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قبول الطلبة الجامعيين للشهادات المعتمدة من منصات المقررات المفتوحة الالكترونية في ضوء نموذج قبول التكنولوجيا

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University Student's Acceptance of Accredited Certificates on MOOCs in Light of Technology Acceptance Model

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ABSTRACT

This study explored the acceptance of obtaining an accredited certificate through MOOCs among Jordanian university students, using the Technology Acceptance Model as a framework. The study adopted a descriptive approach and included a sample of 278 students. The findings revealed that the perceived usefulness factor was higher among male students than female students, notably among students in scientific disciplines compared to those in academic disciplines. Moreover, master's students were more accepted than bachelor's students. These findings hold practical implications, emphasising the need to encourage universities to offer accredited certificates across various disciplines. Additionally, it underscores the importance of raising awareness among students regarding the potential benefits of incorporating learning technology into their daily lives.

Keywords: University Students, Accredited Certificates, MOOCs, TAM, descriptive approach

المخلص

هدفت الدراسة إلى استكشاف مدى قبول طلبة الجامعات الأردنية الحصول على شهادة معتمدة من خلال المقررات الدراسية المفتوحة عبر الإنترنت (MOOCs)، باستخدام نموذج قبول التكنولوجيا كإطار (TAM). واعتمدت الدراسة على المنهج الوصفي، وشملت عينة من 278 طالبًا وطالبة. وكشفت النتائج أن عامل الفائدة المتصور كان أعلى بين الطلاب الذكور منه بين الطالبات، ولا سيما بين الطلبة في التخصصات العلمية مقارنة بالطلبة في التخصصات الأكاديمية. وعلاوة على ذلك، كان طلبة الماجستير أكثر قبولاً من طلبة البكالوريوس. وتحمل هذه النتائج دلالات عملية، تؤكد على ضرورة تشجيع الجامعات على تقديم شهادات معتمدة في مختلف التخصصات. بالإضافة إلى ذلك، فإنها تؤكد على أهمية رفع مستوى الوعي بين الطلبة بشأن الفوائد المحتملة لدمج تكنولوجيا التعلم في حياتهم اليومية.

الكلمات المفتاحية: طلبة الجامعات، الشهادات المعتمدة، MOOCs، TAM، المنهج الوصفي.

Introduction

E-learning, known for its cost-effectiveness, offers accessible education and training twenty-four hours a day. Its value lies in delivering knowledge and skills to the right people at the right time. Many institutions use e-learning to enhance education, but its success depends on its implementation and adherence to education principles. Developing nations are increasingly adopting e-learning to meet educational goals. However, e-learning acceptance remains low in Jordan. This study aims to explore undergraduates' perspectives on obtaining degrees through e-learning.

The National Education Technology Plan (U.S. Department of Education, 2017) suggests leveraging technology to rethink education and improve student learning. E-learning integrates new developments into educational technology, while Massive Open Online Courses (MOOCs) provide opportunities for all students.

Abueita et al. (2021) reported that technology offers new horizons for innovation, implementation of the educational process, and benefit from resources and expertise anywhere in the world, for example:

Access to Online Education: Students passionate about computer science can access online courses even when school budgets are limited or qualified teachers are lacking.

Guidance and Counseling: Students who plan their education and career paths diligently can access high-quality online guidance and counselling services from various sources, regardless of location.

Collaborative Learning: Students from remote areas can collaborate on local research projects with peers worldwide using mobile data and online platforms.

Virtual Labs: Educational institutions with reliable internet connections can provide virtual science labs for chemistry, biology, anatomy, and physics, eliminating the need for physical laboratories.

Global Creativity: Students worldwide can engage in creative activities like writing, music, and video creation and share their work with a worldwide audience.

Specialised Learning Communities: Technology-assisted learning allows inexperienced learners to access and participate in specialised communities, engage in complex activities, and gain expertise over time.

Self-Learning: Technology supports self-paced learning, allowing students to tailor their curriculum to their needs, interests, and pace. These empower students to take control of their lifelong learning.

E-learning is gaining momentum in the Arab world. The Ministry of Higher Education and Scientific Research of the United Arab Emirates lists international universities that endorse e-learning (Open University, 2018). In the U.K., 48 universities, including Oxford and Cambridge, are involved. In the United States, 34 universities like Harvard are on board. Australia has 28 universities, including the Australian National and Monash, and New Zealand has five universities, like Auckland and Otago (Open Universities Australia, 2023). In Vietnam, 40,000 students are pursuing e-learning at universities while working.

Several Arab countries have introduced modern university education methods. For instance, Jordan hosts a branch of the Arab Open University, offering blended online and in-person learning. Institutions like Zagazig University (Arab Open University, 2024) and the Egyptian E-lectronic University (2024) provide such opportunities in Egypt. In Saudi Arabia, the Saudi Electronic University, established in 2011, offers various educational programs. Other universities in the region, such as King Fahd University of Petroleum and Minerals, Arabian Gulf University, United Arab Emirates University, Hamdan bin Mohammed Electronic University in Dubai, Syrian Open University, and Al-Quds Open University in Palestine, also play significant roles in this development (Saudi Electronic University, 2023)

Although most universities have introduced digital technology in their various administrative and educational units, the issue of obtaining primary bachelor's and postgraduate (high diplomas, master's and doctoral) university degrees through electronic study alone is still not approved by some educators

and officials. According to Engel (2019), employers and accredited public companies did not support hiring graduates of online programs to gain legitimacy and adhere to normative formats. There is a negative public perception associated with online learning compared to traditional education, and there is a disparity between the increasing demand for online learning programs. Employer perceptions of online certification require further exploration to determine whether the current perception of online certification may hinder employment opportunities. Kopp & Ebner (2017) raised in their study the extent of students' interest in obtaining the certificate through the Austrian MOOC platform iMooX. They found that students are interested in certificates if they must register for an exam. They all get the certificate if this is a condition for obtaining the degree. Professional learners enrolling in MOOCs for professional reasons are interested in certificates to prove their learning outcomes. They use their certification in the context of job applications and as proof of completion of additional education. Thus, the official document is essential to them even though it is just a certificate of participation because MOOC attendance and completion are relevant to the job. Professional users may prefer PDF certificates because they are more popular and better accepted among employers and supervisors. In a recent study, the researcher considers the MOOC's design as a solution to higher education requirements.

It provides certificates for either participation or completion of the course and a response to establishing a solid relationship between technologies and the acquisition of competencies for the possibility of issuing accredited certificates through the MOOC. Among the studies examining e-learning trends, the Al-Hadarb survey (2015) studied Jordanian women's attitudes towards asynchronous e-learning in secondary and university education. The study found positive attitudes, but challenges included economic factors, early marriage, and husband consent. Applegate's research (2020) found that degree completion and job opportunities influenced kindergarten principals' perceptions of hiring licensed graduates with online degrees. The study's relevance is especially relevant with Covid 19 and the

transition to online learning environments. Littenberg-Tobias and Reich's (2020) survey explores the potential of MOOCs as a global trend for excluding groups. Results show that male students and master's degree holders are more likely to complete online programs. Abueita et al. (2021) studied the eLearning obstacles from the undergraduate student's perspective at Al-Balqa Applied University. They found that many students struggle with eLearning because their instructors did not teach them how to use it properly, and they don't understand its goals. They also get distracted by other websites instead of focusing on their eLearning. Universities could help by offering courses to teach students how to use eLearning effectively. Al-Qabbani and Al-Khatib (2022) provided recommendation for developing e-learning systems in Arab universities, that each university should create e-learning platforms, publish e-courses, create procedures and policies that govern the e-learning process and ensure consistency and quality, and formulate scientific standards to measure the quality of e-learning and assess its effectiveness. The Al-Bayada (2022) study recommended raising awareness about the importance of employing technology and emphasized the necessity of understanding the obstacles that hinder using innovative educational technologies in learning. A study by Ramirez et al. (2022) aimed to analyse the essential factors that promote obtaining accredited certificates of MOOCs Within the context of the MOOCs in the energy sustainability area offered by the platforms MexicoX and edX. The ex post facto technique and two validated instruments examined motivational and self-regulatory processes. Six determinants represented digital adoption: perceived benefit, self-efficacy, the domain of knowledge and experience, group disposition, drive for achievement, strategic thinking for performance, and implications for practice or policy. The study concluded that MOOC certification encourages participants to complete their courses and improve their teaching and research skills. The potential perceived advantages of professional performance training significantly impact participants' ultimate competence, and attention to the successful design and implementation of novel paradigms for MOOCs may help enhance the learning process's impact.

Several research and scientific studies on students' acceptance of technology in education, such as the Technology Acceptance Model (TAM), are essential theories explaining individuals' behaviour towards technology. The model was invented in 1986 and developed in 1989 (Davis et al., 1989). It aims to find factors that accept computers and information technology in general based on two main factors:

First, Perceived Usefulness (P.U.) is the degree of the individual's belief that using a particular system/technology will improve their job performance. In the current study, university students believe obtaining an electronic university degree will support the desired learning process.

Second, Ease of Use (EOU): The degree to which individuals believe such use reduces their effort to perform the required tasks. The present study defines it as the extent to which university students believe e-learning does not require additional cognitive effort.

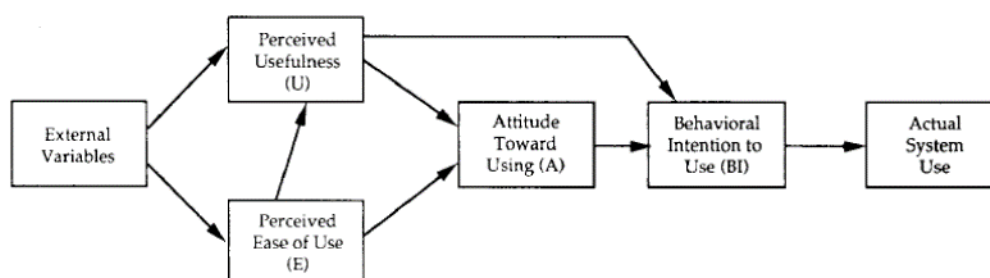
External Variables: These may be personal (age, gender, educational level, experience), social, organisational or technological related to the characteristics of information technology and directly affecting the perceived benefit and ease of use.

Attitude Towards Use: The degree of their awareness of the benefit and ease forms the attitude towards using it or not.

Behavioural Intent Desire / Whether or not resulting from the situation to use a new technology/system.

Actual use: the result of the acceptance to use is the behaviour and behaviour, but some consider the sense internal.

Figure 1: Technology Acceptance (TAM) Model (Davis, al et, 1989)



Nguyen (2014) explored e-learning's educational needs and the TAM model's relationship to acceptance and actual use. The study found artificial intelligence, machine learning, and data as significant drivers of Web 3.0 development. Perceived ease of use positively impacted perceived benefit and the model's effectiveness in identifying factors for digital education.

Bessaoud & Timmaoui (2021) study aimed to explain and identify the factors affecting higher education teachers' adoption of the e-learning system using TAM. The results showed that cognitive factors directly affected teachers' digital education system (e-learning) use. Sahin et al. (2022) investigated the system of e-learning acceptance across 1713 university students with specific needs. They presented an enlarged TAM, which revealed that 76.9% of people want to adopt e-learning systems, with ease of use and benefit being the most significant aspects.

Intrinsic and extrinsic motivational constructs Performance improvement frameworks are significant in e-learning acceptance. In contrast, the relationship between perceived usefulness and behavioural acceptance represented the essential relationship influencing the choice. Furthermore, hypothesis testing demonstrated that an individual's emotional and social determinants affected e-learning acceptability. Alfayez (2022) studied Saudi students' acceptance of MOOC platforms using a descriptive approach. A questionnaire was distributed to 1583 participants, and the results showed that most Saudi students accepted MOOCs (85.4%) and found them easy to use (89.7%). They also agreed to continue using educational platforms (87.45%). Bachelor's degree holders had a higher acceptance of media usage. Sharif-Nia et al. (2024) used the Technology Acceptability Model and the Unified Theory of Acceptance and Use of Technology to examine the impact of computer skills on the acceptance of e-learning among 403 Iranian nursing students.

Studies show that e-learning, including distance learning, is becoming a reality due to science, economics, and geography. Students' attitudes are positive, and universities offer online distance learning and certificates worldwide. The number of registered distance e-learning users is growing. The

Ministry of Higher Education and Scientific Research (2024) in Jordan still does not recognise certificates of this kind. With the presence of many segments, especially since there are universities with regional and international reputations that are attractive and likely attract students to enrol in them.

Study Problem and Questions

Universities and companies were interested in offering courses on MOOC platforms, so they competed in providing their services to learners to increase their efficiency through designing and developing media. Most platforms offer massive online courses to educate people who want further education. These platforms serve (220) million learners out of (19,400) training courses provided by more than (950) universities around the world, such as Stanford, Harvard and MIT t. Future-Learn, Udacity, Coursera, Swayam, and Edx are among the most prominent of these platforms (Engel, 2019).

Although most MOOCs do not offer officially accredited certificates, they issue course completion certificates, reflecting global acceptance of this learning mode. Education reformers see potential in using MOOCs for cost-effective degree attainment. Additionally, technology-driven education can bridge gaps and make learning accessible, especially during crises like wars or the COVID-19 pandemic.

Few studies focus on students obtaining accredited certificates through MOOCs. This study aims to help officials understand learners' acceptance of technology for academic development using the widely adopted TAM model, focusing on Jordanian university students. The following questions arise from this inquiry:

1. What are university students' acceptance to obtain accredited certificates by MOOCs in terms of perceived usefulness, ease of use, and student attitudes?
2. Are there statistically significant differences between the arithmetic means of university students' acceptance of obtaining accredited certificates by MOOCs in the light of (TAM) attributed to gender (male/female), discipline (academic/scientific) and educational level (bachelor/proficient)?

Study Objectives

This study aims to explore Jordanian university students' acceptance of obtaining an accredited certificate through MOOCs using the (TAM) method. It seeks to determine their perceived ease of getting an accredited certificate and their attitudes towards obtaining an accredited certificate through MOOCs.

Study Importance

This study is critical because it highlights the need to pay attention to modern trends in education and their positive impact on the delivery of scientific material to students. The scarcity of Arabic studies on students' acceptance of obtaining certificates through MOOCs also emphasises the importance of enriching Arabic literature and providing feedback to MOOC platform officials and developers to improve them.

Method

The current study adopted a descriptive approach due to its suitability to the study's nature and aim of investigating university students' acceptance of obtaining a university degree electronically.

The Study Sample

The study sample included 278 students, distributed as follows:

- Gender: 153 female students and 125 male students.
- Discipline: 169 students from a literary background and 109 from a scientific background.
- Academic Degrees: 160 bachelor's degree students and 118 master's students.

Study Tool

The researcher developed a 24-item questionnaire to achieve the objectives of the study and divided the questionnaire items into the following:

- (7) the perceived usefulness of the e-learning was diagnosed,
- (7) the ease of use was diagnosed.

- (10) the diagnosis of the attitude towards using the items.
- The researcher placed an item in which the respondents indicated their final decision on whether they intended to obtain accredited certificates on MOOCs.

Respondents choose from five options: strongly agree, agree, slightly agree, disagree, or strongly disagree. The values are (5-4-3-2-1), respectively.

Researchers created a literature-based questionnaire and an exploratory survey of 20 university students.

Content Validity of the Tool:

Ten arbitrators assessed questionnaire items for MOOC acceptance, ensuring content validity and reliability with 80% agreement.

Reliability of the Tool

A sample of 30 university students answered a questionnaire, and the researcher calculated scores using the Pearson correlation coefficient (PCC). Inter-item correlation was studied, and reliability and consistency were found after two weeks.

Table 1: Inter-Item Correlation Matrix

Factors		PU	EOU	LA	Total
PU	PCC	1	.492**	.274**	.780**
	Sig. (2-tailed)		.000	.002	.000
	N	30	30	30	30
EOU	PCC	.492**	1	.343**	.793**
	Sig. (2-tailed)	.000		.000	.000
	N	30	30	30	30
LA	PCC	.274**	.343**	1	.711**
	Sig. (2-tailed)	.002	.000		.000
	N	30	30	30	30
total	PCC	.780**	.793**	.711**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	30	30	30	30

** Correlation is significant at the 0.01 level (2-tailed).

The correlation matrix shows that values concerning item-to-item correlation were more than 0.3 is considered acceptable (Nunnally, 1994).

Next, the researcher studied the internal consistency analysis using Cronbach's alpha. The scores ranged from 0.734 to 0.786, showing that the test was reliable. The scores were higher than the value estimated ($\alpha=0.70$) by Nunnally (1994) was accepted.

Table 2: Cronbach's alpha stability coefficient values

Factors	N of Items	Cronbach's Alpha
EOU	7	.734
EOU	7	.736
LA	10	.786

For the current study, the calculation of student's acceptance levels for MOOC learning was as follows: the highest score for the paragraph in the alternatives was subtracted from the lowest score and divided by the number of groups, i.e. $(5-1/3 = 1.33)$, as follows:

Weak: $(1 - 2.33)$. Average: $(2.34 - 3.67)$. High: $(3.68 - 5)$.

Results

Results of the First Question

What are university students' acceptance to obtain accredited certificates by MOOCs in terms of perceived usefulness, ease of use, and student attitudes?

To answer the first question, the means and standard deviations of perceived usefulness, ease of use, and students' attitudes appear in Table 3:

Table 3: Means and standard deviations of perceived effectiveness and ease of service and Learner's Attitude

Measures	Usefulness	Ease of use	Learner's Attitude	Total
Mean	3.45	3.29	3.42	3.39
N	278	278	278	278
Std.D.	.572	.585	.551	.472

The results show that the general average of students' acceptance of obtaining certificates on MOOCs is (3.39), which is in the average acceptance level (2.34-3.67). These results agree with previous study results as the study of Jalal (2015), Al-Hadarb and Al-Jarrah (2015), Applegate (2020), and Ramirez et al. (2022). This result indicates that university students have a good impression of studying MOOCs and shows that they realise, according to their belief, the importance of learning MOOCs. It is also consistent with the high percentage that stated that they wish to enrol in this type of study. This result may be due to some of the reasons mentioned in the National Education Technology, which are essential for students. These reasons are namely: easy access to high-quality guidance and counselling programs via the Internet from multiple sources- the ability of students in the region's Remote geographic mobile data collection and online collaboration platforms to allow a tremendous number of novice learners to have access and be involved in particular communities of practice-- stepping into more complex activities and deeper engagement. Also, university students born during the period when the Internet, cell phones, and computers began to spread opened their eyes to the beginning of the digital revolution and dealt with its tools, becoming more proficient in it than their parent's generation, and it became a part of their lives, so it is not surprising that.

Strangely, their attitudes are positive towards everything related to it, including studying through this technology. In addition, the students see positive aspects in this study, for example, due to the economic factor in terms of the lower cost of study wages, the provision of high-cost transportation wages, and the possibility of working and studying. The rest of the positive things mentioned in the questionnaire include obtaining a degree from an international university and the availability of distinguished international professors.

Results of the Second Question

Are there statistically significant differences between the means of university students' acceptance of obtaining accredited certificates by MOOCs in the light of (TAM) attributed to gender (male/female), discipline (academic/scientific) and educational degree level (bachelor/proficient)?

The calculation of means, standard deviations, and the results are shown in the following.

Table 4: Means and standard deviations of gender, discipline and degree level

Factors	Measures	Gender		Discipline		Degree Level		Total
		F	M	Lit.	Sc.	Bach.	Mas.	
PU	Mean	3.31	3.61	3.41	3.50	3.26	3.70	3.45
	N	153	125	169	109	160	118	278
	Std.D.	.534	.574	.579	.559	.463	.610	.572
EOU	Mean	3.14	3.46	3.29	3.27	3.08	3.57	3.29
	N	153	125	169	109	160	118	278
	Std.D.	.499	.633	.566	.617	.460	.619	.585
LA	Mean	3.32	3.55	3.44	3.38	3.16	3.77	3.42
	N	153	125	169	109	160	118	278
	Std.D.	.549	.528	.576	.510	.491	.418	.551

The results showed apparent differences between the averages of students' acceptance of all factors of the TAM. The Perceived usefulness factor coverage on the gender variable was higher for the male average (3.61) than for the female average (3.31). The discipline variable for the scientific discipline average was higher (3.50) than the academic discipline (3.41). In the degree level variable, the master's students' standard was higher (3.70) than the bachelor's students' average (3.26).

For the Easy-to-use factor, the gender variable for the male students' average was higher (3.46) than the female students' average (3.14). The literary student's discipline variable average was higher (3.29) than the scientific students' discipline average (3.27). The degree level variable, the master's students' average, was higher (3.57) than the bachelor's degree level average (3.08).

For the students' attitudes factor, the gender variable for the male students' average was higher (3.55) than the female students' average (3.32). The literary students' discipline variable average was higher (3.44) than the scientific students' discipline average (3.38). In the degree level variable, the master students' average was higher (3.77) than the bachelor students' average (3.16).

All university students' acceptance was within the average level, so most agreed to get certificates on MOOCs. The t-test was employed by the researcher to confirm the significance of the differences between the variables. The results appear in Table (5) as follows:

Table 5: The result of the "t" test for the average student's acceptance of the study to obtain the accredited certificates on MOOCs

Variables		t	df	Sig.	M. Dif.	Std. E. Dif.
Gender	P U	-4.416	276	.000	-.29517	.06684
	E O U	-4.785	276	.000	-.32556	.06804
	L A	-3.627	276	.000	-.23616	.06512
discipline	P U	-1.239	276	.216	-.08700	.07022
	E O U	.267	276	.790	.01923	.07208
	L A	.847	276	.398	.05743	.06777
Degree level	P U	-6.792	276	.000	-.43732	.06438
	E O U	-7.592	276	.000	-.49171	.06477
	L A	-10.894	276	.000	-.61065	.05605

The data of Table (5) show that there are statistically significant differences in favour of males, as the "t" values for the perceived interest factor were (-4.416), the ease-of-use factor (-4.785), and the direction of students (-3.627). There are no statistically significant differences for the discipline variable. Still, there are statistically significant differences in favour of the master's students, as the "t" values for the perceived interest factor were (-6.792), for the ease-of-use factor (-7.592), and in the direction of students (-10.894).

This result is because male students' perceptions of using e-learning are positive. They tend to liberate themselves from the obligation of daily attendance, which saves time, effort, and money, especially for male students with limited income. Additionally, over the last two years, students' experience with technology during COVID-19 has positively affected their awareness of its ease of use.

The study suggests that students' attitudes towards e-learning are positively influenced by its ease of use and usefulness, leading to increased intention to use it. The researchers recommend that lecturers enhance e-learning's ease of use and usefulness to improve students' grades.

The survey conducted by Kopp & Ebner (2017) concluded that students are interested in electronic certificates if required to register for an exam, as most of them can obtain certification if required for the degree. This conclusion aligns with Ramirez et al.'s (2022) study on the importance of paying attention to the effective design and implementation of e-learning models, where the perceived usefulness of professional performance training significantly impacts the final competence of the participants. Furthermore, this aligns with the results of Bessaoud & Timmaoui's (2021) study, which showed that cognitive factors directly affected teachers' use of the digital education system (e-learning). Alfayez's (2022) study revealed that most students accept using educational platforms and find them practical and easy to use. Most of them obtain and agree to use educational platforms, considering their attitudes and intentions towards continuing to use electronic platforms.

The interpretation of the result of the lack of difference between students in the scientific and literary disciplines is due to the strength, importance, and usefulness of technology used to provide educational materials for schools and universities to achieve and provide opportunities for all students. The National Education Technology Plan's (2017) research recommends rethinking education and how we approach student learning in light of technological advancements across all subject areas. Students in other fields of study can also benefit from this by having access to high-quality Internet, enrolling in an online training course, and having a virtual chemistry, biology, anatomy, and physics laboratory available. Furthermore, it aids English majors in pursuing creative writing, music, or media production. In addition, supporting websites with high-quality media aligned with the establishment's stated mission to expand access to education, enhance skill sets, and better prepare individuals for success in the workforce.

The results indicate significant differences in favour of master's students, likely due to their more remarkable experience, self-regulated learning abilities, and awareness of self-improvement and skill development. This aligns with findings from Kopp & Ebner (2017), Littenberg-Tobias & Reich (2020), and Alfayez (2022), which highlight the educational level's influence on behaviour. MOOCs function like a classroom, allowing learners to control their pace, select topics, and ask questions, promoting 'constructivist' learning. Learner-centric education builds confidence and adaptability for formal and informal learning environments.

Conclusion

The findings of this current study, in conjunction with existing theoretical literature, conclude that most undergraduate students are keen on acquiring accredited certificates through MOOCs. Based on their (TAM) interest, perceived usability, attitude, and intentions to utilise MOOCs remain high, transcending disciplinary boundaries. These disciplines encompass the arts and humanities, sciences, commerce, and more. The overarching objective of MOOCs is to enrich students' knowledge across a diverse range of subjects.

The researchers identified the necessity of promoting the adoption of learning technology among university students by heightening their awareness of the manifold benefits technology offers in their daily lives. This entails involving teachers and fellow students to guide and support the effective use of technology. Additionally, the researchers found that master's degree students exhibit a more profound awareness compared to bachelor's students concerning the significance of learning, self-initiated learning, self-regulated understanding, and the utilisation of self-organising learning strategies.

Future studies should delve into comprehending the lower levels of perceived usefulness and ease of use associated with females' attitudes and intentions to enrol in MOOCs. This exploration should identify whether these lower levels stem from a lack of skills, limited internet accessibility, or other factors inhibiting females from recognising MOOC courses' perceived usefulness and ease. Such insights will assist decision-makers in formulating targeted strategies to address this issue.

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