

Philippine Christian University Transnational Education Extension Program Towards a Model for Sustainable Distance Learning:

A Case Study

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ABSTRACT

This study is designed to explore three salient points: (1) the current status of operations of academic institutions in the Philippines brought about by the pandemic; (2) the innovative approaches of academic institutions that continue to survive and flourish in their continued delivery of academic services while still maintaining the required minimum standard and even above par set by the Commission for Higher Education (CHED CMO 15, s. of 2019); and (3) the indicators of economic sustainability of PCU's TNEEP program both in the short-run and long-term operations. The research design is historical, documentary, and field survey. It is historical in nature as the researcher looked into the historical background of TNEEP in terms of its operations, market environment, demand factor, policy factor and sustainability indicators. It is also documentary in nature as the researcher looked into the documents relevant to TNEEP's operations. Finally, it is a field survey as a questionnaire is constructed to elicit answers to the questions raised in the statement of the problem.

Keywords: *education, transnational education, distance learning, sustainable learning, distance education model*

INTRODUCTION

The rapid growth of public and private educational institutions in all academic levels created a highly competitive environment for schools, colleges, and universities. The mushrooming of state universities and community colleges has constrained the growth of private higher education. In addition to these, the onset of foreign competitors using online, blended, and transnational modes of instruction has opened the local education market to global competition. In order to survive, private higher education must compete head-on with both local and foreign competitors in the different market segments. Most private and public colleges and universities have very limited transnational and extension programs, which means that the competitive intensity is not yet strong. Hence, colleges and universities can fuel their growth by pursuing this direction. When the COVID-19 pandemic arrived sometime in March 2020, strict preventive health care measures and a regime of lockdowns and quarantines immediately took effect. It signaled the end of face-to-face classes and caused a revolutionary disruption in the way schools operate. The only way learning can be delivered is through homeschooling and pure online modes of instruction.

This study is designed to explore three salient points: (1) the current status of operations of academic institutions in the Philippines brought about by the pandemic; (2) the innovative approaches of academic institutions that continue to survive and flourish in their continued delivery of academic services while maintaining the required minimum

standard and even above par set by the Commission for Higher Education (CHED CMO 15, s. of 2019); and (3) the indicators of economic sustainability of PCU's TNEEPT program both in the short-run and long-term operations.

Given this background, the researcher determined the current operations of the private academic institutions, focusing solely on the graduate level and TNEEPT in particular. Furthermore, the study will identify the type of teaching approaches adopted to cope with the ill-effects of the pandemic on academic operations.

METHODOLOGY

The research design is historical, documentary, and field survey. It is historical in nature as the researcher looked into the historical background of TEENEP in terms of its operations, market environment, demand factor, policy factor and sustainability indicators. It is also documentary in nature as the researcher looked into the documents relevant to TEENEP's operations. Finally, it is also a field survey as a questionnaire is constructed to elicit answers to the questions raised in the statement of the problem. The respondents comprised three groups: doctorate students, masteral students, and faculty. Since the students comprised more than 5,000 in number, a proportionate sampling procedure was utilized, for the faculty the total population was considered. Slovin's formula for a multi-stage proportionate sampling procedure was applied to make sure that the samples in each group were proportionately represented. The questionnaire consisted of four parts: the profiles in terms of market environment, demand factor, policy factor, and sustainability indicators. To minimize, if not eliminate biases, the same questionnaire was administered to the identified samples. The questionnaire was administered online. Only enrolled students and current faculty answered the questionnaire. Ten non-included samples were requested to answer the questionnaire. Their responses were tested for validity using a one-sample t-test. Non-significant test results were considered valid. For significant test results, the corresponding item found to be significant was constructed in a simpler form. To test for reliability, Cronbach Alpha was used. A Cronbach Alpha ≥ 0.70 indicates that the items passed the reliability test. The profiles were tested for significance by a group using ANOVA. The extent to which the profiles affect sustainability indicators was tested using Ordinary Least Square Regression (OLS). The coefficients of the regression equation showed to what extent the profiles affect sustainability indicators while the p-values of the individual test variables (independent variables) showed if they significantly affect the dependent variable (sustainability indicators). The F-test of the equation showed if the derived regression model is significant.

The derived regression model is represented as:

$$SI = b_0 + b_1(ME) + b_2(DF) + b_3(PF) + e$$

Where:

SI	Sustainability indicator
ME	Market environment

DF	Demand factor
PF	Policy factor
b0	constant or initial value of SI
bis	coefficients of independent variables
ε	error term

There were 80 respondents who responded in the online survey questionnaire. This is broken down as follows:

Table 1
Student respondents

Country of Residence	Number of Respondents
Africa	5
China	5
Indonesia	2
Philippines	50
Others	13
USA	5

RESULTS AND DISCUSSION

TNEEP's international geographical locations include Africa (Botswana, Ethiopia, Ghana, Kenya, Namibia, Swaziland), China, South Korea, Thailand, Vietnam, and the U.S.A (New York City). A substantial number of Filipino students both in the Philippines and overseas workers were also a part of the Program. Overall, the total number of students enrolled as of October 2021 is 6,345. These students were either in the doctorate or master's programs.

The programs in the masters' track were in Master in Business Administration and Master in Management (Appendix A). Of the 2,345 enrolled in the masters' program, 95% are Filipinos and the remaining 5% are foreigners residing outside of the Philippines. Most of the master's students are in Business Administration and in the various Management Programs.

Out of the 6,345 graduate students, 4,000 are in the doctorate programs of which 5% (200) are Filipinos either residing in the Philippines or abroad. The preferred degrees in the Business Management program were International Accountancy and International Business. The Development Programs most preferred were Governance, Leadership, and Strategy and Innovation.

The following listings provide the information technology infrastructure of TNEEP in delivering its quality service delivery that is at par with global standards.

1. Technology Infrastructure:
 - a. High Capacity Connectivity and Security;
 - b. Online Student Information and Accounting System;
 - c. NEO, GOOGLE and Microsoft Learning Management Software;

- d. Video-Conferencing Software;
 - e. Digital Information and Marketing Support;
 - f. Technical Manpower Support and Helpdesks;
 - g. 24/7 System Administrators and Staff.
2. Educational Resources:
 - a. Standardized Integrated Syllabi;
 - b. Customized Course Modules;
 - c. E-Resources: E-Books and E-Journals;
 - d. NEO and Google Learning Management Systems;
 - e. 24/7 System Administrators and Staff.
 3. Online Instruction and Supervision Tools:
 - a. Standardized Integrated Syllabi;
 - b. Customized Course Modules;
 - c. E-Resources: E-Books and E-Journals;
 - d. NEO and Google Learning Management Systems;
 - e. Online Performance Evaluation;
 - f. 24/7 System Administrators and Staff.

The expected level of services/demonstrated are measured in terms of:

1. Learning outcomes;
2. Services delivered;
3. Policy factor to meeting global standards as:
 - a. Admission/retention;
 - b. Faculty qualifications;
4. Instructional Materials;
5. Online instruction delivery; and,
6. Online facilities.

It is worthwhile to note that all respondents have more than five years of experience in their respective specialization and enjoying high positions in the companies they work for.

More than 50% of respondents are Filipinos who are either residing in the Philippines or in some countries elsewhere. The Filipino students are overseas workers holding managerial positions. The foreigners are in managerial and/or executive positions.

The test of significant difference of the means is not significant ($\text{sig}=.07 > .05$), thus it can be seen that services delivery as demonstrated is not significantly different from services delivery as expected. It can be inferred then that services delivery is to a very high extent.

Table 2*Overall. Pair t-test of Significance*

	MEAN				95% Confidence Interval of the Difference	
	EXP	DEM	DIF	sig	Lower	Upper
1. Learning outcomes	4.97	4.11	.600	.070	.73610	.98890
2. Services delivered	4.95	4.32	.600	.070	.47741	.77259
3. Policy factor to meeting global standards as	4.94	4.16	.600	.070	.63348	.91652
4. 1 Admission/retention	4.94	4.16	.600	.070	.50792	.79208
5. 2 Faculty qualifications	4.94	3.80	.600	.070	.61060	.88940
6. Instruction Materials	4.97	4.22	.600	.070	.62481	.87519
7. Online instruction delivery	5.00	3.90	.600	.070	.73610	.98890
8. Online facilities	5.00	4.10	.600	.070	.47741	.77259

Legend: 3.50 – 4.49 Expected/Demonstrated to a high extent
4.50 – 5.00 Expected/Demonstrated to a very high extent

The overall ratings show that the six significant factors relevant to a sustainable online distance learning are all seen to have been demonstrated as expected to a very high extent with means range of 4.94 to 5.00. The means show that the clientele see TNEEP as an effective medium to deliver graduate school distance learning that is at par to global educational requirements.

Taken together as one group, the respondent students see the program service delivery quality and accessibility to a very high extent, meeting global standards. It is imperative, therefore, for TNEEP to keep on a continuous improvement of its service delivery to maintain its position to which the students see it as of meeting global standards and even going beyond.

Test of significance of retention policy. The one-sample statistics shows that mean for desirability and acceptability of the retention policy is 4.5625 which is interpreted to a very high extent.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
RETENTION	80	4.5625	.49921	.05581

To test the significance of the mean, a one-sample test is done as shown in the table below.

One-Sample Test

Test Value = 3.5

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
RETENTION	19.037	79	.000	1.06250	.9514	1.1736

The test result shows that it is highly significant at $\alpha=.01$ with a computed sig=.000. This test result confirms the significance of the mean, that is, the students confirm that the retention policy of the Graduate School is highly desirable and acceptable.

Retention policy is seen to contribute significantly to the prestige and image of a graduate school in its pursuit of excellence. It is, therefore, necessary for TNEEP to always revisit its retention policy and set guidelines to go beyond global standards.

Test of significance of faculty qualifications. The students are also requested to rate faculty qualifications (academic degrees, specialization, global exposures, etc.).

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
FACULTY	80	4.4000	.60796	.06797

The computed mean is 4.400 which is interpreted to a high extent, that is, the students see that faculty is highly qualified to teach in the graduate school with distance learning as a modality.

One-Sample Test

Test Value = 3.5

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
FACULTY	13.241	79	.000	.90000	.7647	1.0353

Also, the mean is tested for significance and it is found to be highly significant at $\alpha=.01$, that is, the students see the quality to highly qualified.

The late Brother Andrew Gonzales, FSC, former President of De La Salle University, Manila stated that the strength of a university is its faculty. It is the faculty that create what the University stands for. Hence, for faculty in the online distance learning, they must be in a continuous professional development and professional learning thus creating performance culture.

Instructional materials. Instructional materials include standardized integrated syllabi and customized course modules. All e-resources, e.g., e-books, e-cases, and e-journals are licensed and provided by the University library.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
INSTRUCTIONAL	80	4.1625	.68332	.07640

Instructional materials are also tested for significance. The computed mean is 4.1625 which is interpreted for instructional materials to be of a high extent in quality and utility.

One-Sample Test

Test Value = 3.5

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
INSTRUCTIONAL	8.672	79	.000	.66250	.5104	.8146

The mean is then tested for significance. The computed sig=.000 is highly significant at $\alpha=.01$, that is, the students feel that instructional materials provided to them are highly significant in terms of quality and utility.

Instructional materials are necessary and required tools to improve learning. It is, therefore, imperative for TNEEP to have a regular review, every year designed for incoming freshmen, of its instructional materials that are aligned to its curricular programs.

Online instruction delivery. Online instruction is through NEO and Google Learning Management Systems managed on a 24/7 System Administrators and Staff.

Online instruction delivery always faces a fast changing shifts in technological developments. At first glance, it is quite expensive. Nonetheless, the need to be always upgraded in technologies will create more benefits than costs as satisfied clientele will continue to demand for better services.

Online delivery structure. Online delivery structure is evaluated to the extent to which online learning delivery is conducted against global standards.

First, online delivery is rated by the respondents as to its quality and accessibility using global standards as benchmarks. A one-sample statistics is computed to determine the mean of responses, accordingly, the extent to which online delivery is done to be at par with global standards.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
ONLINE DELIVERY	80	4.4625	.57244	.06400

Online instruction delivery is also evaluated in terms of its quality and accessibility. The computed mean is 4.4625 which is interpreted as to a very high extent.

The mean is then tested for significance. The computed sig=.000 is highly significant at $\alpha=.01$. This test result shows that online instruction delivery quality and accessibility is seen by the students to be to a very high extent.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
ONLINE DELIVERY	80	4.4625	.57244	.06400

Thus, online delivery of instructional services is of high quality and accessibility.

Implication. Instructional structures for sure continue to change rapidly as it keeps in step with the fast pace of technology evolutions. Thus, TNEEP needs to be at pace with the fast change to maintain its position of delivering high quality and accessible services.

Online facilities. Using global standard benchmarks, online facilities is also tested for quality of delivery and services of online facilities. The computed mean is 4.500 which is interpreted to be of a very high extent.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
FACILITIES	80	4.5000	.55118	.06162

Likewise, the mean is tested for significance.

One-Sample Test

Test Value = 3.5

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
FACILITIES	16.228	79	.000	1.00000	.8773	1.1227

The computed sig=.000 is highly significant at $\alpha=.01$, that is, the quality of online facilities for delivery and services of online learning is highly significant and hence, considered to be of a very high extent. Students see that that online facilities are indeed of global quality.

Implication. Online facilities are also expensive not only in acquisition but also in maintenance. Despite these constraints, keeping at pace with global standards demands for online facilities will also bring about higher benefits as against costs.

Sustainability level

Sustainability levels are considered for both the short-term and long-terms timeframes.

To protect the privacy of the actual data, growth rates of these items are used as proxies.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
SUSTAINABILTIY	80	4.4750	.59481	.06650

The sustainability level is seen by the respondents to be highly attained as reflected in the computed mean of 4.4750. That is, overall, sustainability of TNEEP is seen to be of a high extent.

One-Sample Test

Test Value = 3.5

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
SUSTAINABILITY	14.661	79	.000	.97500	.8426	1.1074

The extent of the sustainability is considered to be highly significant as reflected in the computed sig=.000 which is highly significant at $\alpha=.01$. It be inferred that sustainability of the program on the average is highly probable.

Implication. Sustainability of TNEEP is seen not only in the short-run but more so in the long-run. Maintaining sustainability in the areas of enrollment, revenues while creating cost effectiveness will ensure acceptable hedge levels and thus, creating sufficient buffers to withstand any kind of constraints that TNEEP faces.

Short-term profitability. Short-term profitability considers revenue, operating expense and net income from operation (Before other expenses and income tax). To determine the extent of short-term profitability, an Ordinary Least Square (OLS) regression is derived.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.998 ^a	.997	.995	.50577

a. Predictors: (Constant), OEXP, NET INCOME, REVENUE

From the Model Summary table, the $r^2 = .997$ which refers that the predictors revenue and operating expenses comprise 99.7% of variables included in the equation that have effect on the dependent variable, in this case the Operating Income. The 99.7% is highly acceptable as the predictors are considered to be almost the relevant factors for prediction of Operating Income.

The ANOVA table has a computed sig=.000, that is, the derived equation is highly significant and hence, it is a valid tool to predict Operating Income next period.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	691.187	2	345.594	102.102	.000 ^b
	Residual	23.694	7	3.385		
	Total	714.881	9			

a. Dependent Variable: NET INCOME

b. Predictors: (Constant), OEXP, REVENUE

The coefficients table provides the values of the derived components of the regression equation presented as follows:

$$\text{Income from Operation} = 11.696 + 1.401(\text{Revenue}) - 2.193(\text{Operating Expense})$$

The constant. The constant = 11.696 is the initial growth rate of Income from Operation and is expected to increase by 1.401% for every unit increase in growth of revenue. As expected, Operating Expense has a negative effect on Income from Operation. This simply implies that Income from Operation will increase 2.193% growth decrease in Operating Expense.

Implication. It is expected that TNEEP has to monitor its operating expense to be able to maintain the expected increase in the growth rate of Income from Operation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.696	4.390		2.664	.032
	REVENUE	1.401	.293	1.976	4.777	.002
	OEXP	-2.193	.888	-1.021	-2.470	.043

a. Dependent Variable: NET INCOME

The constant, Revenue, and Operating Expense are significant since their computed sig= .032; .002; .043 are all significant at $\alpha=.05$.

Implication. It is imperative for TNEEP to monitor its Operating Expense to necessities and continue to improve its drive for increased enrollment growth. Overall, the short-term sustainability of TNEEP is above short-term standards considering that its minimum growth of Income from Operation is 11.696% which is above the benchmark of 10.0% for academic institutions.

Overall Rating. An overall rating for all students is done to have a whole picture of what students see about online classes services offered by TNEEP (Table 4.6).

As expected, services delivery, the mean ranges 4.94-5.00, which is to a very high extent while services delivery as demonstrated ranges 3.80-4.22, which is to a high extent.

Table 3*Overall. Pair t-test of Significance*

	MEAN				95% Confidence Interval of the Difference	
	EXP	DEM	DIF	sig	Lower	Upper
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6 Online facilities	5.00	4.10	.600	.070	.47741	.77259

LEGEND: 3.50 – 4.49

Expected/Demonstrated to a high extent

4.50 – 5.00

Expected/Demonstrated to a very high extent

The test of significance of the difference of the means is not significant ($\text{sig} = .07 > .05$), thus it can be seen that services delivery as demonstrated is not significantly different from services delivery as expected. It can be inferred then that services delivery is to a very high extent.

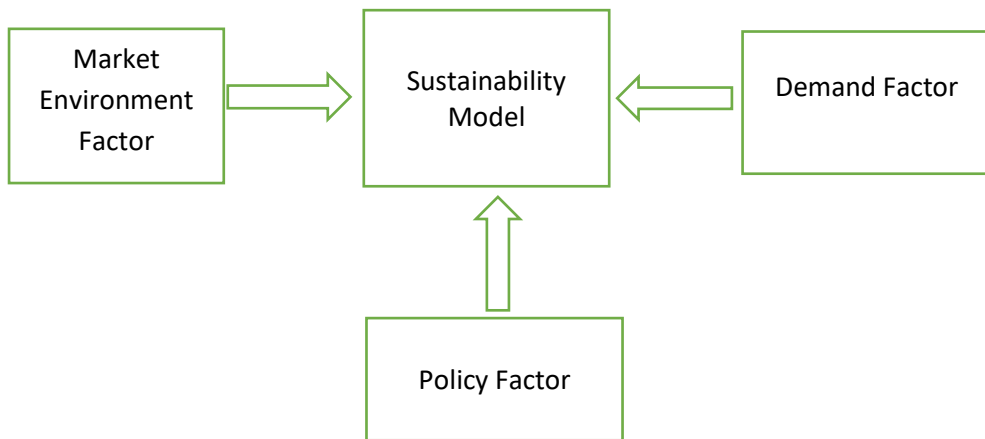
The overall ratings show that the six significant factors relevant to a sustainable online distance learning are all seen to have been demonstrated as expected to a very high extent with means range of 4.94 to 5.00. The means show that the clientele see TNEEP as an effective medium to deliver graduate school distance learning that is at par to global educational requirements.

Implication. Taken together as one group, the respondent students see the program service delivery quality and accessibility to a very high extent, meeting global standards. It is imperative, therefore, for TNEEP to keep on a continuous improvement of its service delivery to maintain its position to which the students see it as of meeting global standards and even going beyond.

The Evolved Final Conceptual Framework

New Derived Theoretical Framework

From the results of the study, an evolved final conceptual framework, and correspondingly, a new derived conceptual framework is now provided as follows.



The new profitability theoretical framework can be described in two dimensions, as follows:

1. The sustainability structure of TNEEP.
2. The sustainability methods of TNEEP academic operations.

The sustainability structure refers to the components of ROA and ROE, each with its unique derivation and nature. It also refers to the percentage in the ROA, ROE, as manifested in its online academic operations that contribute to the profit of the operation and its respective effects sustainability. Qualitatively speaking, it is reflected by the sustainability-making operations that account for the ROA, ROE and the effect of each sustainability-making program on its ability to make a profit.

The second dimension relates to analyzing the sustainability method. The sustainability method is essentially synonymous with its business model. The sustainability model is the core of the business model.

The sustainability model is simple and clear-cut: Gain revenues by providing online academic graduate programs for different types of demands of students.

Factors Affecting the Sustainability Model. External and internal factors affect the sustainability model of a securities company. External factors include demand, market environment, and policies. Internal factors include strategies and capabilities.

External Factors

Demand. Helping with the market operations efforts for capital expense is a mission. A huge demand for online distance learning is an important driving force for the expansion of online learning services.

From a different perspective, the factor of investor demand is the basis and source of online learning delivery services. The main motivation and driving force for the deployment, expansion, and growth of the various programs are the needs for investing heavily on IoT in different locations and stages. These are the major factors dictating the sustainability methods.

Market Environment. The market environment refers to the condition of online distance learning market. The services rendered by the graduate school in online learning has become a major source of revenues.

Policies. Policies are the most important exogenous factors affecting the sustainability model. From its beginning, the faculty has been bearing an unmistakable mark of policies, to which each major change in the sustainability model is closely related. Policy factors mainly include admission/retention and faculty qualifications.

Internal Factors

Strategies. The choice of strategies is the key internal factor affecting the sustainability model of TNEEP. There are six strategies to which TNEEP is deploying namely: learning outcomes, services delivered, policy factor to meeting global standards as admission/retention and faculty qualifications, instructional materials, online instruction delivery, and online facilities.

Learning from major events in the global academic arena overseas tend to base its roles in the market on their specific conditions and their own advantages, while solidifying, strengthening, and improving its advantages and market status through clear operations positioning.

Capabilities. Capabilities (High technology capabilities to deliver online distance learning) are another important internal factor affecting the sustainability model. They are the basis for TNEEP's capability choice, and they independently affect the sustainability model.

Competitive capability refers to the competitive strength of an enterprise, by which the enterprise acquires competitive advantages. Its ingredients include not only online resources such as technologies but also structural factors that consolidate and configure various resources, such as property rights relationships, governance structure, process systems, management systems, and corporate culture, as well as unique entrepreneur capabilities. The capability factors are the basis and source of the differentiated values they provide to the clients. Therefore, these factors affect revenue and composition, as well as the added value of its various lines of programs.

These are the highlights of the results.

1. Taken together as one group, the respondent students see the program service delivery quality and accessibility to a very high extent, meeting global standards.
2. The Policy factors to meeting global standards employed are admission/retention and faculty qualifications.
3. Sustainability of TNEEP is seen not only in the short-run but more so in the long-run. Maintaining sustainability in the areas of enrollment, revenues while creating cost effectiveness will ensure acceptable hedge levels and thus, creating sufficient buffers to withstand any kind of constraints that TNEEP faces.
4. The market environment, demand factor, and policy factor as moderating variables effects on the sustainability of TNEEP are highly significant, most specifically on admission/retention and faculty qualifications.

CONCLUSIONS

The hypothesis testing results provide the conclusions of the study.

HO1: Market environment has no significant effect on sustainability indicators.

For HO1, the test is significant, hence, the alternative hypothesis is accepted, that is, the market environment has a significant effect on sustainability indicators, ROA and ROE.

Implication. The market environment is global in nature, as such, the students seek for global distance learning. Their enrollment, therefore, will affect sustainability indicators.

HO2: Demand environment has no significant effect on sustainability indicators.

For HO2, the test is significant, hence, the alternative hypothesis is accepted, that is, demand environment has a significant effect on sustainability indicators.

Implication. The demand environment is in search of global services and learning outcomes. Consequently, they will also seek global distance learning services.

HO3: Policy factors do not moderate significantly Market environment.

The test is not significant, hence, the null hypothesis is accepted, that is, policy factor as admission/retention and faculty qualifications are not significant moderating variables to market environment.

Implication. The results show that all the criteria set for global services has been met by TNEEP. However, TNEEP must move towards continuous improvement on its policy factor to maintain its current position.

HO4: + Policy factors do not moderate significant Demand environment.

The test is significant, hence, the alternative hypothesis is accepted, that is, policy factors as admission/retention and faculty qualifications moderate significantly demand environment.

Implication. It is imperative to create continuous improvement in admission/retention and faculty qualifications.

HO5: Policy factors do not moderate significantly sustainability indicators.

The test is not significant, hence, the null hypothesis is accepted, and that is, policy factors as admission/retention and faculty qualifications do not moderate significantly sustainability indicators, ROA and ROE.

Implication. More than one way, the policy factors indirectly affect ROA and ROE. Hence, TNEEP can endeavor to revisit and make improvements on its policy factors to motivate more enrollees in the different graduate program offerings.

The statistical tests show that TNEEP delivered services as expected and the sustainability tests also showed quality positive results. Also, the researcher develops a new theoretical framework for sustainability of online graduate education programs.

RECOMMENDATIONS

It is recommended that a continuous development and upgrade on the following six global criteria for distance graduate school learning to meet and exceed global standards: learning outcomes, services delivered, policy on admission/retention and faculty qualifications, instruction materials, online instruction delivery, and online facilities.

1. A focused professional development, professional learning, and performance culture for faculty on Internet of Things in online distance graduate education delivery.
2. Institutionalization of the new derived theoretical framework to position TNEEP above par of global standards. Future researchers can adopt the new framework for other educational environments.

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