**Investigating the acceptance of Moodle by LIS students in Kuwait based on UTAUT and WQ**

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## Investigating the acceptance of Moodle by LIS students in Kuwait based on UTAUT and WQ

**Abstract:**

Moodle is not a new concept and has been widely accepted among highly qualified students in different global higher education institutions. However, little is known about the factors that influence the acceptance of Moodle as a learning tool for LIS students in general, and in Kuwait's higher education institutions, particularly in the College of Basic Education (CBE) at the Public Authority for Applied Education and Training (PAAET). Based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Website Quality (WQ) model, the present study argues that Moodle can be a highly accepted beneficial learning tool for Library Information Science (LIS) students to develop their professional skills and competencies in a rapidly evolving digital age. This study clarifies the LIS students' behavior toward this learning tool and confirms factors that influence the acceptance of Moodle as a learning tool amongst LIS students. Factors that positively impact the acceptance of Moodle are; Performance Expectancy (PE) and Appearance Quality (AQ) on Behavioral Intention (BI). The effects of Technical Quality (TQ), General Content Quality (GCQ), Specific Content Quality (SCQ), and Effort Expectancy (EF), and Social Influence (SI) on Behavioral Intention (BI) were insignificant. Furthermore, Facilitating Conditions (FC) significantly affected Use Behavior (UB), and BI had a negligible effect on UB.

Purpose: This study aims to investigate the the acceptance of Moodle among LIS students in Kuwait and further identify those factors that influence student's continuous intentions to use Moodle, an exemplar of learning management systems (LMS)

Design/methodology/approach:

This study's theoretical model was primarily drawn from the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Website Quality (WQ) model. A total of 323 Kuwaiti students

participated in the study. For data analysis, Structural Equation Modelling (SEM) was carried out.

Findings:

The results confirmed the significant impacts of PE and AQ on BI. The effects of TQ, SCQ, SI, and EF on BI were insignificant. Furthermore, FC had significant effects on UB, and BI had an insignificant impact on UB.

Originality/value: The study introduces a framework that investigates the underlying significant and insignificant factors in the Kuwait context of LIS students' acceptance of Moodle as a learning tool.

**Keywords:** Learning Management System (LMS), Moodle, the Unified Theory of Acceptance and Use of Technology (UTAUT), Library Information Science (LIS), The Public Authority for Applied Education and Training (PAAET.

**المستخلص :**

لا يعتبر نظام إدارة التعلم "موودل" مفهومًا جديدًا، لقد تم قبوله كأداة تعليمية على نطاق واسع بين الطلاب المؤهلين تأهيلاً عالياً في مختلف مؤسسات التعليم العالي العالمية. ومع ذلك ، لا يُعرف الكثير عن العوامل التي تؤثر على قبول طلبة علوم المكتبات والمعلومات لموودل كأداة تعليمية في مؤسسات التعليم العالي في الكويت بشكل عام، وفي كلية التربية الأساسية في الهيئة العامة للتعليم التطبيقي والتدريب بشكل خاص. استنادًا إلى النظرية الموحدة لقبول واستخدام التكنولوجيا ونموذج جودة مواقع الويب، تفترض الدراسة الحالية أنه من الممكن أن تقبل طلبة علوم المكتبات والمعلومات لموودل كأداة تعليمية مفيدة للغاية لتطوير مهاراتهم المهنية في عصر رقمي سريع التطور. توضح هذه الدراسة سلوك طلبة علوم المكتبات والمعلومات تجاه موودل وتؤكد على العوامل التي تؤثر على قبوله كأداة تعليمية بين طلبة علوم المكتبات والمعلومات. ولقد أثبتت الدراسة بأن العوامل التي تؤثر بشكل إيجابي على النية السلوكية لتقبل موودل هي: توقع تحسن الأداء وجودة المظهر. وأثبتت الدراسة ضآلت تأثير عوامل الجودة التقنية، جودة المحتوى العامة، جودة المحتوى الخاص، وتوقع الجهد على النية السلوكية. علاوة على ذلك، كان لعامل الظروف الميسرة أثر ايجابي على الاستخدام الفعلي لموودل، أما النية السلوكية فكان تأثيرها ضئيل على الاستخدام الفعلي لموودل.

الغرض: تهدف هذه الدراسة إلى التحقق من مدى تقبل طلبة علوم المكتبات والمعلومات في الكويت لموودل كأداة تعليمية وتحديد العوامل التي تؤثر على استمرار النية السلوكية للطلاب لاستخدام لموودل كأداة تعليمية كأحد نماذج أنظمة إدارة التعلم .

المنهجية: النموذج النظري لهذه الدراسة اعتمد بشكل أساسي على النظرية الموحدة لقبول واستخدام التكنولوجيا بالاضافة الى نموذج جودة مواقع الويب. شارك في الدراسة ٣٢٣ طالبة. وتم استخدام نمذجة المعادلات الهيكلية لتحليل البيانات.

النتائج: أثبتت الدراسة بأن عوامل توقع تحسن الأداء وجودة المظهر لها تأثير إيجابي على النية السلوكية، عامل الظروف الميسرة أثر ايجابي على الاستخدام الفعلي لموودل.

الأصالة / القيمة: تقدم الدراسة نموذج مفاهيمي مطور يستند على دمج عوامل النظرية الموحدة لقبول واستخدام التكنولوجيا وعوامل نموذج جودة مواقع الويب في نموذج مطور يقيس مدى تقبل استخدام التكنولوجيا وجودة الموقع، وهذا الدمج يساعد في التحقق من العوامل المؤثرة وغير المؤثرة لقبول لمودل كأداة تعليمية في الكويت.

**الكلمات الرئيسية**: نظم إدارة التعلم ، موودل ، النظرية الموحدة لقبول واستخدام التكنولوجيا، علوم المكتبات والمعلومات، الهيئة العامة للتعليم التطبيقي والتدريب

## Introduction

Following the recent growth of Information and Communications Technology (ICT), higher education institutions enhanced their teaching and learning processes. This involved implementing different technological systems that engage both students and educators. This can facilitate learning practices and activities by providing learning materials and other supported features. These systems are mainly framed under the concept of E-learning. Different names have been identified for E-learning systems, but they refer to a similar notion; these names include Virtual Learning Environment (VLE), Course Management System (CMS), Learning Management System (LMS), Learning Support System (LSS), and Learning Platform (LP) (Psycharis et al., 2013). LMS is a widely-used term in educational research; it is also used interchangeably with CMS (Kats, 2013; Psycharis et al., 2013).

Nowadays, society is undergoing a paradigm shift in educational paradigms and approaches to learning process organization, assisted by the introduction of new technical solutions

and novel digital chances. Learning Management Systems (LMS) are critical components of higher education and the learning infrastructure of institutions of higher learning (Chanjaradwichai, Na-Songkhla & Chiasiriphan, 2019). LMS is defined as "a server-based or cloud-based software program that interfaces with a database containing information from and about users, courses and content" (Kats, 2013: 2). LMS offers higher education institutions a flexible environment to manage and support different types of learning, including fully online, face-to-face, or blended (part face-to-face and part online) courses. LMS features can be grouped under five categories: content creation tools, communication tools; assessment tools; delivery tools, and administrative tools (Kats, 2013).

This study focuses on the LMS known as "Moodle," which was released back in 2002 by Martin Dougiamas (Moodle, 2021). Moodle stands for Modular Object-Oriented Dynamic Learning Environment and is considered one of the most widely adopted LMS in higher education. Moodle can be defined as "an open-source that gives teachers [space] to create their dynamic, effective online learning sites for students" (Hsu, 2012: 45).

The system is mainly designed to support educators in producing quality online learning materials (Brandle, 2005). Moodle offers most of the fundamental features necessary for LMS, including automated administration: self-service and self-guided services; portability and standard support; rapid assembly and delivery of learning content; a scalable web-based platform; and knowledge reuse (Ellis, 2009). These features and more are presented in a user-friendly system designed to support collaborative work between users (e.g., students/ educators) (Hsu, 2012). Based on Moodle statistics, the system proliferated over recent years and is now used by about 240 countries, and serves more than 39,000,000 courses or 302,000,000 students (Lambda Solutions, 2017; Moodle, 2021). Due to the impact Moodle has had on education and continues to have, academic

institutions are making a concentrated effort to encourage its incorporation (Chuang, Weng & Huang, 2015). However, the benefits of Moodle as an LMS are contingent upon its acceptance and use by the intended audience. According to (Al-Qirim et al., 2018), despite advancements in educational technology, some instructors and students resist change due to technological satisfaction, influencing users' inclination to use the LMS. This research attempts to discover aspects affecting Library and Information Science (LIS) students' acceptance of Moodle. It aims to understand its benefits for more efficient usage of such technology that suits the CBE environment. In addition, Al-Houli, Al-Mesad & Al-Kandari (2021) recommended that future researchers research to determine the optimal distance learning environment for faculty and students in the PAAET's colleges around the State of Kuwait.

 **Research context**

In Kuwait, this study was conducted at the Public Authority for Applied Education and Training (PAAET), in the College of Basic Education (CBE). The LMS Moodle has been implemented since 2016 in PAAET, allowing all educators to use and gain benefits from the system and its functionalities in their classes to facilitate the learning and teaching process (PAAET, 2021). Since Moodle considers a new approach used by students and educators, it brought some challenges. This demands an examination of the uptake and integration of technology in the classrooms of LIS students (Cabero-Almenara, Arancibia  & Del Prete, 2019).

**Research aim and questions**

This research aims to investigate and identify the factors that influence LIS students' acceptance of Moodle in the CBE to develop their competencies and facilitate their learning. Thus, this research strives to answer the following research questions:

RQ1. What factors influence LIS students' acceptance of the Moodle tool?

RQ2. Do general knowledge and experience (GKE) of technology significantly moderate the relationship between Independent Variables (IVs) and Dependent Variables (DV)?

**Previous work**

Moodle as a learning tool:

Implementing Moodle in higher education proved to have significant benefits for learning and teaching inside and outside the classroom (Georgouli, Skalkidis, and Guerreiro, 2008; Govender, 2009; de Vega and McAnally-Salas, 2010; Henderson, 2010; Cabero-Almenara, Arancibia & Del Prete, 2019). Moodle offers today's students different opportunities for online learning. According to Rhode et al. (2017), LMSs enable education to be independent of students' time and place. Azzi et al. (2020) point out that Moodle makes it possible for hundreds of students to participate, regardless of who they are and from anywhere. Many institutions use Moodle as their preferred platform for fully online courses. Moodle also provides students with richly interactive and in-depth experiences. Moodle has, without a doubt, revolutionized the learning process.  Some of the studies mentioned that students noticed the importance of using Moodle functionalities alongside the essential tools for finding and storing material for their studies, which provided successful teaching and learning (Costa, Alvelos, and Teixeira: 2012). Çelik (2010) also stressed that expanding the use of learning platforms offered by Moodle is beneficial and takes the users beyond traditional repositories of material. Indeed, teachers believe that Moodle enhances educational practice and provides many benefits. It is possible to create excellent online courses using Moodle, which allows for study material in text and image files and presentations, audio and video files, wikis, databases, and interactive connections with students through forums, among other things. (Kerimbayev et al., 2017).

Al-Ani (2013) denoted that Moodle was effective for students' learning motivation, achievements, collaboration, and communication skills. In addition, it indicated the benefits of using Moodle for blended learning, which helped students be more self-regulated and self-directed. Estacio and Raga (2017) investigated students' online behaviors, finding that their behavior mainly consisted of three activities: content access, engagement, and assessment. Notice that each class varies regarding the utilization of Moodle tools, where many changeable components can be found in different activities. This is likely to be affected by the nature of the course design and the variation of teaching strategies. The study also states that more effort needs to be made to understand this matter better. Goyal (2011) studied students' expectations from, and satisfaction with, Moodle, showing that students' satisfaction considerably increased when using specific learning software, using Moodle as an example of a technological tool. Horvat et al. (2015) point out that teachers and students alike express high satisfaction levels and technical acceptability on Moodle.

**Moodle examination:**

Several research studies examined students' satisfaction with and acceptance of Moodle in higher education institutions. According to a recent study by Teo et al. (2019), Moodle's popularity stems primarily from its ease of use and breadth of features (chat, forums, questionnaires, and so on). A significant number of studies evaluated the acceptance factors of Moodle based on the Unified Theory of Acceptance and Use of Technology (UTAUT) proposed by Venkatesh et al. (2003). This is primarily because of its novel creation, which includes several models and theories relating to evaluating technology tools; more details will be presented later. UTAUT has been tested in a variety of educational settings, including virtual learning technologies (Sumak, Polancic, & Hericko, 2010), cloud-based virtual learning environments, and blended learning environments (Hew & Sharifah Latifah, 2016). Arbaugh et al. (2009); justify the usefulness

of applying UTAUT in various contexts. This appears to be noticeably the case in studies that examined Moodle in the higher education context.

Hsu (2012) studied university students' behavior towards Moodle. It revealed three significant concepts of the UTAUT model: performance expectancy, effort expectancy, and social influence. It presented that these were considerably associated with their behavioral intention, time involvement, and frequency of use. The study also showed the beneficial relationship between teachers and classmates that provided a productive and collaborative environment supported by the sharing and available features of Moodle.

North-Samardzic and Jiang (2015) used UTAUT to evaluate students' and academics' attitudes and usage behaviors towards Moodle. They suggested that additional facts need to be discovered to understand the use and behavior of such technology. Showing that students were possibly impacted by social influences that affect their intention to use the LMS; this is in addition to other factors such as gender, age, and voluntariness. Students are also more likely to be intensely affected by their professors' attitude to technology use and its importance. This was also highlighted by Wang, Tseng, and Chang (2013), who stated that students were actively using Moodle in proportion to the active use of their educators. Benta, Bologa, and Dzitac (2014) also said that engaging with Moodle during the semester improved students' performance, especially with dynamically engaged with the online activities. UTAUT is an effective tool for decision-makers to identify critical success factors for new technology implementation and understand acceptance factors to develop proactive training materials and marketing materials targeted at users who may have a more challenging time adapting and using new technology. Using the Unified Theory of Acceptance and Use of Technology model, this research examines the elements that increase student use of Moodle.

Indeed, Venkatesh et al. (2003) established the UTAUT model to consolidate the TAM paradigm. Other researchers examined Moodle based on the Technology Acceptance Model (TAM). The motivational factors and their effect on students' level of satisfaction when using Moodle were studied by Sánchez and Hueros (2010). They stated that students' usages were directly affected by the system's ease of use, usefulness, and attitudes. This typically connected them as essential factors regarding technology use. Šumak, Polančič, and Heričko (2010) examined the impacting factors on students' perceptions on using Moodle. The results show two main factors: behavioral intentions and attitudes toward using Moodle. Highlighting that usefulness was the most important predictor of students' attitudes towards using Moodle. Within the current research context, Huda (2018) studied LIS students' perceptions of the use of LMS Moodle based on TAM and discovered that using an LMS significantly improves students' computer skills. Students were willing to use both the mandatory and optional components of an LMS if they had a compelling reason. The subject taught affected the students' intentions and used the LMS. There was no discernible difference in students' perceptions of LMS use before or following actual use.

Notwithstanding that, other researchers found that students generally improved their participation, motivation, and competencies when using Moodle (Amandu, Muliira, and Fronda, 2013; Novo-Corti, Varela-Candamio, and Ramil-Díaz, 2013). More investigation on how students use the technology is essential to understand their behavior toward these tools. This will help develop the implementation of Moodle and its practices significantly since each educational context may vary. Venkatesh et al. (2003) point out that in the event the values of the four constructs are higher. There is also a higher value of behavioral intention to use the tool and acceptance of the technology by students. This means that their behavioral intentions determine students' acceptance of the technology. However, Wu et al. (2006) argued that the facilitating conditions did not influence the behavioral

intentions of college students.  It is also worth noting that while UTAUT provides a rather feasible way of understanding the acceptance of technologies, most of the previous studies mainly focused on large organizations. There has not been much attention accorded to college students, particularly LIS students' involvement related to Moodle. Therefore, it would be necessary to test the UTAUT model to ascertain whether it subsists in the Moodle environment and whether behavioral intentions act as mediators for motivating LIS students to be increasingly active in Moodle.

**Theoretical framework**

To assess the factors that influence the acceptance of Moodle as a learning tool by LIS students in CBE the Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh et al. (2003), and the Website Quality (WQ) model will be adopted. This will aid in evaluating several factors, including gender, age, and GKE, and identifying the relationship between them.

**Theoretical framework: The UTAUT model**

The UTAUT model clarifies technology acceptance, linked into eight technology acceptance theories/models, such as the theory of reasoned action; the Technology Acceptance Model (TAM); the motivational model; the Theory of Planned Behaviour (TPB); the combined TAM and TPB; the model of personal computer utilization, innovation diffusion theory and social cognitive theory (Venkatesh et al., 2003). Venkatesh postulated this theory by consolidating the previous acceptance model to achieve comprehensiveness in the acceptance of technology. UTAUT was adopted by many studies that examined information systems/technology, particularly those interested in assessing behavioral intention towards the designs. UTAUT has also been used to determine Moodle, as mentioned earlier.
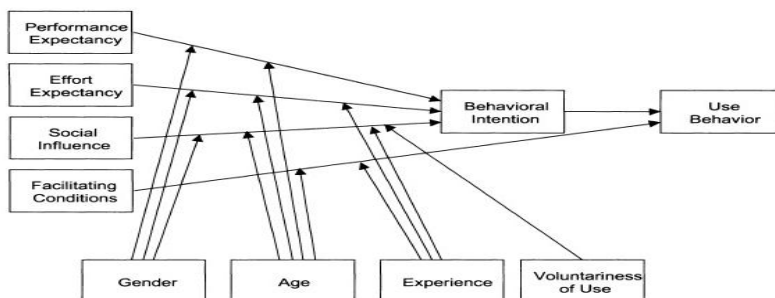
Figure .1 UTAUT Model (Venkatesh et al., 2003)

The essential model of UTAUT (Venkatesh et al., 2003) is demonstrated in Figure 1. At the center of the model display, the behavioral intention as a predictor of technology use behavior is based on components adopted from eight technology adoption models. The UTAUT model contains six concepts:

1. Performance Expectancy: This concept concerns the level to which individuals believe that technologies will improve their performance. This concept can also reflect technology's usefulness, the extrinsic motivation resulting from it, its job fit, its relative advantages, and its expected outcome.

2. Effort Expectancy: This concept concerns the ease or complexity anticipated from technology use.

3. Social Influence: This concept concerns how individuals are motivated by others to use technologies. It also involves social factors such as subjective norms and images.

4. Facilitating Conditions: This concept concerns how the technical and organizational infrastructure supports technology use.

5. Behavioural intention: This concept concerns how an individual has prepared prearranged plans to achieve or not achieve a specified future behavior.

6. Use behavior: This concept concerns measuring users' actual frequency of technology use.

In addition to the six concepts, UTAUT included four moderators (gender, age, experience, and voluntariness) to increase the model's

predictive capacity. Each moderates the effects of performance expectancy, effort expectancy, and social influence on behavioral intention. Among the studies that included moderators, only a few replicated the original UTAUT model's four moderators. A possible reason why past research did not include moderators is that the moderator may be unvarying across adoption and use contexts. For example, the adoption and usage of certain information technology may have been mandated by the organization, requiring that all individuals use the technology—this creates a circumstance in which voluntariness as a moderator may be difficult to apply (Dwivedi et al., 2019). This study excludes gender, age, and Voluntary use as the study was conducted in a female college with a majority aged between 19-24 who use Moodle in mandatory. Furthermore, The employment of moderators to artificially increase R2 in UTAUT was neither necessary nor feasible for establishing knowledge of organizational technology adoption and further revealed that good predictive power may be obtained even with simple models through simple models.

**Theoretical framework: the Website Quality (WQ)**

Individuals, companies, and society benefit from information system research (Baskerville and Myers, 2015). Impacts on organizations and culture can vary. In the 1980s, information system researchers identified success criteria and built empirical models on understanding successful systems. User resistance has traditionally hampered the success of new information systems (Gould, Boies, and Lewis, 1991; Nickerson, 1981). A system's success is determined by user acceptance (Davis, 1993).

The success of information systems can be determined by using metrics such as system quality and user satisfaction. Additionally, the impact of system utilization and its contribution to the organization is quantified. Success can be viewed through the perspective of developers/designers, users, and managers, all of whom may employ a variety of methodologies for determining the system's success. The

appropriateness, relevance, and accuracy of information all contribute to success. Results evaluation has gotten more challenging and complex, and users, developers, managers, and governments will need to do more to quantify success (Petter et al., 2012). This study contributed to this field by examining the elements that influence user perceptions of Moodle as a learning management system (LMS), specifically website quality factors on Moodle websites. This was accomplished by identifying significant acceptance constructs in the area. Connections between these ideas and user testing were emphasized.

The success of a system may be highly dependent on the quality of its website (DeLone and McLean, 2003; 1992). Kim and Stoel (2004) provided empirical evidence on website quality. Website quality is classified by consumers' perceptions, service quality, system quality, information quality, attractiveness, website functionality, and service quality (Ethier et al., 2006). Playfulness, perceived ease of use, and website usage were all influenced by system, utility, and information quality (Ahn, Ryu, and Han, 2007). Bai, Law, and Wen (2008) classified quality features into two broad categories: usability difficulties and website functioning.

The UTAUT model defines facilitation conditions as a construct that reflects an individual's perception of their control over their actions (Venkatesh et al., 2008). Al-Queisi et al. (2014) provide additional evidence that the quality of website design is connected to the relevancy of enabling phrases. Bauer, Hammerschmidt, and Falk's (2006) study investigates the interplay of site features and their effect on user intentions. According to Jayawardhena & Wright, (2009), the quality of a website impacts how people behave online. Aladwani and Palvia (2002) analyzed factors affecting the quality of a website from the user's perspective. The current study adopts their definition of perceived website quality as a user rating of specific sections of a website that satisfy users' expectations and reflect the website's overall quality. Aladwani (2006) proposed a methodology for analyzing the

effect of four sub-dimensions of a website on user attitudes. The first component is the technical dimension, which includes the website's security, navigability, search capabilities, availability, link validity, personalization, load time, interactivity, and ease of access. The second component is total content, which includes utility, comprehensiveness, clarity, consistency, and accuracy. The third component is personalized content, including contact information, institutional overviews, product and service details, user policies, and user help. The third component is the overall aesthetic, which includes attractiveness, organization, font selection, color scheme, and media usage.

This study concentrated on Aladwani's website quality model since it was relevant to the current research. It sought to determine the characteristics that influence LIS students' behavioral intention to use Moodle as an LMS platform. Aladwani (2006) places a premium on search capabilities, ease of access, and site availability, as measured by technical quality; information usefulness, conciseness, accuracy, and completeness, as measured by general content quality; and product/service details, consumer policies, and customer support, as measured by specific content quality, attractiveness, proper use of fonts, and clarity. As a result, the following hypotheses are proposed:

**Conceptual Framework and Hypothesis Development**

The current study uses the UTAUT model, originally developed to evaluate staff acceptance and understand consumers' approval of new technology. This research model expands on UTAUT, which includes four independent constructs that impact two dependent constructs. The separate constructs are Performance Expectancy (PE), Effort Expectancy (EF), Social Influence (SI), Facilitating Conditions (FC), and the dependent constructs are Behavioral Intention (BI) with Use Behavior (UB) (Ventekash et al., 2003). Website Quality is added to UTAUT as an independent variable to assess the influence of Moodle website quality on LIS

students' acceptance and willingness of Moodle as a learning tool. Website quality encompasses website functions, website design, information quality, and security assessed through empathy, responsiveness, reliability, clarity, and accuracy in the information and procedures (Ahn, Ryu, & Han, 2007). This study implements four constructs from Aladwani's (2006) study: technical quality (TQ), specific content quality (SCQ), general content quality (GCQ), and appearance quality (AQ) (Aladwani, 2006). Therefore, this study extended the original UTAUT to include the WQ model's four constructs to identify the factors that influence the accepting Moodle as a learning tool by LIS students at PAAET. The hypothesis developed for this study are:

**H1: Performance expectancy positively influences the LIS students' intention to use Moodle as a learning tool.**

Regarding the relationship between performance expectancy and behavioral intention, Martins et al. (2014) identify the former as a stronger predictor for behavioral intention, which was also verified in other studies (Im et al., 2011; Lallmamode al., 2013; Rodriguez and Trujillo, 2013; Weerakkody et al., 2013). These studies revealed the insignificant relationship between Performance expectancy and behavioral intention (Cheng, Yu, Huang, Yu, &Yu, 2011; Wu, Yu and Weng, 2012). Thus, the influence of PE on behavioral intention remains ambiguous and requires further exploration. Therefore, this study proposes that performance expectancy is positively related to behavioral intention.

**H2: Effort expectancy positively influences the LIS students' intention to use Moodle as a learning tool.**

Regarding the relationship between effort expectancy and behavioral intention, numerous studies have found a significant and consistent link between the two (Salleh et al., 2014; Alrawashdeh et al., 2012; Foon and Fah, 2011; Wu et al., 2012). Effort expectancy is defined as the "degree of ease associated with the use of the system, with ease of use becoming insignificant over some time" (Ventekash et al., 2003,

p.45). It is considered a strong predictor for behavioral intention, which signifies employees' ability to accept a new technology if they find it easy to use. Similarly, learners learn efficiently if they link the ease with the use of the system they are learning (Taylor, 2004). Therefore, a hypothesis was formed to verify the effect of effort expectancy on behavioral intention.

**H3: Social influence positively influences the LIS students' intention to use Moodle as a learning tool.**

Ventekash et al. (2003) assert that social pressure is not significant with skillful employees; however, social anxiety is reduced as technology expertise increases. Kuwait is a collective culture based on prioritizing the needs and values of groups rather than individuals (Mitchells, 2005). Further, several studies revealed that social influence is a strong predictor for behavioral intention (Al-Shafi and Weerakkody, 2009; Lai et al., 2009; Yamin and Lee, 2010; Zhou, 2012; Wu et al., 2012), whereas few studies have found an insignificant connection between the two constructs (Wong et al., 2013; Gao and Deng, 2012). To achieve the aim of the current study, it is vital to assess the social influence effect on behavioral intentions.

**H4: Facilitating conditions is positively influence the LIS students' intention to use Moodle as a learning tool.**

The term facilitating condition means "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh et al., 2003: 453). The construct concentrates on the social aspect of the organization that supports the system to be learned (Ventekash et al., 2003). Further, empirical findings suggest that there is not an obvious sign of facilitating conditions on behavioral intention. However, effort and performance expectancy reduce boosting needs' effect on behavioral intention (Ventekash et al., 2003).

**H5: Technical quality positively influences the LIS students' intention to use Moodle as a learning tool.**

The fifth hypothesis needed to be formulated to investigate the effect of technical quality on behavioral intention because technical characteristics such as website design, security, and loading time are essential in confirming users' intention of using a particular website (Aladwani, 2006). Further, within e-learning, the relationship between technical system quality and satisfaction was positively significant in several studies (Alsabawy et al., 2013; Kim et al., 2012; Motaghian et al., 2013; Saba, 2012). Also, a positive relationship was found between technical quality and intention to use an e-learning system (Cheng, 2012; Islam, 2012; Li et al., 2012; Wang & Chiu, 2011). Therefore, it is assumed that technical quality positively affects attitudes towards behavioral intention.

**H6: General Content Quality positively influences the LIS students' intention to use Moodle as a learning tool.**

A website needs to contain accurate, current, and valuable information to attain customer satisfaction and trust (Arnett and Liu, 2000). The content and information quality are essential dimensions for an IS output (Petter and McLean, 2009). Thus, it consists of measures emphasizing information quality that the system generates and its usefulness. Previous literature found that information quality is a crucial element for user satisfaction (Saba, 2013; Hassanzadeh et al., 2012; Kim et al., 2012; Chiu and Wang, 2011). In addition, Al-Qeisi, 2014 found that website design quality consists of general content. Therefore, the general content quality effect needs to be verified to assess the significance of behavioral intention.

**H7: Specific content quality positively influences the LIS students' intention to use Moodle as a learning tool.**

Specific content quality represents contact information, availability of the firm's general knowledge, customer care, and support (Aladwani, 2006). Empirical research suggests that the level of specific content quality confirms the user's intention to use (Liu and Arnett, 2000). A

website is a source of information about an organization's particular products and services. Therefore, without the specific content aspect of a website, an organization will face challenges of achieving constant online users for its website. However, to evaluate consumer intention to use an e-learning system is to verify the effects of appearance quality on behavioral intention. Furthermore, Al-Qeisi, 2014 found that website design quality consists of unique content. Therefore, the impact of specific content quality needs to be verified to assess the significance of behavioral intention.

**H8: Appearance quality positively influences the LIS students' intention to use Moodle as a learning tool.**

Appearance quality is described as the characteristics of a website, including color, font, multimedia presentation, attractiveness, and organization (Aladwani, 2006). It can be challenging for customers to use a website with disturbing colors or inconsistent style. Therefore, website developers need to emphasize the appearance quality of websites to attain and repeat user visits. In addition, it was found that the construct of website design quality consists of appearance quality (Al-Qeisi, 2014). Therefore, the effect of appearance quality needs to be verified to assess the significance of behavioral intention.

The following figure presents the **conceptual framework** for the study in addressing the research questions raised earlier. The Unified Theory of Acceptance and Use of Technology (UTAUT) and the Website Quality (WQ) were adopted. As shown in figure 2.
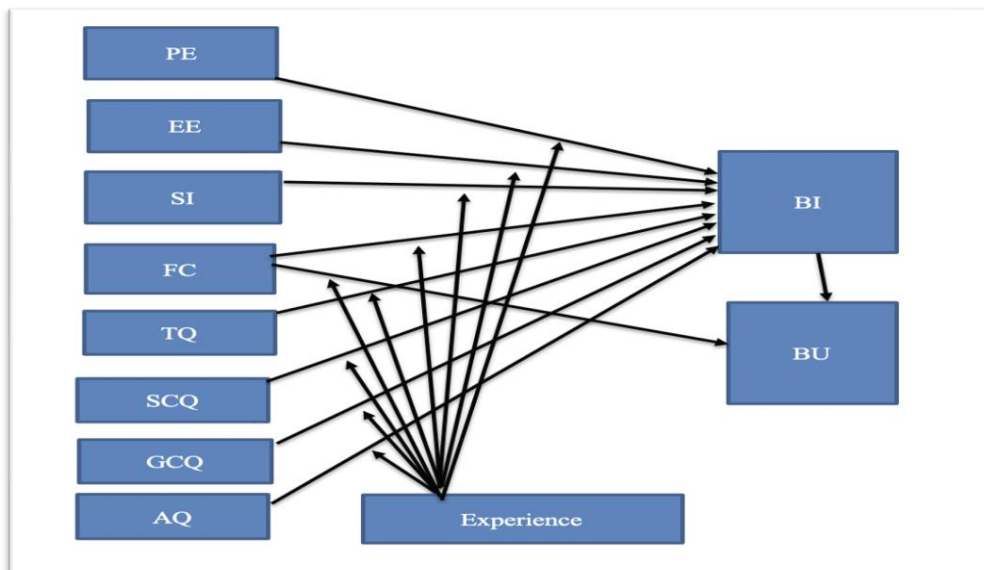
Figure 2: Conceptual framework

## Research Design/methodology
## Sample and Procedure:

In this study, 323 questionnaires were collected from LIS students in CBE at PAAET, participating in a voluntary and anonymous online questionnaire using Survey Monkey, an online questionnaire distribution platform. Probability cluster sampling was used to ensure that LIS students from the chosen strata made up the tested sample as well as bias was reduced by distributing the questionnaire anonymously and online PAAET email. The questionnaire consisted of 41 closed questions divided into 11 sections to test the model constructs.

## Measures:

To evaluate the constructs proposed in correlation to Moodle, the Likert scale was used (1= strongly disagree, 2= disagree, 3=neutral, 4= agree, 5= strongly agree) to express participants' acceptance of Moodle as a learning tool. The primary data analysis and the assessing model fit are provided. Furthermore, in the latent

factors process of research, two steps are applied and performed by the researcher:  firstly, a confirmatory factor analysis (CFA) to assess and validate the measurement model followed by validity and reliability; secondly, consider the (SEM) in terms of the overall goodness of fit to ultimately test the research hypothesis.

**Analysis:**

An inspection of goodness-of-fit indices (GOF) is essential to assess the model fit. GOF indicates the degree to which the observed and estimated covariance matrices are related and whether the values of the estimated and observed covariance matrices suggest a better model fit (Hair et al., 2010). However, both absolute indices ($\chi2$/df, RMSEA, and PCLOSE, RMR) and incremental indices (such as NFI, CFI, IFI, and TLI) are addressed in the present study because it is challenging to decide which model has a good or poor model fit through all situations using the goodness of fit indices (Kline, 2011). The absolute indices test $\chi2$/df (CMIN/DF) is used to assess the fitted model in CFA, which introduces the minimum discrepancy between the covariance matrix of data and implies the model and the acceptable level of $\chi2$/df ranges from 1to 3 (Holmes-Smith, 2011). Also, Root Mean-square Residual (RMR) test is used to calculate the average difference between the variance-covariance matrix for the hypothesized model and the variance-covariance of the sample, where RMR<.05 (Byrne, 2010; Hair et al., 2010). To measure the hypothesized model to the data, the researchers propose four goodness-of-fit-indices- that is Normed Fit Index (NFI), comparative fit index (CFI), incremental fit index (IFI), and Tucker Lewis index (TLI), along with Chi-Square and the associated degree of freedom and significance value were reported to conclude the model's fit (Kelloway, 2014; Holmes-Smith, 2011).

## Results
## Statistical Analysis

Structural Equation Modeling (SEM) is adopted in this study to achieve the objectives and test the hypothesis. Confirmatory Factor Analysis (CFA) is conducted using first-order correlated factors to eliminate the weak items and reach the fit measurement model (Kline, 2011). Seven indices are used to assess goodness-of-fit (Kline, 2005; Hair et al., 2010; Byrne, 2010) : CMIN/DF (acceptable level=1-3), IFI (acceptable level≥0.90), CFI (acceptable level≥0.95) , RMR (acceptable level≤0.05), SRMR (acceptable level≤0.05), RMSEA (acceptable level≤0.05), PCLOSE (acceptable level≥0.05).

Squared Multiple Correlation (SMC), composite reliability, and Cronbach Alpha are used to test the reliability. As the recommended level of SMC is > 0.50 [28], and SMC value of 0.30 indicates an acceptable item [29]. The convergent and construct validity were evaluated using estimated average variance extracted (AVE).

Convergent validity is "a measure of the magnitude of the direct structural relationship between an observed variable and latent construct" [29, p. 9-24]. The acceptable level to achieve convergent validity is obtaining AVE ≥ 0.50 [30]. Item loading in the construct exceeds 0.50 to achieve convergent validity (Amarantou et al. 2021; Gefen and Straub, 2005; Hair et al., 2010; Holmes-Smith, 2011; Sun et al. 2012).

Discriminant validity determines whether the constructs in the model are highly correlated among them or not. It compares the square root of AVE of a construct with the correlation between that construct with other constructs. The value of the square root of AVE should be higher than the correlation (Fornell, 1981).

SEM was selected to test the hypotheses (Kline, 2011). The moderation effects of the experience construct, which is based on six items, on the strength of the relationship between dependent and independent variables were investigated by categorizing the experience into high (very good and excellent) and not high (<very

good) groups. Multi-group moderation tests using z-score (Muller, 2005), the structural weights are not similar between the two groups if the test is statistically significant, and there is a moderation effect if the difference in weight is significant, indicating that there are non-equivalent paths (Hair et al., 2010). Statistical software SPSS 25 and AMOS 24 were used to analyze the dataset.

**Results of CFA**

These results show that some of the fit indices are somewhat low, indicating that the measurement model does not fit, Table 1. Hence, we should identify the items with a high error variance the parameters with low squared multiple correlations, and determine items with high modification indices. This process is repeated, eliminating one item to improve the model's fit. After four iterations, four items were dropped to reach excellent values of the indices confirming that the measurement model is a perfect fit.

Table 1: Fit indices of first-order correlated factors

|  | CMIN/DF | IFI | CFI | RMR | SRMR | RMSEA | PCLOSE |
|---|---|---|---|---|---|---|---|
| all items | 2.170 | 0.912 | 0.911 | 0.047 | 0.058 | 0.062 | <.001 |
| Forth iteration | 1.847 | 0.949 | 0948 | 0.037 | .0471 | 0.049 | 0.341 |

The majority of the SMC was between 0.55 and 0.92, exceeding the recommended level of 0.50, Table 2. Five items were between 0.36 and 0.42, still within the acceptable range. CR and α values were between 0.71 and 0.94, indicating the reliability of the measurement model.

This study showed the validity of underlying those by achieving a goodness-of-fit model. To test for discriminant validity, the square root of the AVE (on the diagonal in Table 2 ) is higher inter-factor correlations. Also, the table showed the mean shared

variance (MSVs) < AVEs. This was lower than their individual AVEs. The results have demonstrated evidence of discriminate validity for the study constructs. The AVE ranged from 0.50 to 0.85, indicating that the convergent validity of the measurement model is confirmed. In addition, factor loadings were between 0.58 and 0. 96, exceeding 0.50, indicating the convergent validity of the constructs.

|     | AVE   | MSV   | MaxR(H) | GCQ   | BI    | UB    | PE    | SI    | AQ    | SCQ   | EF    | FC    | TQ    |
|-----|-------|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GCQ | 0.605 | 0.543 | 0.835   | **0.778** |       |       |       |       |       |       |       |       |       |
| BI  | 0.849 | 0.378 | 0.952   | 0.516 | **0.921** |       |       |       |       |       |       |       |       |
| UB  | 0.552 | 0.309 | 0.864   | 0.448 | 0.297 | **0.743** |       |       |       |       |       |       |       |
| PE  | 0.779 | 0.517 | 0.926   | 0.664 | 0.615 | 0.379 | **0.883** |       |       |       |       |       |       |
| SI  | 0.557 | 0.384 | 0.716   | 0.512 | 0.346 | 0.265 | 0.501 | **0.747** |       |       |       |       |       |
| AQ  | 0.558 | 0.529 | 0.818   | 0.727 | 0.601 | 0.539 | 0.535 | 0.328 | **0.740** |       |       |       |       |
| SCQ | 0.556 | 0.543 | 0.732   | 0.737 | 0.553 | 0.440 | 0.622 | 0.545 | 0.647 | **0.775** |       |       |       |
| EF  | 0.695 | 0.523 | 0.890   | 0.704 | 0.544 | 0.404 | 0.680 | 0.426 | 0.608 | 0.504 | **0.834** |       |       |
| FC  | 0.553 | 0.523 | 0.784   | 0.669 | 0.537 | 0.556 | 0.719 | 0.620 | 0.537 | 0.660 | 0.723 | **0.737** |       |
| TQ  | 0.650 | 0.493 | 0.864   | 0.639 | 0.461 | 0.496 | 0.552 | 0.406 | 0.532 | 0.519 | 0.702 | 0.684 | **0.806** |

Table 2: Indicators of reliability and validity

| construct | Item | Factor loading | SMC | CR | α | construct | Item | Factor loading | SMC | CR | α |
|-----------|------|----------------|-----|-----|-----|-----------|------|----------------|-----|-----|-----|
| AQ | AQ1 | 0.581 | 0.338 | 0.781 | 0.763 | PE | PE1 | 0.93 | 0.834 | 0.913 | 0.912 |
|    | AQ2 | 0.767 | 0.588 |       |       |    | PE2 | 0.921 | 0.849 |       |       |
|    | AQ3 | 0.848 | 0.719 |       |       |    | PE3 | 0.81 | 0.656 |       |       |
| BI | BI1 | 0.919 | 0.845 | 0.944 | 0.943 | SCQ | SCQ1 | 0.644 | 0.415 | 0.713 | 0.704 |
|    | BI2 | 0.957 | 0.915 |       |       |     | SCQ2 | 0.77 | 0.593 |       |       |
|    | BI3 | 0.887 | 0.787 |       |       |     | SCQ3 | 0.601 | 0.362 |       |       |
| EF | EF1 | 0.79 | 0.6 | 0.8 | 0.8 | SI | SI1 | 0.74 | 0.5 | 0.7 | 0.7 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 6 | 33 | 72 | 65 | | | | 47 | 16 | 14 |
| | EF2 | 0.908 | 0.825 | | | | SI2 | 0.753 | 0.567 | | |
| | EF3 | 0.792 | 0.628 | | | TQ | TQ1 | 0.847 | 0.718 | 0.847 | 0.834 |
| FC | FC1 | 0.67 | 0.449 | 0.746 | 0.737 | | TQ2 | 0.859 | 0.739 | | |
| | FC2 | 0.833 | 0.694 | | | | TQ3 | 0.704 | 0.496 | | |
| | FC3 | 0.596 | 0.355 | | | UB | UB1 | 0.574 | 0.329 | 0.827 | 0.812 |
| GCQ | GCQ1 | 0.686 | 0.477 | 0.820 | 0.813 | | UB3 | 0.848 | 0.719 | | |
| | GCQ2 | 0.843 | 0.711 | | | | UB4 | 0.844 | 0.712 | | |
| | GCQ3 | 0.796 | 0.633 | | | | UB5 | 0.667 | 0.445 | | |

**Results of testing the model and the hypotheses**

Using SEM to test the hypotheses, Figure 3 showed first-order to test the effect of constructs on the BI and the impact of BI and FC on UB. The regression analysis results among the constructs and the decision about the hypotheses are presented in Table 3. The results confirmed the significant impacts of PE and AQ on BI. The effects of TQ, SCQ, SI, and EF on BI were insignificant. Furthermore, FC had significant effects on UB, and BI had an insignificant impact on UB.
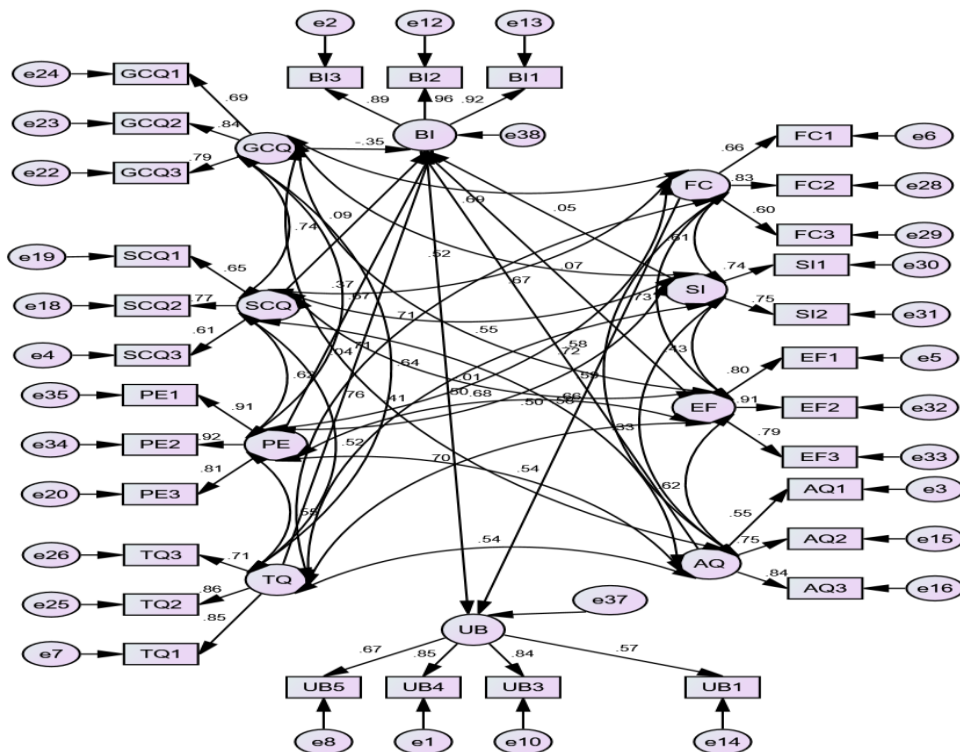
Figure 3 SEM of study model

**Table 3: Regression Weights of the model**

| Construct | Effect direction | Construct | Weight (β) | p-value | Decision |
|---|---|---|---|---|---|
| BI | <--- | TQ | .048 | .644 | Accept $H_0$ |
| BI | <--- | PE | .462 | <.001 | Reject $H_0$ |
| BI | <--- | SCQ | .308 | .105 | Accept $H_0$ |
| BI | <--- | GCQ | -.302 | .059 | Accept $H_0$ |
| BI | <--- | EF | .177 | .203 | Accept $H_0$ |
| BI | <--- | SI | -.005 | .961 | Accept $H_0$ |
| BI | <--- | AQ | .552 | <.001 | Reject $H_0$ |
| UB | <--- | BI | -.009 | .849 | Accept $H_0$ |
| UB | <--- | FC | .622 | <.001 | Reject $H_0$ |

## Moderating effect of Experiences

Table 4 indicated that PE significantly and positively affected BI for the only high experience ($\beta = 0.602$, p-value < 0.001). This has also shown that the effect of AQ on BI was more substantial for the not highly experienced group than the highly-experienced group, where Z-score was statistically significant. Furthermore, the results showed that FC significantly and positively affected UB for both not high ($\beta = 0.491$, $p < 0.001$) and high ($\beta = 0.821$, $p < 0.001$) experienced groups.

**Table 4: Experience moderation in the model**

| Construct | Effect direction | Construct | Moderating variable: experience | | | | |
|---|---|---|---|---|---|---|---|
| | | | Not high | | High | | |
| | | | Weight ($\beta$) | p-value | Weight ($\beta$) | p-value | z-score |
| BI | <--- | TQ | 0.037 | 0.817 | 0.274 | 0.090 | 1.036 |
| BI | <--- | PE | 0.503 | 0.053 | 0.602 | <.001 | 0.340 |
| BI | <--- | SCQ | -0.215 | 0.759 | 0.288 | 0.163 | 0.687 |
| BI | <--- | GCQ | -0.392 | 0.114 | -0.235 | 0.300 | 0.466 |
| BI | <--- | EF | -0.027 | 0.928 | 0.018 | 0.926 | 0.126 |
| BI | <--- | SI | 0.210 | 0.501 | -0.018 | 0.866 | -0.691 |
| BI | <--- | AQ | 1.229 | 0.015 | 0.182 | 0.211 | -2.00 |
| UB | <--- | BI | 0.009 | 0.896 | -0.034 | 0.602 | -0.455 |
| UB | <--- | FC | 0.491 | <.001 | 0.821 | <.001 | 1.579 |

## Findings and Discussion

The UTUAT model was used in this study to assess students' Moodle acceptance and use and further clarified the relationship among the model's variables. Firstly, when there is a significant relationship between three out of the four constructs of the UTUAT model, that is, performance expectancy, effort expectancy and social influence, and student's behavioral intentions and their frequency of use and time involvement, it signifies that the beliefs of students in ease of use and usefulness and influence from others determine their

acceptance of the technology. It is important to note that this is quite varied from Venkatesh et al.'s (2003) theory but is similar to Wu and Chen's (2006). It is evident that the facilitating conditions construct is not a significant predictor of acceptance of technology in advanced and tech-savvy communities. It is, however, essential to clarify the criteria of advanced information infrastructure, and while at it, more subjects could be employed.

From the results about cognitive instrumental processes, it is evident that*most* involved students have no perceptions of serious difficulties vis-à-vis the features of Moodle. The majority of the students also consider Moodle a useful online platform for extended collaboration in the learning quest.

As suggested by UTUAT, the present study established Performance Expectancy to be a strong predictor of LIS students' acceptance of Moodle. In Moodle through LIS, Performance Expectancy indicates that students would find Moodle to be helpful due to the opportunities presented by Moodle in the quick gaining of access to information from anywhere at any point in time, whenever necessary. Other researchers who found Performance Expectancy to strongly influence students' intentions to use other electronic resources, including electronic resources and mobile device instant messaging, include AlAwadhi & Morris (2008), Lin Chan, Jin & Y. (2004). Martins et al. (2014) identify the former as a stronger predictor for behavioral intention, which was also verified in other studies (Im et al., 2011; Lallmamode al., 2013; Rodriguez and Trujillo, 2013; Weerakkody et al., 2013; Suki & Suki, 2017). This is in contrast to (Cheng, Yu, Huang, Yu, &Yu, 2011; Wu, Yu & Weng, 2012) studies which revealed the insignificant relationship between Performance expectancy and behavioral intention. In addition, the present study results confirmed the Performance Expectancy significantly and positively affected Behavioral Intention for the only high experience.

The current study's findings indicated that Appearance Quality has a substantial effect on behavioral intention. This verifies Aladwani's (2006) observation that the qualities of a website, such as color, typeface, multimedia presentation, attractiveness, and organization, all have an effect on the visitors' acceptability. It can be difficult for users to navigate a website that features startling colors or an inconsistent layout. As a result, website developers must place a premium on the aesthetic quality of their sites in order to encourage repeat user visits. Additionally, it was discovered that the build of website design excellence is comprised of visual quality (Al-Qeisi, 2014). Additionally, the current study's findings indicated that the effect of Appearance Quality on Behavioral Intention was greater for the group with less experience than for the group with more experience, where the Z-score was statistically significant.

Furthermore, Facilitating Conditions had significant effects on Use Behavior, whereas Behavioral Intention had a negligible effect. Additionally, the findings indicated that Facilitating Conditions had a significant and favorable effect on Use Behavior in both the low- and high-experienced groups. Facilitating conditions were also found to be strong predictors of acceptance of Moodle by Jairak et al. (2009), they also found reducing requirements to correlate with behavioral intention significantly positively. This, in contrast to empirical evidence, implies that there is no evident evidence of facilitating situations affecting behavioral intention. However, effort and performance expectations mitigate the influence of boosting demands on behavioral intention (Ventekash et al., 2003).

Surprisingly, the findings confirmed that the effects of Effort Expectancy, Social Influence, Technical Quality, General Content Quality, and Specific Content Quality on Behavioral Intention were insignificant. This is in contrast to Jairak et al. (2009); Ahmad et al. (2012) found effort expectancy to correlate with behavioral intention significantly positively. In addition, social influence was seen to

predict Moodle acceptance by students stro*ngly* (Jairak et al, 2009; Ahmad et al., 2012). Various implications regarding the use of Moodle have been addressed. Sumak et al. (2010) advanced a viewpoint that social influence significantly determines students' behavioral intentions. It was determined that students' behavioral intentions are a substantial determinant of Moodle`s actual use. Additionally, contrary to the current study's findings, a favorable association between technical quality and intention to utilize an e-learning system has been established (Cheng, 2012; Islam, 2012; Li et al., 2012; Wang & Chiu, 2011). According to previous research, information quality is a critical factor in determining user satisfaction (Saba, 2013; Hassanzadeh et al., 2012; Kim et al., 2012; Chiu and Wang, 2011). According to empirical research, the quality of specific material supports the user's intention to use it (Liu and Arnett, 2000). Beyond technological capabilities, e-learning resources should offer high-quality content to successfully improve students' adoption and usage intention. Managers must pay attention not only to the information technology attributes of Learning Management Systems (e.g., ease of use, rapid access, speed of access and navigation, training, etc. ), but also to how to improve the quality of e-learning resources such as manuals, an online FAQ, forums, and professor support in order to increase acceptance and adoption of e-learning. The quality of facility facilities is critical in determining students' intention to use a Learning Management System (Malanga et al.,2022)

**5.0 Conclusion and Contributions**

Modern educational models prioritize educational quality, which is why Moodle is used by a large number of public and private educational institutions. Using the Moodle platform will undoubtedly contribute to the improvement of the quality of online education and education in general (Mukhametshin, Salekhova, & Mukhametshina, 2019). Moodle expands the space for knowledge and instruction and adheres to the philosophy of continuous learning (Zabolotniaia et al., 2020). Advanced research on the utilization of Moodle's technological

capabilities in the educational process of a higher education institution has established that the Moodle distance learning system helps students enhance their critical thinking and innovation skills (Chootongchai & Songkram, 2018). Moodle, too, facilitates successful learning by utilizing a well-established approach for students to develop and apply unique ideas. Through the use of online applications, the Moodle system allows students to finish tasks, develop, and distribute new information with team members (Then et al., 2016). Due to the open-source software philosophy, the Moodle system is gaining traction in the worldwide information educational sector, being utilized not only by universities and schools but also by private businesses for employee professional development (Aikina & Bolsunovskaya, 2020; Fagerberg, 2018)

The present study's findings examine the factors that influence LIS students' acceptance of Moodle. Utilizing the UTAUT which combines several theories that have attempted to survey users' acceptance or rejection of technology and the factors that contribute to this acceptance or rejection. Adding the Website Quality model to the UTAUT model allowed a more comprehensive insight into the topic. The study made significant theoretical and practical contributions to increasing Moodle acceptance as a LIS student learning tool. The study suggested Moodle providers for a suitable design for student learning.

Theoretically, the study introduced a model that supports an in-depth understanding of the factors shaping learners' acceptance or rejection of technology. Policymakers and managers need to realize that the qualities of a website and how much benefit it provides to the users, the ease or difficulty in using the web, and what subjects the website offers are all critical factors in determining the acceptance or rejection *of* users to a specific website.

This study confirms that Performance expectancy (PE) and Appearance quality (AQ) directly determine students' use of Moodle as a learning tool. Thus, Moodle developers may need to pay attention to Moodle's ease of use and design to secure high-quality functions tools with attractive design.

The hypotheses demonstrate the original UTAUT's shortcomings in an online learning setting. Combining WQ feature components and behavioral intention determinants in UTAUT results in an integrated Moodle acceptance model. Further study is required to determine the validity of the suggested model using a diverse set of examples in a different learning environment (offline versus online learning). Additionally, a longitudinal experiment should be conducted to properly understand the interrelationships between the variables associated with technological acceptance (Hu and Chau, 2001).

The present study contributes to the general body of knowledge in understanding acceptance of Moodle by LIS students. With these findings, management is put in a better position to forecast and subsequently implement structured support programs for assisting LIS students to more efficiently and effectively use Learning Management Systems.

**Recommendation for improving Moodle adaptation in PAAET**

This study offers several critical practical implications. First, the findings reveal the different vital determinants that influence students' continued intention to use Moodle after experiencing its use. Second, due to system interactivity's significant impact on performance expectancy and satisfaction, instructors must modify their teaching approaches by enabling interaction and communication between students and instructors through LMS use. When such is done, students perceive the system as valuable and practical for their learning. That goes a long way in generating a positive attitude towards the use of Moodle، and students exhibit more satisfaction with the system. To improve Moodle's adaptation, more research is

necessary. Future research should investigate a cross-cultural study، and that is because  *the*cross-cultural characteristics of users have an effect on the decision processes to use Moodle and other Information Systems (IS) continuousl*y*. Also, future studies should consider using different data collection tools، including interviews, focus groups، and even mixed methods، to provide an increasingly comprehensive understanding of students' intentions to adopt and continuously use Moodle.  To ensure enhanced acceptance of Moodle by LIS students, it would help learning institutio *ns*place increased emphasis on the UTUAT model.

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