean score ($m=3.72$) was PE5. This implied that many respondents agreed that M LMS helps them to learn. Thus, M LMS utilisation is helpful in course teaching, and the hypothesis was accepted. Most teachers found that the behavioral intentions toward M LMS utilisation benefits their

professional career development and improves their work performance.

4.3 Effort Expectancy

Figure 3(b) depicts the outcome concerning the second hypothesis. The overall mean indicated that the mean value for EE was high ($m=3.85$; $SD=1.01$). Among the five items kept after CFA testing, (EE1) had the highest mean score ($m=3.99$), with respondents strongly agreeing with this item, while (EE4) had the lowest mean score ($m=3.72$). The result showed that while the behavioral intentions toward M LMS utilisation is a highly time-consuming process, the teachers believe that the system has adequate user-friendliness. Hence, this hypothesis was accepted.

4.4 Social Influence

Figure 3(c) depicts the result of SI concerning the third hypothesis. SII had a mean score of 3.75, representing 29.54% of respondents who strongly agreed that being the first to use the M LMS was a feeling of pride, while 17.43% of respondents remained neutral. The SI12 had a mean value of 4.01, and many of the respondents agreed that M LMS users presented a higher social status among friends. This showed that the SI has a significant link with the behavioral intentions toward M LMS utilisation as influenced by BI. Thus, the third hypothesis was accepted.

4.5 Facilitating Conditions

Figure 3(d) illustrates the result of FC in relation to the fourth hypothesis. The overall mean related to FC indicated that the mean value for FC is high ($m=3.67$; $SD=1.08$). This indicated that the teachers considered SI to be one of the most important factors influencing their usage of M LMS. This finding showed that the schools provide the necessary infrastructure to the behavioral intentions toward M LMS utilisation technology, such as accessibility to the internet or Wi-Fi. Thus, the fourth hypothesis was accepted.

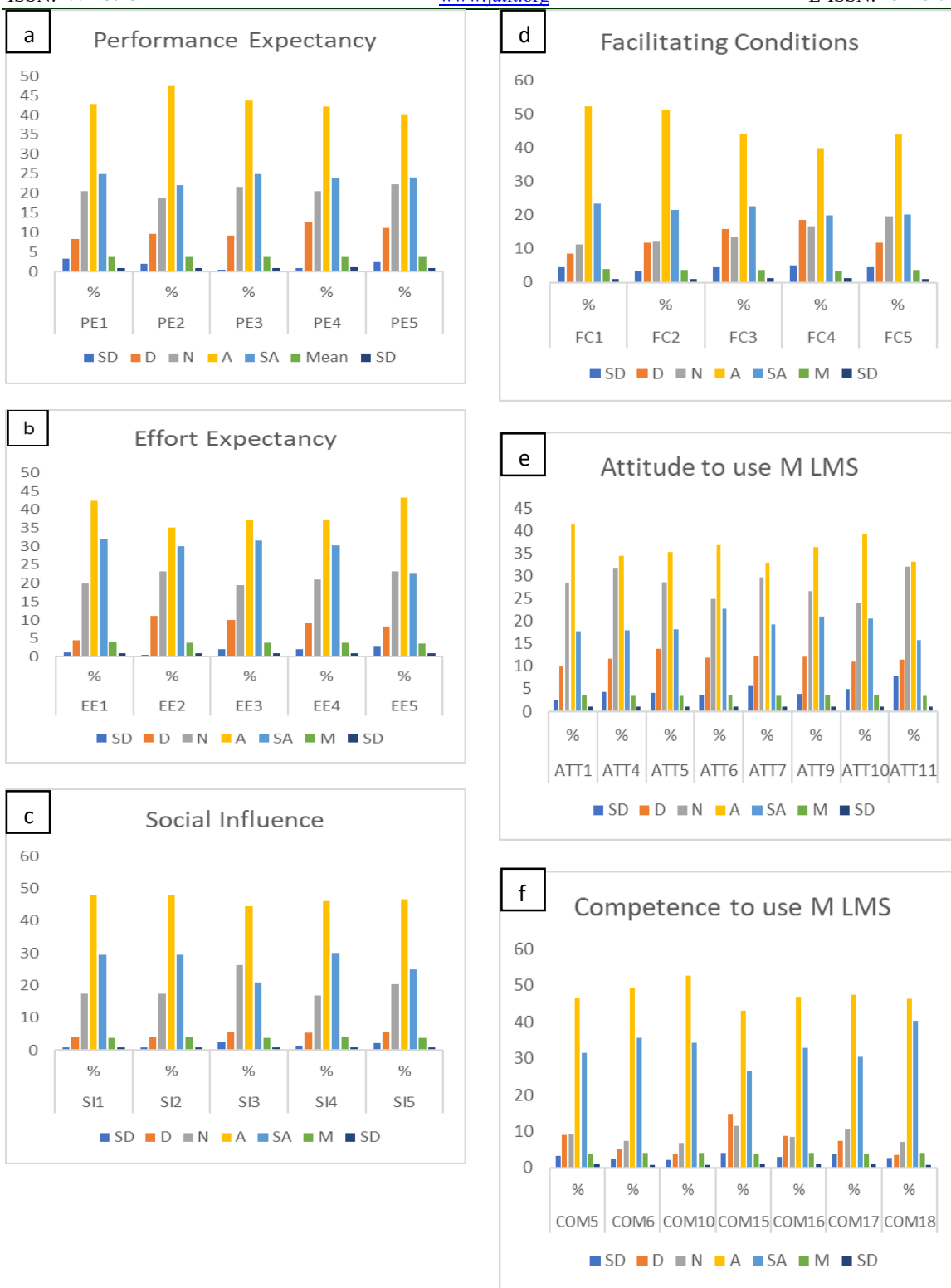


Figure 3: The results of PE, EE, SI, FC, attitude to use M LMS, and Competence to use M LMS. SD: Strongly Disagree, D: Disagree, N: Natural, A: Agree, SA: Strongly Agree M=mean

4.6 Attitude to use M LMS

Figure 3(e) portrays the outcome of the attitude test as stated by the fifth hypothesis. The overall mean attitude shows that the attitude is low ($m= 3.54$; $SD= 1.06$) regarding the behavioral intentions toward M LMS utilisation. ATT1 had the highest mean score ($m = 3.62$), while ATT11 had the lowest mean score ($m = 3.38$). This showed that though the LMS was user-friendly and its features were direct, most agreed that it might take a long time to use. It can be concluded that M LMS adoption is a highly time-consuming process, as conveyed by the teachers, who think that the behavioral intentions toward M LMS utilisation has adequate user-friendliness. Therefore, the fifth hypothesis was rejected.

4.7 Competence to use M LMS

Figure 3(f) represents the result of the competence test in relation to the sixth hypothesis. The result indicates a high overall mean score ($m= 4.00$; $SD= 0.87$). The mean score for COM15 is also high ($m = 3.87$). The M LMS are accepted (agreed) by most teachers for its capability of presenting relevant information and content. The COM of the behavioral intentions toward M LMS utilisation includes well-designed lessons and helpful feedback in improving teachers' knowledge. Thus, the sixth hypothesis was accepted.

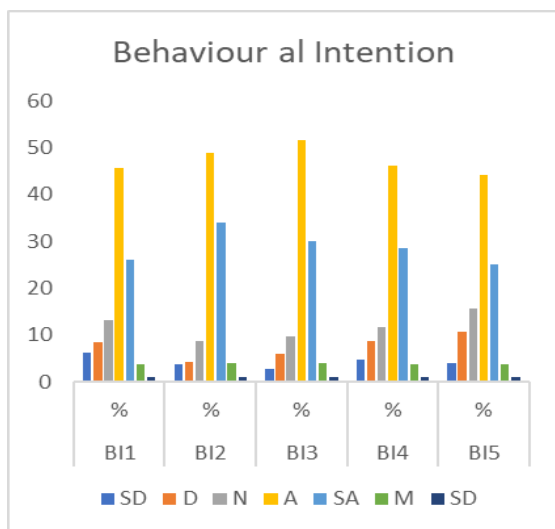


Figure 4: Behavioral Intention

4.8 Behavioral Intention

Figure 4 indicates that BI scored a high mean ($m = 3.88$, $SD = 1.18$). This finding shows that BI is significantly linked to the use of M LMS in teaching. The teachers surveyed perceive that the

M LMS is a good teaching approach, and more teachers should adopt it in the near future.

5. DISCUSSION

The findings of this study regarding the level of PE utilisation in Riyadh revealed that PE construction has a positive and significant effect on M LMS utilisation as influenced by BI. M LMS utilisation and acceptance among Saudi teachers appeared to be linked with PE technology. Even though M LMS utilisation among teachers remains challenging in Saudi Arabia, their BI entails the teachers' PE toward new technology. The PE factor is very important, as the teachers have to be assured that the use of the system helps them perform better in particular tasks [11]. Similarly, [5] found a significant contribution of PE on BI to accept new technology.

The BI to M LMS utilisation has a positive and significant effect on EE. This suggests that the teachers in Riyadh found the M LMS easy to use and adopt. According to [15], teachers use new technology if they find it easy to use and requires less effort. This is because an effective system should stimulate users' interest and change their attitude toward it, such as M LMS utilisation among the teachers in Riyadh. This view is supported by [14], who stated that EE decreases as users become more familiar with new technology. [30] further added that the more familiar an individual is with the internet, the less effort individual perceives required to use an LMS.

This study found SI to have a positive and significant effect on M LMS utilisation as affected by BI, suggesting that SI positively affects how teachers' attitudes toward technology affect others. According to [16], teachers use modern technology if they get encouragement, and it helps them socially influence others. The significant effect obtained in the current study is supported by results indicated by [14], who found that if teachers perceived that their social value would increase by using technology, they were more likely to use it.

Moreover, FC and M LMS utilisation were found to be significant, indicating a significant relationship between FC and the utilisation of M LMS as influenced by BI among schools in Riyadh. This implies that FC has a role in enhancing acceptance and LMS utilisation. This will increase the levels of technical support for the M LMS. In the Saudi context, a lack of quality technical

support has been found to have a profound impact on M LMS adoption [11]. The availability and quality of technical support is a major factor that enables FC in Riyadh. A significant direct effect also supports this result. [6] have established a significant relationship between FC and behavioral intention.

The relationship between attitude to use M LMS and M LMS utilisation was revealed to be statistically insignificant. This suggests that the level of M LMS utilisation and acceptance among teachers in Riyadh cannot be associated with their attitudes. This may be due to integrating ICT into LMS technology and its utilisation in public schools among teachers. BI may play a more significant role than teachers' attitudes toward teaching and learning [36 & 37]. In line with this, M LMS focuses more on social factors than emotional factors, on how teachers interact with LMS technology and the environment (e.g., Riyadh), representing their behaviour and intention toward such interaction. The new technology is a key factor associated with the initial acceptance of LMS technology and future behaviour concerning LMS utilisation. The present finding is not in agreement with that of [38] who indicated that teachers' behaviour can be expressed as individuals' behaviour or actions as they engage in aspects required to facilitate learning. This process has its origin in intrinsic belief and intention in the learning event, but not technological usage. This is because teachers' knowledge can be linked with their context-based attitude toward technology that affects their adoption of M LMS, thereby rejecting it in teaching. This study has not identified teachers' attitudes as a significant predictor of the new technological utilisation in the school context. This means attitudes towards using M LMS are not shaped by intention as a crucial factor for teachers' technology acceptance in Riyadh. Positive attitudes could motivate less technologically proficient teachers to learn the essential skills to use technology in teaching [39], which was not consistent with our findings. This is because some school teachers in KSA are slow in accepting M LMS because they believe the technology may not fit well with their micro-or macro-performance and expectations.

There is a significant and positive relationship between competence to use M LMS and M LMS use. Thus, this study supports the notion that teachers' competence to effectively handle computer-related technology, such as M LMS, is imperative in its successful implementation in

Riyadh. Moreover, competence is a significant factor in determining the rate of technology use because it directly influences the use of M LMS among teachers [24]. Teachers are becoming competent in applying the M LMS technology in public schools in Riyadh, allowing the teachers to play a more effective function as enablers in their environments. A scarcity of technological competence can hamper creative abilities [40]. The lack of technical competencies of the teachers has been found to directly affect the achievement of the students in the learning environment, such as reducing the students' participation and demoralising them from engaging with technology actively. Many factors have contributed to teachers' shortage of technological utilisation, competence, and integration. Given this, based on [41], a significant failure to effectively integrate technology into teaching has been that teachers are left out of the deliberation about instructional technology (e.g., M LMS) projects, policy, and adoption processes, and are only allowed to be involved at the implementation stage. A recent study by [23] indicated that teachers do not participate well in technology utilization at all levels in their classrooms. This report is not consistent with current findings because we found that teachers participated well in M LMS technology utilization in the classroom, which demonstrates their level of competence to use M LMS in Riyadh.

The findings of this study indicate that M LMS utilisation among teachers is crucial to ensure large scale adoption of this new technology in Riyadh schools. The success of any initiative to implement technology in an educational programme depends strongly upon the attitudes of the instructors involved. As discussed, M LMS focuses on social factors (PE, EE, SI, & FC), particularly how teachers interact with M LMS technology and the environment (e.g., Riyadh), reflecting their behavioral intention in such interaction.

Similarly, [5] discovered that PE had a significant impact on behavioral intention to accept a new technological device. In this view, the current finding is consistent with the theories as expectancy theory deals with the mental process of making a choice. However, our finding did not agree with the report of [12], who propose that individuals behave or act in a certain way because of motivational states because they are motivated by cultural background but not specific behaviour over other behaviours. This may be because of the context of the study or

variable chosen. Conversely, our findings showed that PE appeared to influence LMS use in Riyadh, which was similar to findings reported by [42]. [43] tested the four UTAUT determinants: PE, EE, SI, and FC to determine their contributions to predicting behavioral intention to use tablets with age and gender as moderators. They found that EE and FC were the only determinants that positively predicted tablet use intentions after controlling for age, gender, and tablet use. The [43] report partially agreed with our findings in terms of EE and FC. However, these variables were not the only determinants of technological usage in this current study. This implies that our findings produced more robust results by discovering a good connection between the PE, SI, and competence to use M LMS in terms of M LMS utilization in Riyadh.

It is hoped that the conceptual framework of this study effectively determines how the selected UTAUT factors influence teachers' behavioral intention to use M LMS. The research population's culture and context contributed in a unique way to the body of research in this field. It will be beneficial as, in general, there is still a scarcity of empirical research in which BI is tested against UTAUT factors. This scarcity is acute in the Saudi context and M LMS in particular. Furthermore, exploring the role of attitudes and competence in using M LMS through TAM is an adaptation of the original UTAUT, which reveals the culture and context-specific motivation-related degrees. This study has identified several factors (PE, EE, SI, FC, and competence to use M LMS) that contribute to M LMS utilisation among Saudi teachers.

The findings of this study showed that Madrasati has a positive effect on teaching. A significant finding of this work is the substantial effect of teachers' behavioral intention on the utilisation of Madrasati (M) LMS, which translates into a positive level of PE, EE, SI, and competence to use M LMS. Towards M LMS utilisation. The behavioral intention negatively influences the teachers' attitude towards the usage of M LMS. Therefore, middle and secondary schools struggling to implement technology in their teaching and learning processes can benefit from the results of this study. As a result, this study contributes to the effective use of behavioral intention on the Madrasati, which contributes to pedagogical development in Saudi Arabia.

5. CONCLUSION

The results showed a significant positive relationship between BI, UTAUT (PE, EE, SI, FC) and TAM (competence) factors and M LMS utilisation among teachers in Riyadh. However, the results revealed that BI has no significant influence on teachers' attitudes (TAM factors) toward using M LMS in Riyadh. Out of six tested hypotheses, all hypotheses, except for H5, were accepted. It can be concluded that PE, EE, SI, FC, and competence factors significantly affected M LMS utilisation among teachers in Riyadh. In contrast, attitude has no significant effect on M LMS utilisation. In the meantime, the influence of BI on M might differ due to changes in teachers' PE, EE, SI, FC, and competence over time; as the M LMS utilisation becomes more familiar, it is recommended for future studies to consider testing other variables such as user experience and levels of M LMS utilisation, for instance, surveying users' level of engagement on the platform.

The results of this study cannot be generalized; it is limited to Riyadh and Saudi Arabia. However, it can be used by schools in regions where Madrasati is adopted in teaching and learning, and the schools have similar settings as those in Riyadh. The focus of this study is not on gender or age. However, age and gender are involved in the demographic characteristics. No technical issues were encountered during the data collection and analysis.

REFERENCES:

- [1] Alnahdi, Ghaleb. "Are we ready for inclusion? Teachers' perceived self-efficacy for inclusive education in Saudi Arabia." *International Journal of Disability, Development and Education* 67, no. 2 (2020): 182-193. DOI <https://doi.org/10.1080/1034912X.2019.1634795>
- [2] Al-Shehri, Mohammed. "The effectiveness of D2L system: An evaluation of teaching-learning process in the Kingdom of Saudi Arabia." *International Journal of Advanced Computer Science and Applications* 8, no. 1 (2017). DOI <http://www.ijacsa.thesai.org/>
- [3] Sánchez-Prieto, José Carlos, Susana Olmos-Migueláñez, and Francisco J. García-Peñalvo. "M-Learning and pre-service teachers: An assessment of the behavioral intention using an expanded TAM model." *Computers in Human*

- Behavior* 72 (2017): 644-654..
<https://doi.org/10.1016/j.chb.2016.09.061>
- [4] Elashhab, Seham. "Motivational Teaching Strategies within Saudi University EFL Classrooms: How to Improve Students' Achievement?." *International Journal of Language and Literary Studies* 2, no. 1 (2020): 124-141. <https://doi.org/10.36892/ijlls.v2i1.173>
- [5] Onaolapo, Sodiq, and Olawale Oyewole. "Performance expectancy, effort expectancy, and facilitating conditions as factors influencing smart phones use for mobile learning by postgraduate students of the University of Ibadan, Nigeria." *Interdisciplinary Journal of e-Skills and Lifelong Learning* 14, no. 1 (2018): 95-115. <https://doi.org/10.28945/4085>
- [6] Alshehri, Ahmed, Malcolm J. Rutter, and Sally Smith. "An implementation of the UTAUT model for understanding students' perceptions of learning management systems: A study within tertiary institutions in Saudi Arabia." *International Journal of Distance Education Technologies (IJDET)* 17, no. 3 (2019): 1-24. DOI: 10.4018/IJDET.2019070101
- [7] Kułak, Jacek Piotr, Mariusz Trojanowski, and Edyta Barmentloo. "A literature review of the partial unified theory of acceptance and use of technology 2 (UTAUT2) model." *Annales Universitatis Mariae Curie-Skłodowska, sectio H-Oeconomia* 53, no. 4 (2019). DOI: <http://dx.doi.org/10.17951/h.2019.53.4.101-113>
- [8] Bouznif, Maroua M. "Business students' continuance intention toward Blackboard usage: An empirical investigation of UTAUT model." *International Journal of Business and Management* 13, no. 1 (2018): 120. <https://pdfs.semanticscholar.org/0ad5/0d5cba7793652df18553a4aedaf12ea9cc31.pdf>
- [9] Almutairi, Sara Manour, Adnan Abdul-Aziz Gutub, and Nouf Awad Al-Juaid. "Motivating teachers to use information technology in educational process within Saudi Arabia." *International Journal of Technology Enhanced Learning* 12, no. 2 (2020): 200-217. DOI <https://www.inderscienceonline.com/doi/abs/10.1504/IJTEL.2020.106286>
- [10] Scherer, Ronny, Fazilat Siddiq, and Jo Tondeur. "The technology acceptance model (TAM): A meta-analytic structural equation modeling approach to explaining teachers' adoption of digital technology in education." *Computers & Education* 128 (2019): 13-35.. <https://doi.org/10.1145/3378184.3378221>
- [11] Funmilola, Buraimoh Oluwaseun, Yusuf Mudasiru Olalere, Olusanjo Michael Oluwole, Ajijola Esther Modupe, and Aladesusi Gboyega Ayodeji. "Examining Performance Expectancy And Effort Expectancy As Determinants Of Secondary School Teachers'behavioral Intention To Use Mobile Technologies For Instruction In Kaduna State, Nigeria." In *Conference Proceedings of the AITIE 3rd International Conference and Workshop on Innovation, Technology and Education (ICWITE, Abuja 2019)*, p. 30. 2019. <https://www.ijitie.aitie.org.ng/index.php/ijitie/article/download/97/49#page=44>
- [12] Wilhelm, Ricardo A., Matthew W. Miller, and Philip A. Gable. "Neural and attentional correlates of intrinsic motivation resulting from social performance expectancy." *Neuroscience* 416 (2019): 137-146. <https://doi.org/10.1016/j.neuroscience.2019.07.039>
- [13] Coleman, Emma, and Sive Mtshazi. "Factors affecting the use and non-use of Learning Management Systems (LMS) by academic staff." *South African Computer Journal* 29, no. 3 (2017): 31-63. <https://hdl.handle.net/10520/EJC-c5c71ede6>
- [14] Dong, Xiaomeng. "Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Relative Advantage Affecting Chinese Customers' Decision to Use Mobile Payment in Bangkok." (2019). <http://dspace.bu.ac.th/jspui/handle/123456789/3779>
- [15] Ling, Loh Wai, Wan Fatimah Wan Ahmad, and Termit Kaur Ranjit Singh. "Behavioral intentional to use computers among educators." *International Journal of Business Information Systems* 33, no. 1 (2020): 144-155. <https://www.inderscienceonline.com/doi/abs/10.1504/IJBIS.2020.104800>
- [16] Fu, Jiawei Sophia, Michelle Shumate, and Noshir Contractor. "Organizational and individual innovation decisions in an

- interorganizational system: Social influence and decision-making authority." *Journal of Communication* 70, no. 4 (2020): 497-521. <https://doi.org/10.1093/joc/jqaa018>
- [17] Zimmermann, Thomas. "Social influence or rational choice? Two models and their contribution to explaining class differentials in student educational aspirations." *European Sociological Review* 36, no. 1 (2020): 65-81. <https://doi.org/10.1093/esr/jcz054>
- [18] Echeng, Razep, and Abel Usoro. "E-learning implementation issues and strategies to address low participation using an enhanced model of acceptance of web 2.0 technologies: A case study of a scottish university." *International Journal on E-Learning* 16, no. 1 (2017): 5-22. <https://www.learntechlib.org/primary/p/148466/>
- [19] Tarhini, Ali, Kamla Ali Al-Busaidi, Ashraf Bany Mohammed, and Mahmoud Maqableh. "Factors influencing students' adoption of e-learning: a structural equation modeling approach." *Journal of International Education in Business* (2017). <https://doi.org/10.1108/JIEB-09-2016-0032>
- [20] Tenekeci, Ferdi, and Huseyin Uzunboylu. "Determining the relationship between the attitudes of private teaching institution teachers towards lifelong learning and their competence." *International Journal of Learning and Teaching* 12, no. 1 (2020): 1-16. DOI: <https://doi.org/10.18844/ijlt.v12i1.4559>
- [21] Gu, Peiya, Ye Zhang, and Haibo Gu. "Creating a technology-enhanced constructivist learning environment for research ability development in a BA Thesis Writing course." *Computer Assisted Language Learning* 33, no. 5-6 (2020): 538-566. DOI: <https://doi.org/10.1080/09588221.2019.1576735>
- [22] Dwivedi, Yogesh K., Michael R. Wade, and Scott L. Schneberger, eds. "Information systems theory: Explaining and predicting our digital society, vol. 1." (2011).
- [23] Granero-Gallegos, Antonio, Manuel Gómez-López, Antonio Baena-Extremera, and Marina Martínez-Molina. "Interaction effects of disruptive behaviour and motivation profiles with teacher competence and school satisfaction in secondary school physical education." *International journal of environmental research and public health* 17, no. 1 (2020): 114. DOI: <https://doi.org/10.3390/ijerph17010114>
- [24] Tran, Quyen Ha. "Information technology competence, process management and knowledge management: A case of manufacturing firms of Vietnam." *Systematic Reviews in Pharmacy* 11, no. 2 (2020): 763-773. <https://www.sysrevpharm.org/abstract/information-technology-competence-process-management-and-knowledge-management-a-case-of-manufacturing-firms-of-vietnam-65607.html>
- [25] Algahtani, Monerah Fahid. "Factors influencing the adoption of learning management systems in the Kingdom of Saudi Arabian universities by female academic staff." PhD diss., RMIT University, 2017. <https://researchrepository.rmit.edu.au/esploro/outputs/doctoral/Factors-influencing-the-adoption-of-learning/9921863782401341>
- [26] Goodman-Deane, Joy, Mike Bradley, and P. John Clarkson. "Digital technology competence and experience in the UK population: who can do what." *Proceedings of ergonomics and human factors* (2020). <https://publications.ergonomics.org.uk/uploads/Digital-technology-competence-and-experience-in-the-UK-population-who-can-do-what.pdf>
- [27] Chao, Cheng-Min. "Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model." *Frontiers in psychology* 10 (2019): 1652. <https://doi.org/10.3389/fpsyg.2019.01652>
- [28] Pangaribuan, Christian Haposan, and Yuni Sri Wulandar. "A Crowdfunding Platform User Acceptance: An Empirical Examination Of Performance Expectancy, Effort Expectancy, Social Factors, Facilitating Condition, Attitude, And Behavioral Intention." In *SU-AFBE 2018: Proceedings of the 1st Sampoerna University-AFBE International Conference, SU-AFBE 2018*, p. 346. 2019.
- [29] Peterson, John E. *Historical Dictionary of Saudi Arabia*. Rowman & Littlefield Publishers, 2020.
- [30] Al-Sharhan, Salah, Ahmed Al-Hunaiyyan, Rana Alhajri, and Nabeil Al-Huwail.

- "Utilization of learning management system (LMS) among instructors and students." In *Advances in Electronics Engineering*, pp. 15-23. Springer, Singapore, 2020. DOI https://doi.org/10.1007/978-981-15-1289-6_2
- [31] Smith, Tom W. "Optimizing Questionnaire Design in Cross-National and Cross-Cultural Surveys." *Advances in Questionnaire Design, Development, Evaluation and Testing* (2020): 471-492. <https://doi.org/10.1002/9781119263685.ch19>
- [32] Zhu, Xuelian, Michelle Raquel, and Vahid Aryadoust. "Structural equation modeling to predict performance in English proficiency tests." In *Quantitative Data Analysis for Language Assessment Volume II*, pp. 101-126. Routledge, 2019. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315187808-5/structural-equation-modeling-predict-performance-english-proficiency-tests-xuelian-zhu-michelle-raquel-vahid-aryadoust>
- [33] Pallant, Julie. *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. Routledge, 2020.
- [34] Adeniran, A. O. "Application of Likert scale's type and Cronbach's alpha analysis in an airport perception study." *Scholar Journal of Applied Sciences and Research* 2, no. 4 (2019): 1-5.
- [35] Morin, Alexandre JS, Nicholas D. Myers, and Seungmin Lee. "Modern factor analytic techniques: Bifactor models, exploratory structural equation modeling (ESEM), and bifactor-ESEM." *Handbook of sport psychology* (2020): 1044-1073. <https://doi.org/10.1002/9781119568124.ch51>
- [36] Almarri, Jaber, Rabiatal Adawiah Ahmad Rashid, and Saleh Aljohani. "Teachers'belief Towards The Implementation Of ICT In Intermediate Schools In Saudi Arabia." *International Transaction Journal of Engineering, Management, and Applied Sciences and Technologies* 11, no. 4 (2019): 1-10. DOI: 10.14456/ITJEMAST.2020.73
- [37] Bervell, Brandford, and Valentina Arkorful. "LMS-enabled blended learning utilization in distance tertiary education: establishing the relationships among facilitating conditions, voluntariness of use and use behaviour." *International Journal of Educational Technology in Higher Education* 17, no. 1 (2020): 1-16. Doi <https://doi.org/10.1186/s41239-020-0183-9>
- [38] Olugbara, C. T., S. N. Imenda, Oludayo O. Olugbara, and H. B. Khuzwayo. "Moderating effect of innovation consciousness and quality consciousness on intention-behaviour relationship in E-learning integration." *Education and Information Technologies* 25, no. 1 (2020): 329-350. DOI: <https://doi.org/10.1007/s10639-019-09960-w>
- [39] Heyder, Anke, Anna Südkamp, and Ricarda Steinmayr. "How are teachers' attitudes toward inclusion related to the social-emotional school experiences of students with and without special educational needs?." *Learning and Individual Differences* 77 (2020): 101776.. <https://doi.org/10.1016/j.lindif.2019.101776>
- [40] Kristiawan, Muhammad. "A Model of Educational Character in High School Al-Istiqamah Simpang Empat, West Pasaman, West Sumatera." (2020).
- [41] Alghamdi, Jawaher, and Charlotte Holland. "A comparative analysis of policies, strategies and programmes for information and communication technology integration in education in the Kingdom of Saudi Arabia and the republic of Ireland." *Education and Information Technologies* 25, no. 6 (2020): 4721-4745.
- [42] Wu, Long, Pi-Jung Hsieh, and Shwu-Ming Wu. "Developing effective e-learning environments through e-learning use mediating technology affordance and constructivist learning aspects for performance impacts: Moderator of learner involvement." *The Internet and Higher Education* 55 (2022): 100871.
- [43] Shah, Syed Nadir Ali, Abid Ullah Khan, Barkat Ullah Khan, Tajdar Khan, and Zhang Xuehe. "Framework for teachers' acceptance of information and communication technology in Pakistan: Application of the extended UTAUT model." *Journal of Public Affairs* 21, no. 1 (2021): e2090. <https://doi.org/10.1002/pa.2090>