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The 9th International Conference on Marketing and Retailing**ASSESSING STUDENTS' PERCEIVED EFFECTIVENESS OF
COURSERA IN A PHILIPPINE HEI**

Maricris P. Agawin (a)*, Kimry Danielle S. Gonzales (b)
*Corresponding author

- (a) College of Arts and Sciences, Lyceum of the Philippines University- Laguna, Philippines,
maricris.agawin@lpulaguna.edu.ph
- (b) Research Office, Lyceum of the Philippines University- Laguna, Philippines,
kimrydanielle.gonzales@lpulaguna.edu.ph

Abstract

Massive Open Online Courses (MOOCs) have taken spotlight in the 21st century education especially during the COVID-19 pandemic. Coursera, as one of the top MOOCs in the world, have aided the Philippine higher education to facilitate and expand learning despite physical restrictions. As such, this study inquires on the students' perceived effectiveness of Coursera in a Philippine private higher education institution. A modified survey questionnaire was conducted among 298 respondents with 216 usable data responses. The indicators explored in assessing Coursera system are system quality, information quality, and service quality. On Coursera effectiveness, user satisfaction and perceived net benefits were explored. Pearson-r was used to determine significant relationships and a structural equation model is presented. Key findings of the study revealed that students have generally positive perception on Coursera's system and effectiveness. The quality of informational content and their overall satisfaction are the most important considerations of the students in evaluating the effectiveness of the platform. The results can be considered in future decisions of higher education institutions in terms of integrating and evaluating MOOCs platforms such as Coursera.

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1. Introduction

E-learning has become a widely accepted integration in the 21st century learning. When the COVID-19 pandemic affected the world, the education system was caught off guard but had to quickly find ways to continue facilitating learning despite the physical restrictions. Many universities have Massive Open Online Courses (MOOC) prior to pandemic, but the demand for its utilization have increased significantly during the outbreak (Fan et al., 2021). MOOC supports remote learning with unlimited participation and opportunities through online course wares and online resources (Zawacki-Richter et al., 2018). It is designed to cater to large number of learners without time and space constraints enabled by internet connection.

Coursera is among the most established MOOC platforms in the world. It is an online learning platform that allows users to access courses and degrees from leading universities and organizations globally (Coursera, 2022). It hosts instructional asynchronous contents that are made available to schools and even industries. Coursera modules also offer credentials and certifications that users can get from short time modules to full online degrees. During the onset of the COVID-19 outbreak, Coursera witnessed a 15 million enrollment as learners and workers utilized it to continue learning (Lands & Pasha, 2021).

Coursera has also penetrated the Philippine education system (Guillen Jr., 2022; Mabuan, 2018). Through the Department of Science and Technology program, more than 5000 learners enrolled in Coursera, making the Philippines second in the Asia and the Pacific (Lands & Pasha, 2021). The MOOC platform has been useful for higher education institutions during the pandemic especially to those that have been expanding their education to external certifications and micro-credentialling.

Previous literature has revealed that students' utilization of MOOCs has allowed them to have meaningful learning experience and its flexibility can create personal learning environments (Mabuan, 2019). Bruff et al. (2013) raised a question in their study whether MOOCs can enhance learning when integrated into a blended learning setup. Concerns on the connection of online and in-person learning have been noted by the students, but they still have a generally positive feedback about it with high regards to independent studying. Students in a higher education institution in Vietnam are satisfied with Coursera with high regards to its learning contents (Thao Ho et al., 2022). Access to learning contents and learning videos by international lecturers has impacted their satisfaction towards the use of Coursera in their education. Khan et al. (2020) explored Indian students' satisfaction with MOOCs platforms using four variables (course delivery, course content, course assessment, and course support). Students preferred Swayam and Coursera platforms more that the other explored MOOC platform and generally satisfied. It has also been noted in the study that integration of e-learning systems has been beneficial to education during the pandemic and future massive utilization of them can be in order. Moreover, Guillen Jr. (2022) analyzed the intention of Filipino learners to continue using Coursera. It highlighted the importance of students' attitude and dominance over the learning platform which translates to a more positive utilization. While the addition of MOOC platforms have obvious benefits, Marcial et al. (2015) have reported that barriers such as difficult access to internet, technical problems, lack of technical skills are the top three concerns of Filipino learners in accessing online learning platforms.

Research on digital education has taken special interest in the effectiveness of different e-learning platforms. Since the wide utilization of MOOCs in the Philippines during the pandemic, evaluation from the students, as primary users, is deemed essential. A private higher education in Region IV-A Philippines has also integrated Coursera in their business and engineering courses on the 1st term of academic year 2021-2022. While utilizing the platform to bridge the gap in physical learning restrictions, it has allowed the institution to go beyond the traditional borders of the classroom and provide a unique learning experience to its students. However, since Coursera is a newly introduced e-learning platform to students, it is critical to know the students' perception and evaluation of it. This study aims to evaluate Coursera from the perspectives of the students in a selected private higher education institution in the Philippines, highlighting its integration during the pandemic.

Guided by the updated Information Success Model of DeLone and McLean (2003), the Coursera's system is assessed in terms on its system quality, information quality, and service quality; while its effectiveness was measured through the students' satisfaction as users and their perceived net benefits. Chopra et al. (2019) have also provided a comprehensive framework for Coursera evaluation which became the basis of the exploration of the present study.

2. Methods

This research was conducted in a private higher education institution in the Philippines with 298 respondents. After data cleaning, 216 responses were found usable for this study. A survey questionnaire adapted from Chopra et al.'s (2019) study was used to measure the effectiveness of Coursera. The instrument has two parts; the first section is about system quality, information quality, and service quality, while the second section deals with user satisfaction and net benefits. Minimal items were modified and added to fit the context of the selected private higher education institution. The items in each part of the section were measured using a five-point Likert scale ranging from strongly disagree to strongly agree. The modified questionnaire was also pilot tested and attained a Cronbach's alpha value of .988. Pearson-r was used to determine the significant relationship between the Coursera system and its effectiveness in learning using the Statistical Package for Social Sciences (SPSS) version 22. Lastly, Analysis of Moment Structures (AMOS) version 24 was used to create the structural equation model for the effectiveness of Coursera system as perceived by the students.

3. Results and Discussion

3.1. Evaluation of Coursera's system

System quality pertains to the quality of an e-learning portal in which learners access contents and materials without difficulty. As shown in Table 1, students have perceived Coursera as easy to use with data that are fully integrated and consistent. Convenience in using MOOCs is an important aspect of user experience which can influence a learner's embracement of the system (Haba & Dastane, 2019). Overall, the respondents agreed (CM=4.14) on the indicators for Coursera's system quality, which can be interpreted as a positive learning experience.

Table 1. Students' perception towards Coursera's system quality

	Mean	Interpretation
The website of Coursera is easy to use.	4.19	Agree
The website of Coursera contains data which are fully integrated and consistent.	4.19	Agree
The website of Coursera contains necessary features and functions which helps me while studying.	4.12	Agree
The website of Coursera is adaptable in approach.	4.10	Agree
The website of Coursera is easy in terms of learning.	4.08	Agree
Composite Mean	4.14	Agree

Note: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Slightly Agree, 3.50-4.49 Agree, 4.49-5.00 Strongly Agree

Table 2 shows that students' find the information available in Coursera easy to access and usable. They also agree that the contents are easy to understand. This aligns with Yepes-Baldó et al.'s (2016) evaluation of MOOC platforms, stating that Coursera is of high quality especially in terms of compatibility to users. Shubina's (2016) respondents also agreed that Coursera provides good quality contents, forums, and discussion tools.

Table 2. Students' perception towards Coursera's information quality

	Mean	Interpretation
Information available on Coursera is easily accessible.	4.22	Agree
Information available on Coursera is in a usable form.	4.18	Agree
Information available on Coursera is easy to understand.	4.17	Agree
Information available on Coursera is relevant to my requirements.	4.13	Agree
Information available on Coursera is complete.	4.12	Agree
Information available on Coursera is relevant to the market trends.	4.12	Agree
Composite Mean	4.16	Agree

Note: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Slightly Agree, 3.50-4.49 Agree, 4.49-5.00 Strongly Agree

However, concerns on Coursera content quality was raised by participants in Haba and Dastane's (2019) thematic analysis, citing that while they are generally good, content variations have also been noted. Coursera offers a vast array of contents like business, social sciences, computer sciences, engineering (Shafiq et al., 2017). While the selections are extensive, it can be overwhelming from the students' perspective hence proper guidance from the implementing instructions and institutions should be considered.

From the students' assessment of Coursera's service quality on Table 3, it can be inferred that efficient assistance adds to the users' delight in using the platform. They noted that the website of Coursera is well-organized and easy to navigate. Participants in Haba and Dastane's (2019) have similar

experience on Coursera’s ease of navigation. While still agreeing that the platform responds quickly, it got the lowest rating from the students. Coursera is an online platform that requires good internet connection to function. Noting that the Philippines has slow internet connection, it could impede the students good experience with digital learning (Casillano, 2019).

Table 3. Students’ perception towards Coursera’s service quality

	Mean	Interpretation
The website of Coursera is well organized.	4.27	Agree
The website of Coursera is easy on navigation.	4.23	Agree
The website of Coursera is reliable.	4.23	Agree
The website of Coursera responds quickly.	4.10	Agree
Composite Mean	4.21	Agree

Note: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Slightly Agree, 3.50-4.49 Agree, 4.49-5.00 Strongly Agree

3.2. Evaluation of Coursera’s effectiveness

The students in the Philippine private higher education institution are generally satisfied with their experience with Coursera (CM=4.04) as reflected in Table 4. They have shown positive rating in the attainment of their expected amount of learning. Similarly, 80% of Shubina's (2016) respondents are satisfied with Coursera rating it as excellent or good. In the cited study, Coursera attained the highest satisfaction among the three MOOC platforms evaluated. Respondents in the present study still agree in pursuing future courses in Coursera, but it is obvious to have the lowest rating (M=3.90). This key finding relates to the results of Nguyen's (2022) quantitative and qualitative data where Vietnamese students’ have low overall satisfaction to Coursera with unlikely desire to continue using it.

Table 4. Students’ satisfaction towards Coursera

	Mean	Interpretation
I am satisfied with Coursera website for e-learning.	4.13	Agree
I will recommend Coursera website to other students.	4.05	Agree
I will continue using Coursera website for pursuing other courses.	3.90	Agree
Composite Mean	4.04	Agree

Note: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Slightly Agree, 3.50-4.49 Agree, 4.49-5.00 Strongly Agree

Table 5 shows the students’ perception on Coursera’s net benefits. Net benefits pertain to the achievement of the users’ end goals upon using an e-learning platform. The data shows that the students value the usability of Coursera in attaining their expected learning outcomes (M=4.10). Vi Anh et al. (2019) have cited the benefits of MOOC based curriculum mentioning the advantage of learning the latest contents from global academicians. Lowest among the indicators of net benefits are the aide of Coursera in achieving career goals (M=4.06) and landing on a job (M=4.03). The evaluation of the board of management in a Vietnamese higher education institution have noted the advantage of valuable

certifications awarded by Coursera to a learner’s career path (Thao Ho et al., 2022). This long-term benefit of Coursera can be reinforced to students for a possible appreciation of the unique feature provided by this MOOC.

Table 5. Students’ perceived net benefits of Coursera

	Mean	Interpretation
I think Coursera helped me attain the course learning outcomes.	4.10	Agree
I think completing courses through Coursera opens new opportunities for me.	4.09	Agree
I think completing courses through Coursera help me to achieve my career goals.	4.06	Agree
I think completing courses through Coursera makes me employable.	4.03	Agree
Composite Mean	4.06	Agree

Note: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Slightly Agree, 3.50-4.49 Agree, 4.49-5.00 Strongly Agree

3.3. Structural Equation Model on Coursera’s Perceived Effectiveness

Table 6 shows the Coursera’s system in terms of system quality, information quality, and service quality has significant relationship to the students’ perceived Coursera effectiveness in terms of user satisfaction and net benefits with $r=.776$ and $p=.000$. This concurs that the students’ evaluation of Coursera system has an impact on their perceived effectiveness of the platform.

Table 6. Relationship between Coursera’s system and its effectiveness

	r-value	p-value	Interpretation
Coursera System vs. Effectiveness	.776	.000	Significant

Note: If the p-value is $<.05$, Significant. If the p-value is $>.05$, Not Significant

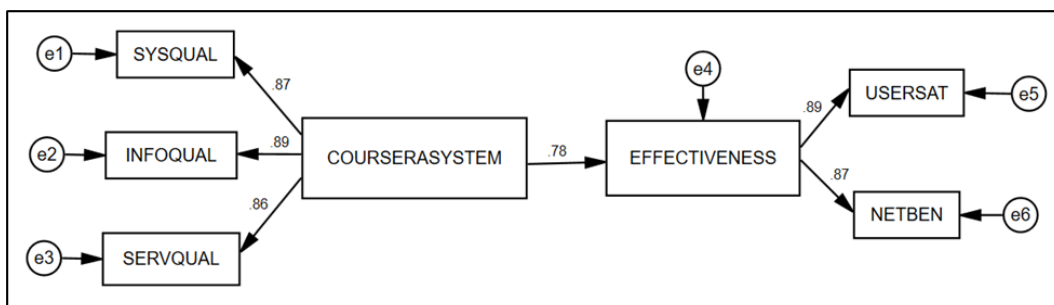


Figure 1. Structural equation model on students’ perceived effectiveness of Coursera

Figure 1 illustrated the structural equation model (SEM) conducted in this study. The regression weights shown in Table 7 shows that all values were significant ($p=.000$). The path estimates can also be seen in Table 8. The claim of the study was supported ($\beta=.78$, $p=.000$) and proved that there was a significant impact of Coursera system on its effectiveness in learning.

The model fit indicators were also presented in Table 9, which shows indicators of goodness of fit for the proposed model together with their acceptance values. However, the chi-square value was significant because it is sensitive with larger samples. In this case, we must look at other indicators for the acceptance of the model. RMSEA has a value of .013 indicating a good fit for the model. Other Indicators (GFI, NFI, CFI, AGFI, IFI, and TLI) are all above .90 which also serves as good fit which makes the model acceptable.

Table 7. Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
EFFECTIVENESS	<---	COURSERASYSTEM	.819	.045	18.015	***
USERSAT	<---	EFFECTIVENESS	.950	.033	28.842	***
NETBEN	<---	EFFECTIVENESS	.883	.034	26.041	***
INFOQUAL	<---	COURSERASYSTEM	.914	.031	29.235	***
SYSQUAL	<---	COURSERASYSTEM	.860	.033	26.009	***
SERVQUAL	<---	COURSERASYSTEM	.847	.034	24.621	***

Table 8. Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
EFFECTIVENESS	<---	COURSERASYSTEM	.776
USERSAT	<---	EFFECTIVENESS	.891
NETBEN	<---	EFFECTIVENESS	.871
INFOQUAL	<---	COURSERASYSTEM	.894
SYSQUAL	<---	COURSERASYSTEM	.871
SERVQUAL	<---	COURSERASYSTEM	.859

Table 9. Model fit indicators

Fit Index	Admissibility	Result	Fit (Yes/No)
Chi-Square		75.09	
Df		15	
p-value	>.05	.000	No
CMIN/DF	1.00-5.00	5.001	Yes
RMR	<.08	.026	Yes
RMSEA	<.08	.013	Yes
GFI	>.90	.920	Yes
NFI	>.80	.960	Yes
CFI	>.90	.967	Yes
TLI	>.90	.954	Yes
AGFI	>.80	.851	Yes
IFI	>.90	.967	Yes
RFI	>.90	.943	Yes

The results of the structural equation modelling in this study have verified Chopra et al.'s (2019) model, contextualizing in the students of a private Philippine higher education institution. On the students' evaluation of Coursera system, the quality of information and content available ($\beta=.89$, $p=.000$) in Coursera appeared to be the most significant predictor while the students' satisfaction ($\beta=.89$, $p=.000$)

is the most significant predictor of Coursera effectiveness. This means that students place high regards on what they can learn from the MOOC platform as well as their overall satisfaction.

4. Conclusion

This study explored on the effectiveness of Coursera as perceived by students in a Philippine private higher education institution. Key findings revealed that they generally rate Coursera's system and effectiveness positively. They find the MOOC platform easy to use and navigate with relevant information and contents. In terms of Coursera's effectiveness, they are satisfied with the platform and acknowledges the benefits that they can get from using it. However, it can be noted that all of the students rating did not attain the highest scale of measures. This could indicate the improvements that Coursera can consider in terms of their system and effectiveness.

Among the explored indicators, information quality and user satisfaction are the most important predictors of the students' perceived effectiveness. This highlights the importance of good quality content in the learning materials and courses available in Coursera as well as the attainment of general gratification.

This study contributes to the growing literature on MOOCs and e-learning platforms. The utilization of Coursera during the pandemic to support higher education learning, specifically in the Philippines is a less explored but critical research inquiry. This study can also aide in the future decisions of higher education institutions when integrating a MOOC platform in their teaching and learning processes. Based on the results, further exploration of the matter can be recommended, adding variables such as profile of the students, other measures of effectiveness, and other research approaches such as qualitative designs. Since the study was conducted in a single higher education institution, it will be an interesting expansion to include greater locale with additional considerations on other Coursera features.

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