# Technology Acceptance Model to Determine the Faculty Members' Experiences of LMS During COVID-19

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## Abstract

**Research Aim:** *This study aims to measure the differences between the attitudes Pakistan academics based on their expectations before they use the learning management system since the outbreak of the Coronavirus pandemic and after attaining their experience through practice.*

**Methodology:** *A quantitative research approach has been adopted, and the sample individuals are 86 as a pre-sample and 85 as a post-sample. TAM2 model staff were used to build the data collection tool and link the impact of variables (sex, specialization, scientific rank, training duration and use).*

**Results:** *Results showed that cumulative experiences play a crucial role in creating a meaning of orientation and practice in connection with the actual use of techniques and that the practice according to long periods of experience in the services of technology in the educational process provides a more realistic measurement of different from the opinion of any sample in the beginnings of its use of technology in its initial stages. There were statistically significant differences in favor of the pre-sample about their high acceptance of the system, and they had positive attitudes.*

**Conclusions:** *Towards expecting their use*

*Different perspectives were monitored for the post-sample (after experience practicing the system) because of the barriers and difficulties they faced during their activation and use of the system, which negatively affected their attitudes. The study recommended raising cultural awareness and promoting the proper activation of technical tools by conducting more training courses in this field because it impacts the formation of positive accumulative orientation, affecting adoption during the use time.*

*Keywords: Experience in practice, technology acceptance model, learning management system, faculty staff*

## Introduction

The outbreak of the Corona epidemic swept through the barriers of time and space, and calls for "distance learning " and "E-learning " (Khalaf et al., 2022)also swept through the walls of space and time, which necessitated all educational sectors in the world's various institutions in general are changing their strategies and looking for alternative approaches to sustain their work (Jojoa, et al. 2021; Zahrani, 2020)

E-learning and learning management systems mainly rely on the most important and diverse technologies that help and support the educational process and contribute to its transformation from indoctrination to creativity, skills development, and interaction (Khafaga, 2021). Therefore, the learning management system needed to adopt the "blackboard" or activate its use to help sustain the educational process in university learning institutions. Indeed, most universities have used open or closed-source E-learning management systems to provide educational ground for faculty staff and academics to teach and communicate with learners in an easy way without having to have deep knowledge of programming methods (Zahrani, 2020; Al-Balasi, 2016; Asiri, et al., 2012).

Studies have shown that faculty staff's attitudes and acceptance of technology are a key factor in the success of learning, as confirmed by the TAM2 technology acceptance model that the more practical and easier-to-use the user's view of the technology, the more positive orientation towards it. The more difficult it is to use, the more negative orientation will be towards use (Al-Qahtani and Turkish, 2018; Binyamin, 2018; Abdalla, 2007). These attitudes may be affected by the practice of technology because of going through many positive or negative experiences. These experiences

affect the degree to which beneficiaries accept technology and thus shape their attitudes (Van De Spoel, et al., 2020).

### Study Problem

There may be a lack of presence of some workshops and courses by faculty staff, which creates a major challenge in terms of the use of blackboard and the management of virtual classes academically and masterfully, especially since training has a major role to play in strengthening the positive attitudes of users (Awad, 2021). This resulted in a difference in faculty staff's attitudes towards the use of the blackboard learning management system according to several variables such as (sex, specialization, scientific rank, training, duration of use), which made it important to measure staff's attitudes towards their use of technology through the use of the blackboard learning management system in the lights of the Model TAM2 and the degree, to which their experience of practice and comparing them to their expectations on these attitudes during the Corona pandemic, which helps identify the barriers and develop the current situation of use according to specific variables(Al_Hjoujj, 2023). This study depends on the answer to the question: *What is the degree of change in the orientation of academics towards accepting technology using the blackboard learning management system due to Model TAM2 since the beginning of the coronavirus pandemic?* The following questions and assumptions arise from the main question:

(1) Are there any statistically significant differences in the questionnaire axes due to the difference between the attitudes of the sample individuals based on expectations and experience in practice?

(2) Are there any statistically significant differences in the questionnaire axes due to a difference between the attitudes of the sample individuals based on expectations and experience in practice due to variables (gender, specialization, scientific rank, training, and time of use)?

### Study Hypothesis

Based on the Model TAM2 and investigating causal relationships and the impact of external variables on the underlying factors of the model, the following assumptions were formulated:

H1: There is a statistically significant relationship at the level 0.05 between EU ease of use and PU usage benefits of using the blackboard learning management system (Lavidas et al.,

2022; Yaskin & Everhart, 2002)

H2: There is a statistically significant relationship at the level 0.05 between the affecting popularity of CM and the benefits of PU use about the use of blackboard learning management system. There is a statistically functioning relationship at the level 0.05 between qualifications – authorities CP and PU benefit from using the blackboard learning management system.

Moreover, a statistically significant relationship was noted at the level 0.05 between PP entertainment and PU usage benefits of using the blackboard learning management

There is a statistically significant relationship at the level 0.05 between TW trustworthiness and PU usage benefits about using the blackboard learning management system due to the Corona pandemic. There is a statistically significant relationship at the level 0.05 between the benefits of PU use and the purpose of IU on the use of blackboard learning management system. There is a statistically functioning relationship at level 0.05 between EU ease of use and the purpose of using IU about the use of the blackboard learning management system Finally, there is

a statistically significant relationship at level 0.05 between the benefits of PU use and the actual use of AU using the blackboard learning management system

### *Study Objectives*

The study aimed to measure the differences in the academics' attitudes towards their acceptance of technology based on their expectations and experience of practising the use of the blackboard learning management system during the Corona pandemic.

Investigating the impact of some diverse variables such as (sex- specialization- scientific rank - duration of use) on measuring the orientation of towards their acceptance of technology based on their expectations and experience of practicing in the light of Model TAM2 through the use of the blackboard learning management system by academics since the beginning of the Corona pandemic, and the degree to which experience affected the change in these attitudes during the Corona pandemic.

## Theoretical *Framework*

### *TAM2 Technology Acceptance Model*

The Technology Acceptance Model (Form 1) suggests that any particular

technology based on two main factors is accepted: predicted ease of use (EU), which means the degree to which a person thinks that using a particular system will be the least possible effort. The expected benefit PU implies the degree to which a person believes that their use of a particular system will help him/her improve their job performance, and these two intermediate belief-based factors affect another factor of their own purpose of using IU. It is the force whose motivation and intentions to adopt and use, whether positive or negative, are affected by external factors or variables indirectly through the expected benefit and ease, like the influential popularity CM, which is to study the impact of the number of users on the popularity of the use of technology for years. There are also qualifications and authorities CP, which means learning the impact of the ability of computer communications to allow users to communicate and participate in the exchange of information (Dorfsman & Horenczyk, 2022). There is entertainment PP, which means studying the effects of the level of enjoyment in interactive environments provided by the system in technology acceptance, and finally, trustworthiness TW implies the impact of the level of security and privacy and, therefore, the confidence of the technology in the intention of using it. Thus,

the main objective of the TAM2 technology acceptance model is to predict, interpret and identify factors that play an important role in accepting or rejecting a particular information system as factors. (Ahmed, 2016; Aman et al.), 2020; Evans et al., 2014).

### *Academics' Attitudes Towards the Use of Blackboard Learning Management System in the Light of Model TAM 2*

The acceptance of technology is one of the most important challenges the researchers face in studying the integration of technology into the educational process. Therefore, technology acceptance constitutes the users' attitudes towards their application and activation. Trends are generally defined as an acquired emotional readiness towards a subject and have a significant role to play in determining human behavior towards the subject, Attitudes may be positive, negative, or neutral, and previous practices and experience undoubtedly play a major role in shaping this attitude (Zalat, Hamed, & Bolbol, 2021). TAM2 Model confirmed this for accepting technology (Form 1) to move forward towards providing remote electronic learning in emergency and problem-solving resorts. The results revealed that the awareness of faculty staff of the ease of use of learning management systems and the

perceived benefit of it, despite the difficulties and barriers they face in the actual use of learning management systems, increases the intensity of their beliefs towards their effectiveness and thus accept them and form positive attitudes towards their activation.

### *Impact of Faculty Staff Experience to Practice Technology*

The use of any new technological innovation, led by learning management systems, is very demanding and important for faculty staff, as indicated by the studies (Van De Spoel et al., 2020; Priyadarshani, & Jesuiya, 2021). However, faculty members of different specializations apply everything new and will reflect positively on the educational process and effective results of change. They are always willing to develop themselves and receive new courses that will raise their performance, and this may be acquired emotional preparedness as a result of a positive attitude towards the activation and application of technology. There is no doubt that faculty staff's experience and previous experiences play a key role in shaping these attitudes. Several studies have indicated the importance and impact of accumulative experience on the use of technology, considering that the attitudes of

the most faculty staff were negative to those who found it difficult to use the blackboard as a result of their lack of experience in how to use it, unlike the previous experience of how to use their attitudes were positive towards the use of technology (Al-Qahtani & Al-Turki, 2018; Al-Hujailan & Habeishi, 2018; Van De Spoel et al., 2020).

## Methodology

In this study, the analytical comparative descriptive approach was used, which will help compare the experiences of faculty staff before they use the technique in teaching and after a 38-week of experience accumulation. The study aims to reach results that measure the value of accumulative experiences between the two phases. This methodology is also effective because it provides an explanatory and complementary addition to the subject matter (Creswell, 2017). Analyzing staff's opinions before and after their experience to identify and measure the impact of diverse experiences during the contingency use of the learning management system provides knowledge to identify factors that affect/influence their experiences either negatively or positively by collecting data in two different phases (Van De Spoel et al., 2020).
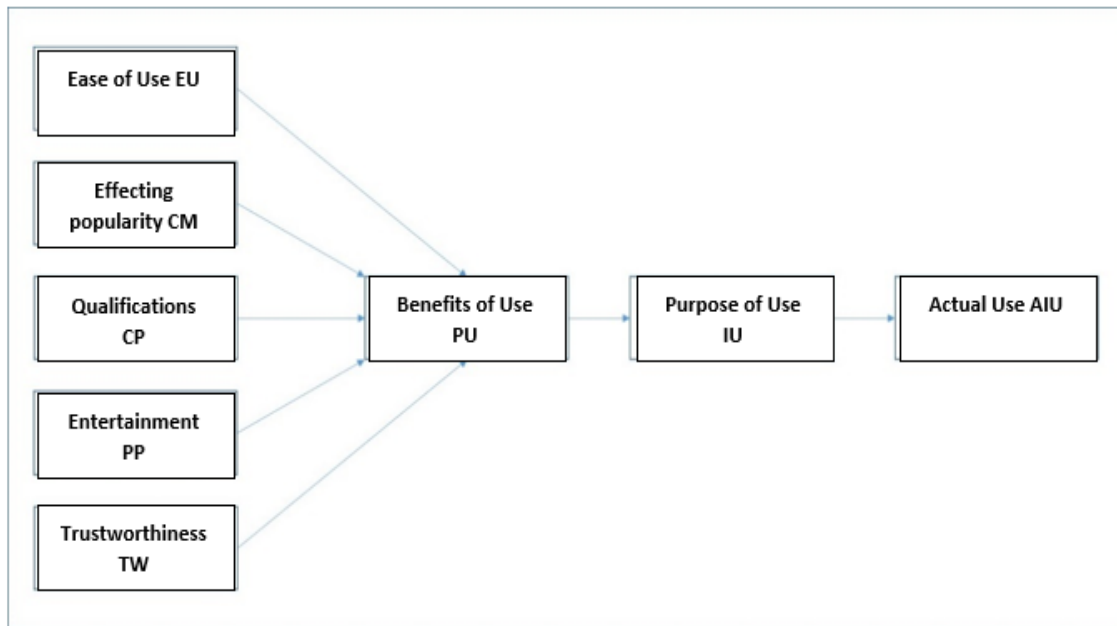
**Figure 1:** TAM2 technology acceptance model Adapted from (Aman et al., 2020) (Evans et al., 2014)

### Study Sample and Population

The study's sample is 171 academics; 86 as a pre-sample (before the actual use of the technique in the teaching process) and 85 as a post-sample (after experience in practice), and the period between the data collection of the two samples is 38.

### Study Tool

Based on the nature of the data and the approach used to achieve the study's objectives and answer its questions and assumptions, the questionnaire was selected as the study tool, as it was built by reference to previous literature and studies related to the study subject matter. The questionnaire, in its final form, consisted of 32 paragraphs divided into two parts: the first part deals with the primary data and includes (sex, age, scientific rank, specialization, training, and time of use) and the second part consists of phrases describing the use of blackboard according to Model TAM2, which are: (Ease of use EU, benefits of use PU, affecting popularity CM, qualifications & authorities CP, entertainment PP, trustworthiness TW, the purpose of use IU, Actual use AU, (Aman et al., 2020; Evans et al, 2014).

### Tool Validity and Stability

The validity of the questionnaire was

measured by calculating the correlation coefficient between the values of each questionnaire to the whole degree of the axis, to which the phrase belongs, on a sample of 30 sample individuals, as it is clear in the table that all paragraphs have statistical significance at the level 0.01. This indicates high indicators of stability and the value of the Alpha Coefficient for the entire questionnaire is 0.94, indicating that the questionnaire is entirely stable.

## Results and Discussion

***Question 1: Are there any statistically significant differences in the questionnaire axes due to the difference between the attitudes of the sample individuals based on expectations and experience in practice?***

T-test was used to extract differences, and Table 2, illustrates that there were statistically significant differences on each of the three axes (ease of use EU, entertainment PP, the purpose of use IU only at the significance level 0.05, due to the difference between the pre individuals' opinions (before actual use) and post (after experience in practice) all of these differences were in favor of the arithmetic means of the pre-sample individuals, i.e., the expectations of the beneficiaries, which reached respectively

(22.90, 13.34, 15.35).

The corresponding arithmetic means for the post sample reached 21.46, 12.54, and 14.29, i.e., post sample is more relevant to the three axes than the post sample, while there are no statistically significant differences about the remaining five axes between the two samples; benefits of using PU, affecting popularity CM, qualifications-authorities CP, trustworthiness TW, actual use AU. At this point, the results of this study agreed with Al-Qahtani and Al-Turki (2018), Wichadee (2015), and Annamalai et al. (2021).

The faculty staff's awareness of ease and purpose increases their beliefs towards their effectiveness and thus accepts them and creates positive attitudes towards their use, which was evidenced in the views and attitudes of the post sample (before use). Their opinions changed after use and experience for 38 weeks, i.e., about three semesters, as they were significantly less receptive to axes PU, CM, CP, TW, and AU. This confirms that the experiences they gained were below their expectations and may have resulted from their low enthusiasm because of the issues and barriers they faced towards the application of technology, whether educational, technical or human aspects, including interaction and others.

**Table 1.** Pearson's correlation coefficient between each questionnaire paragraph and the overall value of its axis

| Ease of use | | Benefits of use | | Affecting popularity | | Qualifications & authorities | |
|---|---|---|---|---|---|---|---|
| 1 | **0.862 | 1 | **0.608 | 1 | **0.739 | 1 | **0.52 |
| 2 | **0.797 | 2 | **0.745 | 2 | **0.561 | 2 | **0.667 |
| 3 | **0.797 | 3 | **0.783 | 3 | *0.859 | 3 | **0.662 |
| 4 | **0.846 | 4 | **0.820 | | | 4 | **0.662 |
| 5 | **0.783 | 5 | **0.880 | | | 5 | **0.43 |
| 6 | **0.726 | | | | | | |
| **Entertainment** | | **Trustworthiness** | | **Purpose of use** | | **Actual use** | |
| 1 | **0.737 | 1 | **0.865 | 1 | **0.914 | 1 | **0.931 |
| 2 | **0.632 | 2 | **0.955 | 2 | **0.832 | | |
| 3 | **0.802 | 3 | **0.975 | 3 | **0.810 | 2 | **0.862 |
| 4 | **0.769 | 4 | **0.913 | 4 | **0.835 | | |

(**) significance at level 0.01

**Table 2.** Study of differences between means of faculty individuals' responses from pre and post samples around questionnaire axes using T. Test for two independent samples

| Axis | Sample | Number | Mean | Std. Dev | Freedom | T Value | Sig. level |
|---|---|---|---|---|---|---|---|
| Ease of use | Pre | | 22.90 | 3.92 | 169 | 2.51 | *0.013 |
| | Post | 85 | 21.46 | 3.55 | | | |
| Benefits of use | Pre | 86 | 19.94 | 3.54 | 169 | 1.75 | 0.082 |
| | Post | 85 | 18.95 | 3.84 | | | |
| Affecting popularity | Pre | 86 | 9.15 | 2.54 | 169 | 0.24 | 0.814 |
| | Post | 85 | 9.25 | 2.79 | | | |
| Qualification & Authorities | Pre | 86 | 18.56 | 3.73 | 169 | 1.60 | 0.112 |
| | Post | 85 | 17.64 | 3.82 | | | |
| Entertainment | Pre | 86 | 13.34 | 2.15 | 169 | 2.47 | 0.014* |
| | Post | 85 | 12.54 | 2.06 | | | |
| Trustworthiness | Pre | 86 | 14.00 | 3.36 | 169 | 0.80 | 0.424 |
| | Post | 85 | 13.60 | 3.17 | | | |
| Purpose of use | Pre | 86 | 15.35 | 3.37 | 169 | 2.11 | 0.037* |
| | Post | 85 | 14.29 | 3.18 | | | |
| Actual use | Pre | 86 | 5.93 | 2.16 | 169 | 1.03 | 0.305 |
| | Post | 85 | 6.28 | 2.32 | | | |

* Statistical significance at level (0.05), ** statistically significance at level (0.01)

**Table 3.** Comparing the results of differences about the questionnaire axes due to the differences in the initial variables at the level of the pre and post samples

| Variable | Axis | Pre sample | Post sample | Result |
|---|---|---|---|---|
| Sex | Ease of use | Females | | Pre sample |
| | Benefits of use | Females | Females | Post sample |
| | Affecting popularity | Females | Females | Post sample |
| | Qualifications& authorities | Females | | Differences at pre-sample are greater |
| | Purpose of use | Females | | Pre sample |
| | Actual use | Females | Females | Differences at post sample are greater |
| | Benefits of use | | Assistant professors and lecturers more than | Post sample |

| | | | associate professors & professors | |
|---|---|---|---|---|
| Scientific rank | Actual use | Assistant professors more than professors. | Assistant professors and lecturers more than participating professors and professors | Differences at pre-sample are greater |
| No. of training in black board courses | Ease of use | Who attended 4 courses & more | | Pre sample |
| Duration of use of blackboard before curfews | Ease of use | Those who use blackboard permanently and intensively | Those who use blackboard permanently and intensively | Differences at pre-sample are greater |
| | Benefits of use | Those who use blackboard permanently and intensively | Those who use blackboard permanently but not/and intensively | Differences at pre-sample are greater |
| | Affecting popularity | Those who use blackboard permanently and intensively | | Pre sample |
| | Qualifications & authorities | Those who use blackboard permanently and intensively | Those who use blackboard permanently but not intensively | Differences at post sample are greater |
| | Entertainment | Those who use blackboard permanently and intensively | Those who use blackboard permanently but not intensively | Differences at post sample are greater |
| | Purpose of use | Those who use blackboard permanently and intensively | Those who use blackboard permanently but not intensively | Differences at post sample are greater |
| | Actual use | Those who use blackboard permanently and intensively | Those who use blackboard permanently and or permanently and intensively | Differences at post sample are greater |
| | Ease of use | Those who use blackboard permanently and intensively | Those who use blackboard permanently and or permanently but not intensively | Differences at post sample are greater |
| | Benefits of use | Those who use blackboard permanently and intensively | Those who use blackboard permanently and or permanently but not intensively | Differences at post sample are greater |
| | Affecting popularity | Those who use blackboard permanently and intensively | Those who use blackboard permanently and or permanently but not intensively | Differences at pre-sample are greater |
| | Qualifications & authorities | Those who use blackboard permanently and intensively | Those who use blackboard permanently and or permanently but not intensively | Differences at pre-sample are greater |
| | Entertainment | Those who use blackboard permanently and intensively | | Pre-sample |
| | Purpose of use | Those who use blackboard permanently and intensively | Those who use blackboard permanently and or permanently but not intensively | Differences at post-sample are greater |
| | Actual use | Those who use blackboard permanently and intensively | Those who use blackboard permanently and or permanently but not intensively | Differences at pre-sample are greater |

***Question 2: Are there any statistically significant differences in the questionnaire axes due to a difference between the sample individuals' attitudes based on expectations and experiences in their use of technology due to variables (gender, specialization, scientific rank, training and time of use)?***

The question will be divided in terms of variables as follows:

*Sex Variable*

The T. Test was used to identify the difference between the arithmetic mean of the sample group of Pakistan academics about the extent to which they used the blackboard learning management system according to their expectations and experience in the light of a Model TAM2 due to the sex variable. It became clear that their expectations created statistically significant differences about each of the four axes (ease of use EU qualifications - authorities CP, Purpose of Use IU, Actual Use AU only at the significance levels 0.01and 0.05 in favor of females; 23.64, 19.53, 16.04, 6.57, respectively, the arithmetic means for the sample group of male faculty staff; 21.70, 17.0, 14.24, 4.91, respectively. There were no statistically significant differences between the rest of the four axes (benefits of using PU,

affecting popularity CM, and entertainment PP, trustworthiness TW). Second: for their opinions according to their experiences, there were statistically significant differences on each of the four axes (benefits of using PU, affecting popularity CM, qualifications & authorities CP, actual use AU only at the significance levels; 0.01, 0.05 in favor of females, respectively, 19.84, 10.04, 18.42, 6.93. There are no statistically significant differences over the rest of the four axes (ease of use EU, entertainment PP, Reliability TW, purpose of use IU). We conclude from this that most of the differences due to the sex change favor females at the sample level.

*Specialization* Variable

It became clear that there were no statistically significant differences in all responses of sample members according to their expectations or experiences on any of the questionnaire axes as the values of all levels of significance were greater than 0.05 at the pre-sample level (before actual use) and post (after experience in practice).

*Scientific Rank Variable*

ANOVA Test evidenced the difference in the significance variable at the level 0.05, as their expectations were found to be positive about the axis (actual use AU only,

and the Scheffe Test evidenced that the source of differences in favor of professor's assistant of the sample individuals. There are no statistically significant differences between the rest of the questionnaire axes of the scientific rank variable. Their opinions according to their experiences have created statistically significant differences between the responses of the sample individuals around two axes (benefits of using PU, actual use AU, only at the level of significance 0.01 &; 0.05 respectively, while there are no statistically significant differences about the rest of the questionnaire axes, where the LSD Test evidenced that the source of differences in favor of professor's assistant and lecturers.

*Training Variable*

The Mann-Whitney U Test evidenced that training laboratories had no role in shaping positive attitudes before their actual use of the system, i.e., they were not enthusiastic about attending training courses since the Corona pandemic began. There were no statistically significant differences on any of the questionnaire axes and all Z values were not statistically significant, with all levels of significance greater than 0.05, while their opinions according to their experiences created statistically significant differences around the ease of use EU axis;

with Z, 2.05 and significance level 0.05 in favor of those who attended four courses or more with an average rank 58.83 greater than the average ranks of those who attended three courses and less 41.13, while there were no statistically significant differences about the majority of the remaining axes (benefits of use, influential popularity, qualifications-powers, entertainment, trustworthiness, purpose of use, actual use) as all levels of significance of Z values were greater than 0.05.

This confirms that their attitudes have increased positively and enthusiastically towards attending the courses after using the system and found an important need for training.

*Use Time Variable*

Kruskal-Wallis's test was used to identify the difference between mathematical averages about the extent to which they used the system according to Form TAM2, which is due to a variable difference in the time of use of the blackboard, as it turns out:

*First:* pre-sample usage time: there are statistically significant differences between sample individuals' responses to most questionnaire axes EU, use benefits PU, entertainment PP, the purpose of use IU, qualifications and powers CP, actual use AU,

And the influential popularity CM at the levels of significance (0.01, 0.05) for those who use blackboard permanently and intensively with students daily, i.e. there is a direct relationship for the duration of use and acceptance, except for the trustworthiness axis TW.

*Second:* The time of use of the post sample: It is clear that there are statistically significant differences between the responses of the sample individuals about most of the questionnaire axes due to the difference in the variable time of use of the blackboard for the post sample, except the trustworthiness axis TW, and these differences were statistically significant about the seven axes ease of use EU, benefits of use PU, affecting popularity CM, Qualifications - authorization CP, entertainment PP, the purpose of use IU, actual use AU) at indication levels 0.01, 0.05, in favor of those who use blackboard permanently and intensively with students (daily), i.e. there is a direct relationship between the time of use and their acceptance of the technology, i.e. the more time of use the more positive attitudes towards accepting technology.

Based on the above, Table 2 illustrates the comparison of differences between the academics' attitudes based on their expectations and experience in using the

blackboard learning management system since the beginning of the Corona pandemic, which is due to the different primary variables (gender, specialization, scientific rank, training and time of use) in favor of the pre-sample (before actual use) who were eager to apply everything new and would affect the educational process and achieve effective positive results, resulting in positive attitudes towards them towards the actual use of the sample using technology (Blackboard Learning Management System) before creating their experience. However, after an experience of practical practice using the technology for up to 38 weeks, three semesters, practicing build experience has formed different orientations resulting from their encounter with difficulties, obstacles, problems, and negative experiences related to ease-of-use EU, the purpose of use IU, actual use AU and affecting popularity CM.

*Second:* The study's hypotheses: The following assumptions have been verified at the level of each sample of the pre and post samples as shown in Table 3.

There is a statistically significant relationship at 0.05 between EU ease of use and PU benefits of using the blackboard learning management system

There is a statistically significant relationship at level 0.05 between the

influential popularity of CM and the benefits of using PU on the use blackboard learning management system.

A statistically significant relationship at 0.05 exists between qualifications-authorities and PU benefits using blackboard learning management system. There is a statistically significant relationship at the level 0.05 between PP entertainment and PU benefits of using the Blackboard Learning Management system. There is a statistically significant relationship at level 0.05 between TW trustworthiness and PU benefits of using the

blackboard learning management system. There is a statistically significant relationship at 0.05 between the benefits of using PU and the purpose of IU in using blackboard learning management system. There is a statistically functioning relationship at level 0.05 between EU ease of use and the purpose of using IU on using the blackboard learning management system. Finally, there is a statistically significant relationship at level 0.05 between the benefits of using PU and the actual use of AU on using the blackboard learning management system

**Table 4.** The verification of study hypothesis at the pre and post sample levels using Pearson's Correlation Coefficient

| No. | Hypothesis | Pre sample | | Post sample | |
|---|---|---|---|---|---|
| | | Correlation Coefficient | Sig. level | Correlation Coefficient | Sig. level |
| 1 | There is a relation between ease of use and benefits of use | 0.73 | 0.00** | 0.71 | 0.00** |
| 2 | There is a relation between affecting popularity and benefits of use | 0.55 | 0.00** | 0.60 | 0.00** |
| 3 | There is a relation between qualifications and authorities and benefits of use | 0.73 | 0.00** | 0.75 | 0.00** |
| 4 | There is a relation between entertainment and purpose of use | 0.60 | 0.00** | 0.61 | 0.00** |
| 5 | There is a relation between trustworthiness and benefits of use | 0.47 | 0.00** | 0.19 | 0.088 |
| 6 | There is a relation between benefits of use and purpose of use | 0.78 | 0.00** | 0.83 | 0.00** |
| 7 | There is a relation between ease of use and purpose of use | 0.71 | 0.00** | 0.77 | 0.00** |
| 8 | There is a relation between benefits of use and actual use | 0.46 | 0.00** | 0.49 | 0.00** |

## Discussion and Conclusions

The results of the statistical analyses have illustrated that there is a relationship between the ease-of-use EU and the benefits of using PU at the sample level; Pearson's correlation coefficient for this relationship was at their significant level (pre-sample) 0.73 and slightly greater than the correlation coefficient after their experience of practice (post sample) which was 0.71. The two are at the significant level of 0.01, indicating the strength of the ejection relationship between ease of use and the benefits of use at the sample level (pre-sample and post-sample).

There is a relationship (between the affecting popularity of CM and the benefits of using PU at the level of the two samples; the Pearson correlation coefficient of this relationship at their significant level (pre-sample) 0.55 and slightly less than the correlation coefficient after their experience of practice (post sample) which was 0.60 and both at the level of significance 0.01 indicating the strength of the direct relationship between the affecting popularity and the benefits of use at the sample level (pre-sample and post sample).

There is a relationship between qualifications-authorities and the benefits use of PU at the sample level; Pearson's correlation coefficient for this relationship was at their significant level of (pre-sample) 0.73 and slightly less than the correlation coefficient after their experience of practice (The post sample, which reached 0.75 and both at a significant level 0.01, indicates the strength of the direct relationship between qualifications - authorities and the benefits of use at the sample level (pre-sample and post-sample).

There is a relationship (between entertainment PP and PU benefits use at the sample level, with Pearson's correlation coefficient at their significant level (pre-sample) 0.60 and almost equal to the correlation coefficient after their experience of practice (post-sample), which was 0.61 and the other at a significant level 0.01, indicating the strength of the correlation between entertainment and the benefits of use at the sample level (pre-sample and post-sample).

There is a relationship between the trustworthiness of TW and the benefits of using PU at the significant level (pre-sample) only. Statistically, the relationship between trustworthiness and the benefits of use after their experience of practice (post sample) was 0.19 at the significant level 0.088 greater than 0.05, i.e., which indicates that it is not statistically significant.

There is a relationship between TW trustworthiness and the benefits of using PU at the significant level (pre-sample) only; Pearson's correlation coefficient for this relationship was 0.47 at the significance level of 0.01, while it was found that there was no statistically significant correlation between the relationship between trustworthiness and the benefits of use after their experience of practice (post sample). It became clear that there was a relationship between the benefits of PU use and the purpose use of IU at the level of the two samples. The relationship at their significance level (post sample) is 0.78, which is slightly greater than the correlation coefficient in the sample after their experience of practice (post sample), which was 0.61, and the two at a significance level of 0.01, indicating the strength of the direct relationship between the benefits of use and the purpose of use at the sample level (pre-sample and post sample).

There is a relationship between the ease of use of the EU and the purpose of using IU at the level of expectations and experiences. Pearson's correlation coefficient was at their level of expectations (pre-sample) 0.71, slightly lower than the sample's correlation coefficient after their experience of practice (post-sample), which was 0.77 and the two at the significance level 0.01, indicating the strength of the ejective relationship between ease of use and purpose of use at the sample level (pre-sample and post sample).

There is a relationship between the benefits of using PU and the actual use of AU at the level of expectations and experiences. Pearson's correlation coefficient was at the level of the outlook (pre-sample) 0.46, slightly lower than the correlation coefficient after their experience of practice (post-sample), which reached 0.49 and both at the significance level 0.01, indicating the strength of the direct relationship between the benefits of use and actual use at the sample level (pre-sample and post-sample).

These results are consistent with a number of studies (Binyamin, Rutter, Smith, 2019; Annamalai et al., 2021; Al-Qahtani and Al-Turki, 2018) A relationship between ease of use and use of the technology acceptance model TAM2 where the use and ease of use of technology have a positive impact on the attitudes towards technology, and agreed with the results of the study (Al-Balasi, 2016) that faculty staff who had difficulties in using the blackboard learning management system have had negative attitudes towards continuing to use and benefit from it.

## Recommendations

When conducting similar studies,

research recommends that the attitude measurement period be long - not less than two months of practice and more. This means that shaping and directing experience is very important when adopting technology, especially in times of crisis. The study recommends conducting studies on the extent to which experience is connected to technology, composition, and accumulation by practice on the attitudes of technology users in education and adopting in-depth studies on identifying the factors that affect this change between before and after the construction of experiences and the most important influencing factors.

It is worth mentioning that before and pre-use factors are measured, including intruding factors influencing attitudes. The study also recommends that awareness be taken care of during teaching technology to overcome the effects of negative experiences during use. There should be reference or educational products for users' inclusive guidance, methods, and eliminating problems.

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