Continuance Intention of Massive Open Online Course Learners in Higher Education: A Sustainable Development Initiative

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ABSTRACT

This study focuses on higher education institutions in Metro Manila, Philippines, with their initiative to use and adopt Massive Open Online Courses (MOOCs) by analyzing the continuance intention to use MOOC platforms among students or learners. This recently gained popularity due to emergency remote learning in Metro Manila, the pandemic's epicenter. This study also aims to understand the transformative impact of MOOC education on traditional and online learning. In addition, the study utilized survey research with 122 MOOC learners via purposive sampling, given the nature and composition of the respondents. The data collected were analyzed using the structural equation modeling-path analysis to substantiate the hypotheses using the extended Technology Acceptance Model. The relationship between attitude to continuance intention and continuance intention to transformative impact was significant. However, perceived usefulness, perceived ease of use, and motivation were insignificant. It can be implied from the study the changing values of learners and students during the pandemic. Learning should not be an option but a way of life regardless of the circumstances and complement traditional learning. Finally, the study shows that the integration of MOOCs is the next big thing in global education, an impact on the school's contribution to sustainable development goals through MOOC coverage by identifying the continuance intention among students and learners.

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Introduction

The United Nations adopted the Sustainable Development Goals (SDGs) in 2015. These serve as a ubiquitous rallying cry to end poverty, preserve the planet, and ensure that humanity has peace and prosperity by 2030. There were seventeen (17) SDGs that were integrated. They recognize that one action has an impact on other outcomes and that development should be balanced in terms of social, economic, and environmental sustainability (Fasulo, 2021). The sustainable development goal of the United Nations General Assembly of 2015 aims to promote inclusive and impartial quality education in order to promote lifelong learning opportunities for all (Fasulo, 2021; Hueske et al., 2022). By 2030, all men and women should have equal access to affordable, high-quality education in technical, vocational, and tertiary fields (Fasulo, 2021). SDG number 4 promotes inclusion with the hope of increasing the number of young people and adults with relevant skills for work and entrepreneurship. Furthermore, the goal ensures that people all over the world have the necessary information and awareness about sustainable development and climate change (de Koning et al., 2021; Fasulo, 2021; Hueske et al., 2022). Massive Open Online Courses (MOOC) engagement before the pandemic was limited to specific platforms in partnership with prominent universities in the United States.

The emergence of MOOCs, whether gratis or paid, became evident during the global lockdown periods (Kundu & Bej, 2020; Vyas & Butakhieo, 2020). MOOCs contribute significantly to UN SDG no. 4 by providing access to quality education, primarily free of charge. Although the pandemic has disrupted the operations of businesses, colleges and universities are continuously finding ways to remain relevant in line with teacher development, student engagement, recruitment, and even sustainability. Either rely on existing MOOCs, or they have created their platform to aid learning. However, not all students can finish the course, which translates to higher attrition or abandonment rates for most courses, even if this is school initiated activity. There were identified gaps in MOOC implementation and its sustainability on the part of the learner and the institution offering it. First, digital knowledge is necessity in utilizing online materials to maximize the time and effort of students. Second, once the course becomes available, the content should holistically and universally fit the needs of thousands of diverse learners. Another challenge is the course credit system to count towards a degree (Kaur, 2019). Another gap in implementing MOOCs in emerging nations like India, is the dearth of technological infrastructure to support learning like high-speed internet access, diversified population, and the acceptance of MOOC certificates by future employers (Biswas, 2020). The main concern of MOOC organizers was maintaining its quality and offering a course relevant to the region's academic needs (Pasha et al., 2016). Even though a few studies have shown the interrelationship of MOOC, sustainability, and continuation intention, there is a need to examine why learners surcease learning. This study emphasizes the value of MOOCs in today's digital world through the lenses of sustainability of colleges and universities and why students are not maximizing it?

This justifies the study's dual goals, which are as follows:
1. To understand the impact of MOOC education on traditional and online learning.
2. To examine how schools can contribute to sustainable development goals through their MOOC coverage by identifying learners' intent to continue learning.

Literature Review

The Evolution of MOOCs

The acronym MOOC was derived from a course on Connectivism, and Connectivity Knowledge created in 2008 by Downes and Siemens. The goal was to maximize interactions between different participants, which were made possible by online tools. In 2011, Stanford University provided three free online courses. Over 160,000 students worldwide registered for the original session of Introduction to Artificial Intelligence.

However, the course was successfully completed by roughly 20,000 students or learners. In this MOOC, interaction was less of a priority than exploring the likelihood of reaching a huge audience (Hawking, 2013). In February 2012, Udacity was founded. They began offering and developing course online for free. Coursera was established later in April 2012 as a business concept offering MOOCs in collaboration with selected American universities (Hawking, 2013).

The famous Massachusetts Institute of Technology formed a MOOC platform popularly known as MITx which later rebranded as edX in consortium with Harvard University. This consortium has over 160 partners from various colleges and universities worldwide. In addition, edX has an open-source version of their platform which various institutions can use and develop further. The consortium leverages on new technologies specifically data analytics to continuously improve the student experience (Ayoub et al., 2020; Hawking, 2013).

In 2020, Coursera had about 31 million enrolled students; Udacity and edX have enrolled more than 17 million students in their MOOCs from 190 countries (Anand Shankar Raja & Kallarakal, 2021). Several MOOCs are created for different target audiences, primarily advocates of lifelong learning and professional development. Some offer points or credits for university admission or employment (Hueske et al., 2022; Shah et al., 2022). In North America and the United States, there are eight popular MOOC providers. In addition, there are about 10 MOOC providers directly managed by schools in the UK and Italy. The Asian region has around 11 popular MOOC providers from Japan, Korea, Indonesia, and India.

Meanwhile, China has its MOOC with about eight popular providers in partnership with universities like Tsinghua (Bordoloi et al., 2021; Gupta & Jain, 2017; Huang et al., 2016; Shah et al., 2022). In addition, there are other initiatives by colleges and universities to develop their own platforms like Hasso Plattner Institute, ASU Continuing and Professional Education, My Own Business Institute of Santa Clara University, Oregon State University, and the University of Derby. These schools offer courses for free or with payment based on registration or subscription, which can transfer credits or admission to the university (Shah et al., 2022). Learners worldwide can also earn a badge or certificate, a manifestation of accomplishment, or a new skillset. 70% of learners are women ages 20- 35 years old, mostly from countries in Africa and Asia. MOOC is an excellent opportunity to further one's education. Learners or students worldwide can even explore or study in an accredited online university without leaving their country.

An example would be the UK Open University and the University of the People (Shah et al., 2022). Sustainability in MOOCs is usually embedded in premium courses or courses for free, but the certificate of achievement has a fee. Others rely heavily on ads or sponsors to keep the course and the platform free of charge. In the case of Coursera, they have Coursera for business and Coursera for campus utilizing partnership marketing. A typical learner using Coursera can also apply for financial aid for certificate courses.
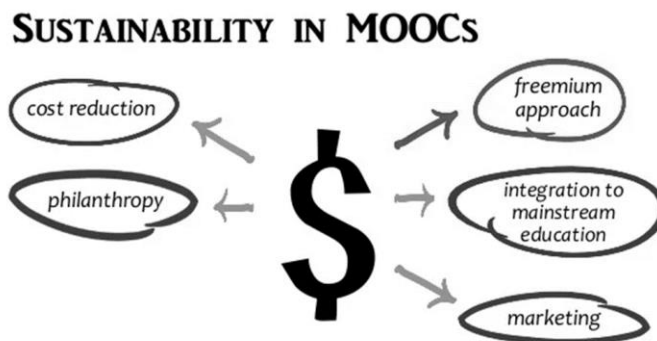

Figure 1: The MOOC Sustainability Model (Huang et al., 2016)

The MOOC Advantage

MOOCs make it possible for everyone, anywhere in the world to learn and engage in education. Enrolling in a MOOC can help a person gain, improve, and refresh his or her skillset in a particular subject matter. MOOCs are mostly free and available for any learner to enroll in. MOOCs provide an inexpensive way to advance a career and gain new skills in a shorter time. Several reasons why people around the world use MOOCs. It include career growth, career shift, college preparation, lifelong learning, supplemental learning, corporate training and development (Bordoloi et al., 2020; Clarke, 2013; Kundu & Bej, 2020). Various courses from liberal arts to applied sciences are available. MOOCs are not just about short-term courses, but the model has expanded into offering actual degrees that are practical and affordable. In 2015, Coursera was the first MOOC to offer an iMBA in partnership with the University of Illinois Urbana-Champaign (Shah et al., 2022; Vyas & Butakhieo, 2020).

MOOCs and the Global Pandemic

Many places worldwide including the Philippines have adopted different ways to cope with disruption. Among the key cities severely hit by the disease was Metro Manila. Indeed, area-specific lockdowns were in place beginning March 13, 2020 (Guillen, 2021; Suplico-Jeong et al., 2021) Majority of the notable universities and colleges are all located in the Metropolis. Although Metro Manila has not compelled a total lockdown, specific measures have been imposed. This includes large-scale events, suspended school operations, and work-from-home arrangements for government and private employees (Suplico-Jeong et al., 2021). Emergency remote teaching was utilized, and teacher training was substantiated using MOOCs. Schools even released their set of public webinars to aid learning and training. With the availability of vaccines, lenient measures were in place to control the threat of spreading the virus. It consists of updated protocols on mandatory masks deviating from face shields in public places (Guillen, 2021).

It was also clear that MOOCs impacted higher education by comprehending the evolving needs of students and institutions, especially during the pandemic. In addition, most students and counselors believe that applicants who have finished a MOOC on top of their regular course load stand out to admissions officers at colleges and universities (Shah et al., 2022; Zheng et al., 2018).

MOOCs in the Philippines

Coursera is one of the more popular MOOC providers in the Philippines, connecting learners to several educational institutions worldwide like Stanford, Wharton, and UCLA for free or on audit. In addition, if the learner wants a higher education degree, taking a specialization or masterclass is highly encouraged with payment. The same model applies with edX. In MOOCs, each course has modules with recorded videos. Open online content providers include Saylor, FutureLearn, Coursera, and edX. UNESCO recently created its MOOC platform. One of the first local MOOC platforms in the country is the Massive Open Distance e-Learning (MODeL) of the University of the Philippines (Ayoub et al., 2020; Clarke, 2013).

The Challenge

Technology has displaced many workers in the new and uncertain global economy, and obtaining a future-ready skillset is necessary for personal and professional growth opportunities. Still, learners and students around the world lack access to quality education. In addition, the deficiency of 21st-century skillsets remains a challenge that will only be exasperated in the coming years (Thunderbird, 2022).

The enormous demand for higher education is protruding to grow exponentially from 222,000,000 in 2020 to about 470,000,000 in 2035. The world needs to build eight universities that can serve 40,000 students every session to meet this demand for the next 15 years. Moreover, 90% of university students around the

world have limited access to online resources or even recognition from top-ranked universities. Moreover, the demand for skillsets needed to succeed in the new global economy from the base of the economic pyramid, such as women entrepreneurs, is projected to transcend to 2-3 billion people (Hueske et al., 2022; Thunderbird, 2022).

Related Work in Prior Research and Theoretical Framework

Although MOOCs are very popular today, it can be noted that the rate of completing the course is still low, and the dropout rate is high for most learners or students. Therefore, sustainability impact might defeat its purpose if the completion rate is disregarded. This study seeks to identify the factors or antecedents associated with students' continued intention to use MOOCs in the Philippines. Earlier analyses of Abdul Rahman et al., (2020) indicate that the most commonly used variables for continuance intention are perceived usefulness (PU), perceived ease of use (PEOU), attitude (ATT), and motivation (M) that, significantly affect continuance intention to use MOOC. Continuance intention (CI) connotes an individual's intention and longevity in using a specific technology. PU is the subjective perception of users where they have an impression that utilizing a specific technology can ameliorate work performance. Next, ATT signifies a set of emotions and beliefs translating to behaviors. PEOU signifies the degree to which a person believes that using a specific system or platform would be effortless. Lastly, M is the reason and drive towards an action (Juaneda-Ayensa et al., 2016). Based on the "Theory of Reasoned Action," or TRA asserts that a person is impelled by behavioral intentions, where the behavioral intentions signifies a function of a person's attitude yielding to a specific behavioral performance (Abdul Rahman et al., 2020). TRA's modern adaption is known as the Technology Acceptance model or TAM by Davis (1989). TAM contends that PU and PEOU influence a person's intention to use a platform or system. As such, PU is being impacted by PEOU. Both TRA and TAM have substantial behavioral elements. When an individual forms an intention to enact; he has the freewill without limitations.
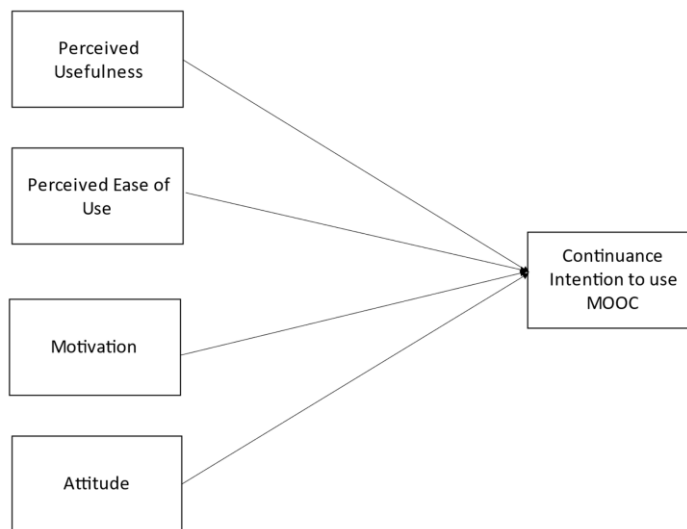

Figure 2: Continuance Model by Abdul Rahman et al., 2020

Conceptual Framework

The proposed conceptual framework is in line with the constructs and temporal antecedents, specifically causal links taken from the theoretical framework. The constructs that appear to have a significant correlation with the continued use of MOOCs are based on TRA and its modern adaptation, the TAM, with the variables PU, PEOU, M, and ATT. Indeed, the researcher extends the framework of Abdul Rahman et al., 2020 by adding another variable: transformative impact (TI) or the positive effect on the learner. Figure 3 illustrates the researcher's proposed framework.
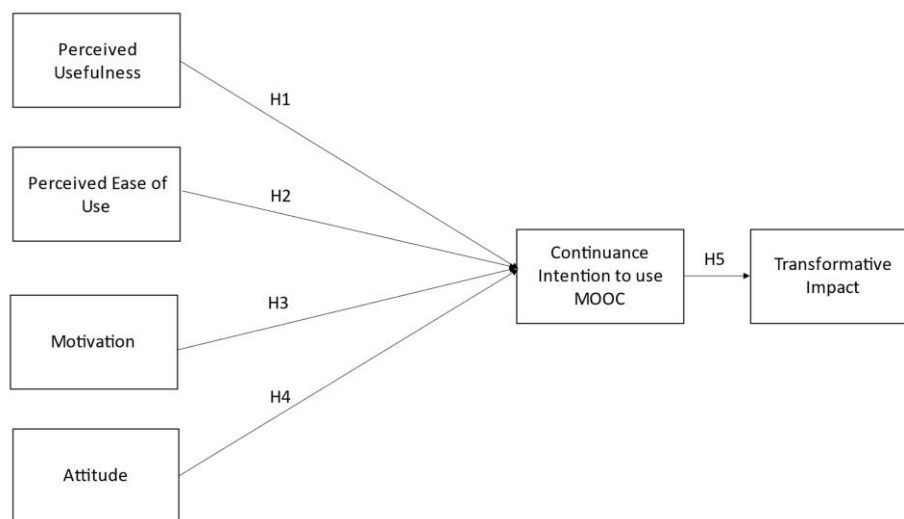

Figure 3: Proposed Conceptual Framework

Perceived Usefulness (PU)

Inferred from the notion of perceived usefulness from TAM. PU is the supposition of the user that new technology will aid him effectively to do a specific task. An ability to improve job performance, reflective of an individual's assessment through a selective system. An important variable that suggest recognition as well as ways on how learners can easily use the system or platform, giving value to continuous or persistent learning (Abdul Rahman et al., 2020; HK. Abdullah, 2015).

H1: PU positively affects CI

Perceived Ease of Use (PEOU)

PEOU is criterion for individuals who believe they are free from making efforts when technology is used. Several studies have been implemented in relation to TAM in e-learning. It was discovered that PEOU has copious effects on the continuance intention among individuals. Furthermore, PEOU in MOOCs indirectly affects students' learning persistence through perceived usefulness. (Abdul Rahman et al., 2020).

H2: PEOU positively affects CI

Motivation (M)

Motivation (M) has been aforethought as a predictor of continuance and acceptance among MOOC students. With the presence of massive open online learning in the digital world, motivation has been considered a great value in determining the factors or antecedents in influencing student acceptance to use MOOCs in education (Abdul Rahman et al., 2020; Gupta & Jain, 2017; HK. Abdullah, 2015; Zheng et al., 2018).

Furthermore, a stalwart motivation of student to learn usually yields to an optimistic attitude towards continuous learning (Liu, 2014).

H3: M positively affects CI

Attitude (ATT)

ATT signifies the negative or positive feelings of students or individuals about MOOC learning. It means that student often thinks they have the control, leading to an increased intention relative to the perceived attitude (Abdul Rahman et al., 2020; Gupta & Jain, 2017; Kundu & Bej, 2020). ATT, relevant to M, discusses the socio-cultural context of belief patterns. These beliefs are truly essential in course completion (Liu, 2014).

H4. ATT positively affects CI

Transformative Impact (TI)

The TI gradually changes the way a person does things, or participate on causes with positive impact (Mayer, 2016). Sustainability has been perceived as transformative or life-changing shifts to ways of being and acting that critically challenge the system of what has been customary, to live a balance, relational and interconnected ecological life (Darbishire et al., 2020).

H5. CI significantly affects TI

Methodology

Research Design

This study utilized a survey research method. It collects data from individuals through a survey (Check & Schutt, 2012). This method allows researchers to use multiple instrumentation methods to recruit participants and collect data. Surveys are used predominantly to explore and describe individual or group behavior, frequently used in various social science research (Singleton & Straits, 2009). Due to the nature and demographics of respondents being online learners, the primary data was taken from the online survey. To support the conclusions, secondary data were gathered from academic publications and related investigations. Purposive sampling was used by the researcher, who received 122 survey replies. The self-administered survey commenced on December 14, 2021, until January 15, 2022. It can be inferred from this low turnout the timing and the so-called survey fatigue. During the pandemic, various organizations have endeavored to conduct research to find answers, insights, and alleviating strategies to cope with disruption (de Koning et al., 2021). Purposive or selective sampling was used via the dominant MOOC platform, Coursera.

The questionnaire was originally developed by the researcher and the self-administered online survey was distributed via Coursera community platforms. There were 70 female and 52 male respondents in the survey. The dominant age group was 21- 30 years old, followed by 31-40 years old, mostly old and young millennials. Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Motivation (M), Attitude (ATT), Continuance Intention (CI), and Transformative Impact (TI) were the six components that represented the variables and were all based on the extensive TAM research (Abdul Rahman et al., 2020; HK. Abdullah, 2015). Each segment included profiling questions that gauged the participants' attitudes grounding on Likert's five-point scale (1 - Strongly disagree, 2 - Disagree, 3 - Neutral, 4 - Agree, and 5 - Strongly agree). In addition, the items were used to measure the extent to which communication with the platform is perceived to be reciprocal or to allow joint action (Gordon, 2016). Some questions to measure attitude (ATT) include: (1) I am fortunate to continue my studies despite the pandemic. (2) I am willing to learn more from distinguished professors worldwide. (3) I am happy to interact with other learners to improve my digital well-being. To measure perceived usefulness (PU), the respondents were asked the following questions: (1) my schoolwork would be

easier to perform with MOOCs. (2) MOOCs give me greater control and flexibility over my schoolwork. (3) MOOCs make me understand our lectures. For the Perceived Ease of Use (PEOU), the sample questions were: (1) I am not confused between MOOC learning, asynchronous and synchronous sessions (2) Interacting with learning platforms is often straightforward. (3) I find it easy to navigate the MOOC platform. Finally, sample questions on motivation (M) are: (1) I am motivated to finish a MOOC course to improve my knowledge and skills. (2) I am determined to finish the course as part of my professional development (3) Getting a MOOC certificate will give me an edge to perform better than the others. In addition, Continuance Intention (CI) questions include: (1) I will dedicate at least 1 hour to study 1 module per day (2) I will finish the course in four (4) weeks. (3) I will ask for help if needed to finish the course. Lastly, questions on transformative impact (TI) are: (1) I will be a better student or person after completing a course, (2) I am more competitive when performing my tasks, and (3) I will take more courses in the future to further enhance my skills.

The survey method enabled the researcher to collect data, which was then analyzed using a multivariate tool known as Structural Equation Modeling- Partial Least Square "SEM-PLS." The data collected suggests possible explanations for relationships between measured variables and latent constructs (Hair, Ringle, & Sarstedt, 2011; Hair, Wolfinbarger Celsi, et al., 2011). To test the validity of the survey questionnaire, the researcher conducted a pre-test with 15 respondents, yielding a Cronbach alpha mean of 0.79, which is considered favorable or acceptable in social science research. Additional reliability tests were conducted to ensure consistency and accuracy, as shown in Table 1 under results.

Results

Evaluation of the structural model

The structural and predicative qualities of constructs were evaluated by the researcher. Cronbach's alpha was calculated to check the consistency and dependability of the scale (Cronbach, 1951). A good Cronbach alpha value, in accordance with Peterson (1994), is at least 0.70, although in social science research, at least 0.60 is still acceptable. Table 1 demonstrates that all defined structures have at least a 0.70 internal consistency rating (Ketchen, 2013).

Table 1. Measurement of reliability and consistency (Partial Least Square Algorithm)

Latent Constructs	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
PU	0.789	0.798	0.779	0.742
PEOU	0.712	0.791	0.789	0.747
M	0.842	0.857	0.904	0.758
ATT	0.879	0.881	0.925	0.805
CI	0.779	0.728	0.707	0.758
TI	0.799	0.825	0.908	0.832

The results of the bootstrapping analysis using SMART-PLS are presented in Table 2. Again, the researcher used basic statistical principles to interpret the results: if the P-value is less than 0.05, the results are highly significant. If the P-value is greater than 0.05, the results are considered non-significant (Rumsey, 2010). This table also summarizes the direct paths. The two significant paths are ATT to CI and CI to TI. Other paths are statistically insignificant.

Table 2. Hypothesis Test Results

	Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Verdict
H1	PU -> Continuance Intention (CI)	0.224	0.236	0.284	0.788	0.431	Not Supported
H2	PEOU -> Continuance Intention (CI)	0.110	0.160	0.293	0.375	0.708	Not Supported
H3	Motivation -> Continuance Intention (CI)	0.334	0.392	0.323	1.035	0.301	Not Supported
H4	ATT -> Continuance Intention (CI)	0.679	0.702	0.179	3.788	0.000	Supported
H5	Continuance Intention (CI) -> Transformative Impact (TI)	0.747	0.756	0.087	8.568	0.000	Supported

Figure 3 depicts Bootstrapping, a nonparametric procedure for determining the statistical significance of PLS-SEM results such as path coefficients, Cronbach's alpha, HTMT, and R2 values.
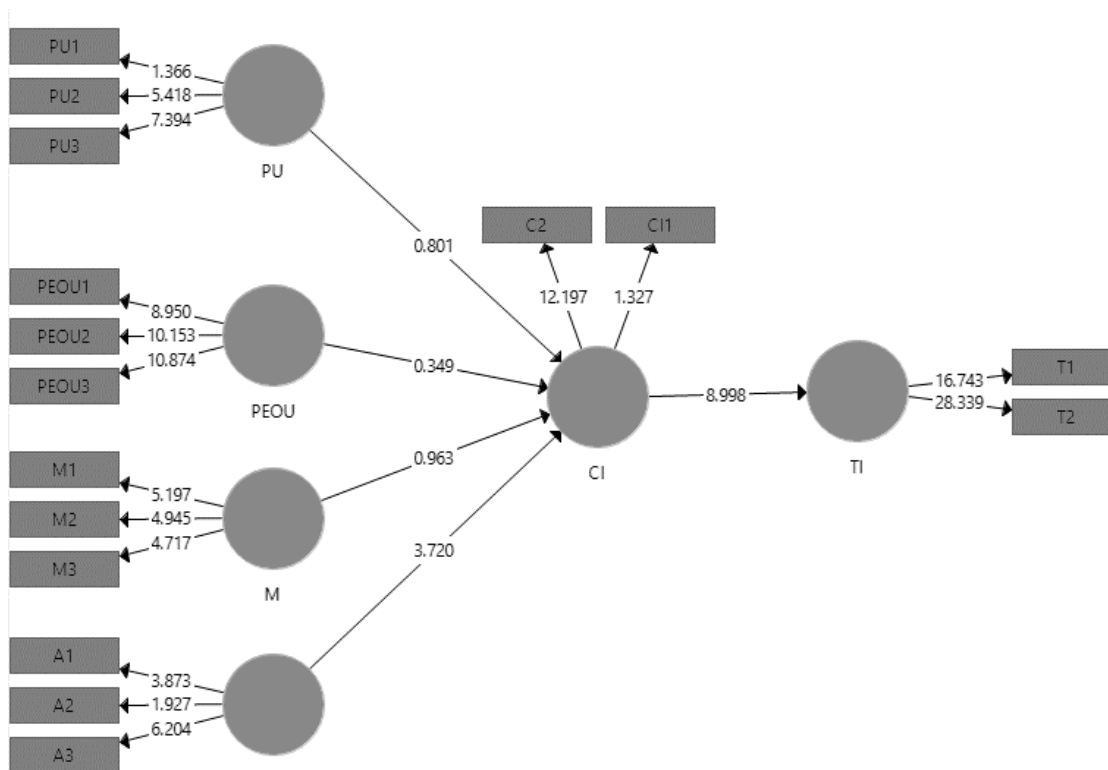

Figure 4. Structural Equation Modeling Using Bootstrap

Discussion

The results demonstrate the PLS Algorithm's reliability and validity of constructs. Internal consistency is greater than 0.7 for all constructs. In terms of hypothesis testing, motivation (H3), perceived usefulness (H1), and perceived ease of use (H2) are all insignificant or not supported with a p-value greater than 0.05 and t-statistics less than 1.96 with a 95% confidence interval. TAM is based on computer knowledge and utilization. According to past literatures, it is a general idea of PU deviating from the essential methods of information systems, development, and application, without questioning whether certain technologies may have social after-effects using a specific platform. Other issues, such as cost and structural imperatives that push learners to adopt in line with innovation, may have been overlooked by PU and PEOU variables (Malatji et al., 2020). Previous research by Malatji et al. (2020) revealed that PEOU has no effect on the adoption of online innovations for small and medium-sized businesses. Furthermore, due to subjective elements such as societal values and norms, individual characteristics, and personality traits, online behavior cannot be quantified reliably in an observed study (Malatji et al., 2020; Zaineldeen et al., 2020).

It can be attributed that PEOU may have been impacted by evolving factors associated with the personal characteristics of learners, such as feelings about computer use. As a result, the outcome did not specify PU as a good indicator of MOOC use. In addition, PEOU did not provide extra predictive power to PU regarding web-based learning technology. As such, PEOU could not be linked to attitude or motivation (Zaineldeen et al., 2020). The changing values of learners and students during the pandemic can be implied from the insignificant or unsupported results as learning should not be an option but a way of life regardless of the circumstances to remain competitive, thus complement traditional learning.

However, ATT (H4) has a positive effect on continuance intention (CI), and CI has a significant effect on TI (H5). Indeed, H4 and H5 are supported or considered significant, with p-values less than 0.05 and 95% confidence interval t-statistics greater than 1.96. Previous research on technology adoption has proposed attitude as an important predictor, demonstrating that a user's positive attitude leads to a higher intention to use a specific E-learning technology (Hussein, 2017). The findings of this study show that having the right attitude is critical in enticing students and learners to use and complete a MOOC.

Surprisingly in the study, motivation or (M) is not a predictor of continuance intention (CI). Previous studies show that H3 (Motivation), in comparison with (Attitude) H4 says that attitude is a state of mind, whereas a motivation is a reason for acting in a particular way (Chisita & Tsabedze, 2020). As a result, the learner's attitude has the power to increase or reduce motivation. Non-intelligence factors are said to influence learning success or failure, with motivation and attitude being two significant factors. Students are motivated to achieve their goals. However, attitude continues to shape students' perceptions of the curriculum, peers, and teachers, which is critical for learning and completing a course (Liu, 2014). Therefore, the transformative impact is relative to the attitude of a learner to finish the course, an attribution to live with positivity regardless of the circumstances. Most of the respondents, or 70%, are higher education students, while 65% are educators taking MOOC classes as an avenue for training and professional development. From the results, it could be implied that it is difficult to measure online behavior and the source of motivation among learners. Personality traits, according to Ajibade (2019), frequently motivate behavior. Furthermore, potential technology users may not base their motivation and acceptance of new technology solely on their perceptions of its usefulness and ease of use (Ajibade, 2019). According to the study findings, the extended TAM model suggests that other external factors may have impact the learner's acceptance and continued intention to use the technology.

Conclusion

Students and learners in the Philippines are no different from learners in other countries or Southeast Asia. Learning with the right attitude or mindset is the key to transformative impact. This strengthens the study of (Abdul Rahman et al., 2020) that attitude means having control over the use of a platform for a specific purpose. Furthermore, continuance intention with the right attitude positively yields to transformative impact or communal shift from being good to better as a student or an employee at work. MOOCs increased institutional consciousness of digitalization in the world of uncertainty. Furthermore, it increased respect for the teaching profession. Universities and colleges place a premium on research.

However, MOOCs have helped focus attention on campuses' teaching and learning process into a new dimension. MOOCs allow open communication to all learners across the globe. It is an opportunity to enhance and improve pedagogical methods on a vast scale and reach those with less access to quality education without leaving their home country. MOOCs can be a handy way to achieve inclusivity and quality education to achieve the Sustainable Development Goals (SDGs). MOOCs change the course of teaching with the help of electronic resources, making the classroom, whether online or offline, more meaningful and efficient than before. MOOCs provide access to high-quality education and contribute to the ongoing education of individuals and various social groups. MOOCs can be targeted at the unemployed, assisting them in developing specific skills required for the job. Finally, aside from establishing CSR and Public Relations, MOOCs managed by universities open the door for more learners, an added revenue stream. The pandemic may provide an opportunity for MOOCs, including schools, to develop, adapt, and retool educational approaches, ultimately increasing enrollment in line with growth and sustainability.

Limitation and Future Direction

Since the research is delimited to the Coursera platform used by selected colleges and universities in the Philippines, the results of this research may not be applicable to other countries where Coursera is not popular. Countries like Japan and Germany have adapted their own MOOC, which is language-specific. Indeed, future researchers may check or compare the strength of each MOOC platform aside from Coursera like edX, Udacity, and more. In addition, the researchers may conduct qualitative analysis regarding the usefulness of MOOC certificates to employment or career growth in a specific country or region.

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