

Contextualizing Readiness for Flexible Modes of Online Learning Using Open Procurement SUC Data

Project Title: Benchmarking strategies that reduce the impact of the COVID-19 pandemic on education: An assessment of educational institution tenders using an operations research approach

Principal Investigator: Engr. Arpon Lucero, Jr.

Co-investigators: Engr. John Raymond Barajas

Engr. Nico Aspra

Engr. Pee Jay Gealone

Engr. Oliver Padua

Engr. Marben Ramos



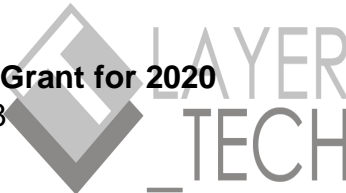
ISO 9001:2015
TÜV Rheinland ID 910863351



Open Contracting: Procurement Analytics Research Grant for 2020

Grant Contract Number: PHOC620-00178

July 20, 2020, 1:00 PM – 2:00 PM





Bicol Region – Home of Top-notchers

August and September 2019 Registered Electrical Engineer (REE) board exam

Bicolano Topnotchers

2nd
ENGR. GERALD MAGALONA MIER
 Bicol University
 Legazpi City, Albay
 92.05

4th
ENGR. JOHN ROCEL ANIM PEREZ
 Camarines Norte State College
 Daet, Camarines Norte
 91.60

6th
ENGR. DEE-JAY DEMESA ALVARO
 Bicol State College of Applied Sciences and Technology
 Naga City, Camarines Sur
 91.40

2019 BAR EXAM TOPNOTCHERS
 OFFICE OF THE BAR CONFIDANT, SUPREME COURT

 AZORES, MAE DIANE M. 1st PLACE UST - LEGASPI 91.0400%	 PARAHMAN, PRINCESS FATMA T. 2nd PLACE UNIVERSITY OF THE EAST 89.5230%	 MYRA M. BARRANDA 3rd PLACE UST - LEGASPI 88.8250%	 BANDOLA, DARWA FYA O. 4th PLACE SAN BEDA COLLEGE - ALABANG 88.3360%	 FABELLO, JOCELYN B. 5th PLACE PALAWAN STATE UNIVERSITY 88.2630%
 MANUEL, KENNETH GLENN L. 6th PLACE UNIVERSITY OF STO. TOMAS 88.1730%	 BLERGO, RHOWEE DEIMOV 7th PLACE JOSE RIZAL UNIVERSITY 87.8710%	 AVILA, ANTON LUIS A. 8th PLACE SAINT LOUIS UNIVERSITY 87.5820%	 ROJAS, JUN DEXTER H. 9th PLACE POLYTECHNIC UNIVERSITY OF THE PHILIPPINES 87.5765%	 MADERA, BEBELAN A. 10th PLACE UNIVERSITY OF ST. LA SALLE 87.3795%

RAOBC 4/29/2020 <https://www.philstar.com/headlines/2020/04/30/2010756/bicol-law-grad-tops-bar-exams>

Congratulations! To the passers of the OCTOBER 2019 GEODETIC Engineer Licensure Examination

CLIFFORD MARCO ARIMADO 3rd Placer, 88.20%
KIM GELACIO ABILA GOLBEQUE 4th Placer, 88.00%
ARJAY ABOCADO NUNEZ 7th Placer, 86.60%

BUCENG - 4TH TOP PERFORMING SCHOOL: 85.71%
 NATIONAL PASSING RATE: 54.84%

Source: Professional Regulation Commission
<http://bicol-u.edu.ph/bu/thebuzzette/news/buCnTKR6xeU>

TOP 1
 ENGR. EDILBERT V. TANDAAN
 September 2017 Registered Electrical Engineer (REE) Board Examination

TOP 2
 ENGR. KAREN B. DOMAMAY
 October 2017 Electronics Technician (ECT) Licensure Examination

TOP 3
 ENGR. TEOFILO GREGORIO D. AYO
 September 2017 Registered Mechanical Engineer (RME) Board Examination

TOP 3
 RICHARD L. CLAVILLAS
 September 2017 Licensure Examination for Teachers (LET)

TOP 7
 KAREN BERNARD L. VENTURA
 September 2017 Registered Midwife (RM) Board Examination

TOP 7
 ANGELICA B. VILLAMOR
 September 2017 Registered Midwife (RM) Board Examination

TOP 10
 FLORENCE JOSHUA L. TORALDE
 September 2017 Registered Midwife (RM) Board Examination

TOP 10
 ENGR. JOVY BEDIKO NOTORIO
 November 2017 Registered Civil Engineer (CE) Board Examination

TOP 1
 ENGR. RONEL A. SOLIS
 September 2017 Mechanical Engineer Accreditation Examinations

<https://cspc.edu.ph/2018/01/10/cspc-the-home-of-board-placers-and-topnotchers/>

Student Enrolment to SUCs in the Bicol Region [1]



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 www.ijrtem.com Volume 2 Issue 7 | July 2018 | PP 43-51

Profile of Bicol Sucs: Basis for Policy Recommendation

Alberto Naag Naperi¹, Susan S. Janer²

¹Administration Department, Sorsogon State College, Sorsogon City, Philippines
²School of Graduate Studies, Sorsogon State College, Sorsogon City, Philippines

ABSTRACT: This descriptive research is all about the profile of SUCs in Bicol Region, Philippines in terms of budget, program offerings, enrolment, and faculty and non-teaching personnel. The data were sourced from the 2016 budget preparation for SUCs in Region V through documentary analysis. Said document was utilized and analyzed vis-à-vis compared to each SUC operating in Bicol Region for the purpose of improving its mandate and service delivery towards providing quality education for Bicolanos. Results of analysis revealed that the national government increased the capital investment to Bicol SUCs. There are nine SUCs in Region V composed of four state universities and five state colleges. These SUCs have varying amounts of budget which offer 293 curricular programs, 89 programs in the graduate school and 204 programs in the undergraduate and accepted a total of 75,257 enrollees for SY 2016-2017. The Bicol SUCs are embarking on 3,201 faculty and personnel to deliver the needed quality service required to answer the demand of the labor market. With these findings, the study recommends that existing policies of the SUCs be made common so that quality output would become a standard mantra towards improving quality and excellence.

Estimated Number of Enrollees:

77,000 – 91,203

Appendix B

II TABLE 2. ENROLLMENT OF BICOL SUCS SY 2014 to SY 2016

Program	SY	BU	BIS CAST	CNSC	CSPC	CBSUA	CSU	DEBES MSCAT	PSU	SSC
ADVANCED EDUCATION	2014-2015	1,906	49	103	124	339	237	241	228	404
	2015-2016	1,910	76	81	149	320	395	246	242	462
	2016-2017	2,096	54	119	104	344	434	353	246	579
TERTIARY	2014-2015	22,821	4,167	7,602	4,216	8,113	10,674	4,420	7,639	7,464
	2015-2016	24,520	5,058	7,134	5,437	10,453	9,066	5,476	8,513	8,224
	2016-2017	18,795	4,839	5,738	5,074	9,977	6,959	4,976	7,205	7,421
SECONDARY	2014-2015	385	438	395		472	384		396	377
	2015-2016	348	305	250		500	455		364	383
	2016-2017	702	197	132		500	460		380	543
ELEMENTARY	2014-2015	509		375		244	241		-	
	2015-2016	465		250		267	241		-	
	2016-2017	378		182		271	238		-	
TOTAL	2014-2015	25,811	4,654	8,475	4,340	9,168	11,326	4,696	8,263	8,245
	*2015-2016	27,243	5,439	7,715	5,586	11,540	10,154	5,329	9,123	9,069
	*2016-2017	21,971	5,090	6,171	5,178	11,092	8,091	3,445	7,831	8,543

*Total Enrollment of Bicol SUCs for CY 2015-2016 = 91,203

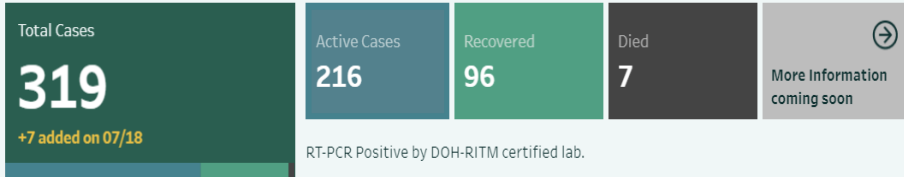
* Data reflected for CY 2016-2017 is projected only.



Nationwide Suspension of Classes [2]-[4]

Filter Epidemiology data by Region: Region V: Bicol Regi... by Province / HUC / ICC: (All) As of July 18, 2020

Cases for Region V: Bicol Region



Daily Cases by Date of Onset of Illness

For 78.1% or 249 of cases where date of onset of illness is unreported, date of specimen collection was used as proxy.

Cases

Recoveries

Deaths

We urge caution when interpreting data during the highlighted period below, which may be incomplete because of delays in reporting.



Note: There are still 18 cases with unreported date of onset of illness and date of specimen collection.

Office of the President of the Philippines Malacañang

MEMORANDUM FROM THE EXECUTIVE SECRETARY

TO : HEADS OF DEPARTMENTS, AGENCIES, OFFICES AND INSTRUMENTALITIES OF THE GOVERNMENT, GOVERNMENT-OWNED OR -CONTROLLED CORPORATIONS (GOCCs), GOVERNMENT FINANCIAL INSTITUTIONS (GFIs), STATE UNIVERSITIES AND COLLEGES (SUCs) AND LOCAL GOVERNMENT UNITS (LGUs)

SUBJECT : COMMUNITY QUARANTINE OVER THE ENTIRE LUZON AND FURTHER GUIDELINES FOR THE MANAGEMENT OF THE CORONAVIRUS DISEASE 2019 (COVID-19) SITUATION

DATE : 16 MAR 2020



RESOLUTION NO. 40
Series of 2020
May 27, 2020

1. Beginning 01 June 2020, the risk-level classifications shall be adopted as follows:
 - a. The following low-risk provinces, HUCs, and ICCs shall be placed under Modified General Community Quarantine (MGCQ)* until 15 June 2020, without prejudice to the declaration of localized Enhanced Community Quarantine in critical areas:
 - i. For Luzon:
 1. Cordillera Administrative Region (CAR) - Abra, Apayao, Benguet, Ifugao, Kalinga, Mountain Province
 2. Region I - Ilocos Norte, Ilocos Sur, La Union, Dagupan City;
 3. Region IV-B - Marinduque, Occidental Mindoro, Oriental Mindoro, Romblon, Palawan, Puerto Princesa City; and
 4. Region V - Camarines Norte, Camarines Sur, Catanduanes, Masbate, Sorsogon, Legazpi City, and Naga City.



Resumption of Classes in August 2020 [5]-[8]

May 26, 2020 — May 27, 2020

With COVID-19
Pandemic, Displaced
Marawi Residents
Want To Go Home
Even More

Conducting 30,000
COVID-19 Tests Daily
Not That Easy
Despite Capacity –
DOH

Travel From The
Safety Of Your Home

No Vaccine, No Classes? School Opening In Limbo; Alternative Modes Of Learning Pushed

President Duterte declared he wanted a vaccine first for coronavirus disease 2019 before classes would resume in the country. His spokesperson and other officials said

CHED 7 pushes for online learning mode in August



May 22, 2020

THERE will be no physical or face-to-face classes until the end of August 2020 for tertiary level, the Commission on Higher Education-Central Visayas (Ched 7) said.

Maximo Aljibe, Ched 7 Director, said the advisory that Ched issued states that if a higher education institution (HEI) can offer a full-online mode of delivery of lessons, it can open classes earlier than August.



May 21, 2020 — May 22, 2020

A Tale Of Two ECQ
Violators: Māng
Dodging Out Of
Detention; Duterte
Defends Debold Sinas

Salita Nang Salita?
Duterte's Adviser
Apologizes After
Berating Doctors
Opposed To Rapid
Testing

'Aug. 24 School Opening May Still Change'

The start of classes in some areas in the country may still be delayed if they remain under stringent community protocols due to the coronavirus disease 2019.



OFFICE OF THE CHAIRPERSON
COMMISSION ON HIGHER EDUCATION

Guidelines for the Prevention, Control and Mitigation of the Spread of
Coronavirus Disease 2019 (COVID-19) in Higher Education Institutions (HEIs)

CHED COVID ADVISORY No. 7
24 May 2020

A. On HEI Operations and Work Arrangements

1. In areas under ECQ, MECQ, and GCQ, HEIs are advised to observe the following guidelines:
 - a. Suspension of face-to-face or in-person classes until further directives from the IATF or issuance by the proper government authority that the province or city will be under MGCQ;

Challenge of Online Modes of Learning [9]-[10]

Online classes anti-poor, unstable due to internet in the Philippines

DISTANCE LEARNING IN PH

**No student left behind?
During pandemic,
education 'only for
those who can afford'**

MAY 22, 2020

BONZ MAGSAMBOL

“Only **17%** of Filipino students have internet access”

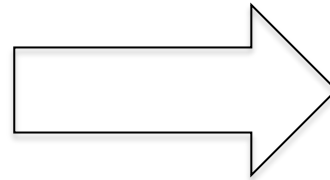
“Only **3.4%** of Filipino students have own cellphones that can connect to the internet”

“Only **5%** of Filipino students have stable internet connectivity”



Project Objective

**BENCHMARK
SUC
PROCUREMENT
STRATEGIES**

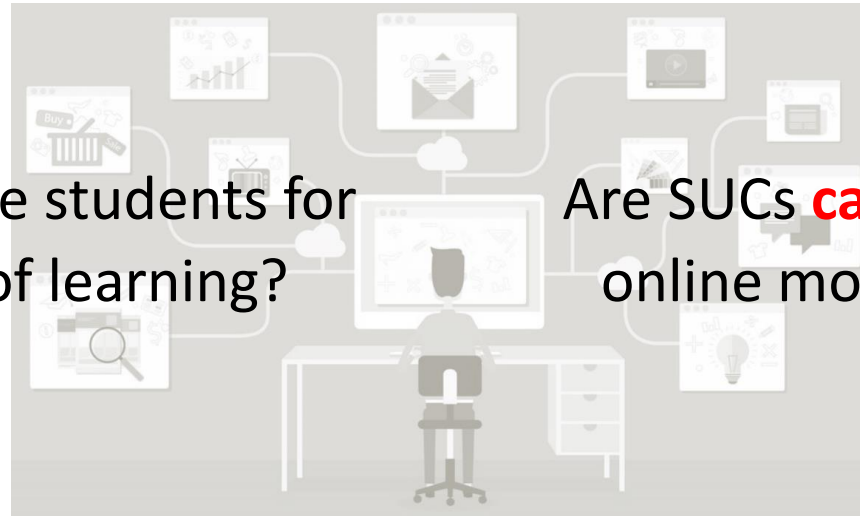


Education
For
All

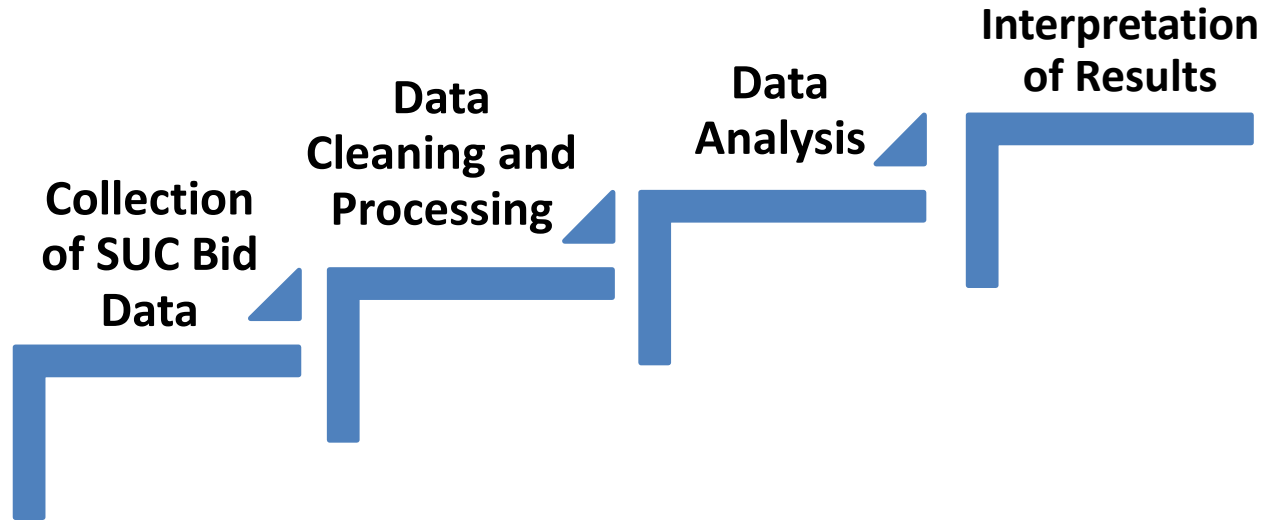
Questions to be Answered

How **ready** are the students for online modes of learning?

Are SUCs **capable to conduct** online modes of learning?



Conduct of the Research





Procurement Data Source

Datasets on Bid Notices and Award Notices, AMP Bid Data, and Posted GPPB Awarded Contracts

Cleaning

Reference	Solicitation	Notice Title	Publication Date	Classification	Notice Type	Business Category	Funding Source	Funding Instrument	Procurement Trade Agreement	ABC	Area of Contract	Calendar		
6781197	6727070	1 Package	#####	Goods	Invitation	Architecture	Government	General	Shopping	Implement	3149950	Davao Del	40	NULL
6781819	6729215	24 Bag Coi	#####	Goods	Invitation	Construction	Government	Budget for Shopping	Implement	2.00E+05	Leyte	12	NULL	
6781357	37244	Stakehold	#####	Consulting	Invitation	Consulting	Government	Corporate	NP - Scient	Implement	213435	La Union	3	NULL
6781360	bac-20-01	various co	#####	Goods	Invitation	Office Equ	Government	General	Direct Con	Implement	104720	Metro Ma	NULL	NULL
6781365	bac-20-01	repair and	#####	Goods	Invitation	Office Equ	Government	General	Direct Con	Implement	70292	NULL	NULL	NULL
6781363	NP-KV-19-	Venue for	#####	Goods	Invitation	Lease and	Government	General	Negotiate	Implement	160000	Metro Ma	NULL	NULL
6781372	19-3108	Lease of V	#####	Goods	Invitation	Hotel and	Government	Budget for	Negotiate	Implement	87000	NULL	NULL	NULL
6781405	101-19-10	PRINTING	#####	Goods	Invitation	Printing Se	Government	Budget for	Negotiate	Implement	389465	Surigao De	60	NULL
6781414	2019-11-0	Provision c	#####	Goods	Invitation	Hotel and	Government	General	Negotiate	Implement	77350	La Union	2	NULL
5979958	19-12-463	Installation	#####	Goods	Invitation	Fixtures	Government	Corporate	Negotiate	Implement	102600	Camarines	5	NULL
6781440	19-09-493	Conduct o	#####	Goods	Invitation	Lease and	Government	General	Negotiate	Implement	1230000	Misamis O	10	NULL

Pre-Processing

Period Covered:

January 1, 2016 – May 31, 2020

Area of Focus: Region V

Project Name	Approved Budget	Start Date	End Date	Name Of Awarded Company	Amount Awarded	Date Of Award	Notice Of Award	Acceptance Da	Contract/PO	Annual Procure	Procuring Entity
Human Grade Disinfectant Solution And Fac	PHP108,864	2020-04-08	2020-04-18	Bawertek Corporation	PHP108,864	2020-04-02	./Data/Files/Act1/	2020-04-08	./Data/Files/Act1/	./Data/Files/Act1/	OPWH REGIONAL OFFICE IV-B
Procurement Of Relief Goods	PHP686,000	2020-04-16	2020-04-23	Tinars Dried Fish And Egg Dealer	PHP682,800	2020-04-16	./Data/Files/Act1/	2020-04-16	./Data/Files/Act1/	./Data/Files/Act1/	Local Government Unit Of Gamu, Isabela
Procurement Of Relief Goods	PHP686,000	2020-04-16	2020-04-23	Tinars Dried Fish And Eggs	PHP682,800	2020-04-15	./Data/Files/Act1/	2020-04-15	./Data/Files/Act1/	./Data/Files/Act1/	Local Government Unit Of Gamu, Isabela
Procurement Of Relief Goods	PHP1,577,000	2020-04-17	2020-04-24	Green Season Rice Mill & Grain Center	PHP1,535,500	2020-04-15	./Data/Files/Act1/	2020-04-15	./Data/Files/Act1/	./Data/Files/Act1/	Local Government Unit Of Gamu, Isabela

Collection of Questionnaire Data



Capacity of Students to Access the Internet: A Survey

Name of Researchers: John Raymond B. Barajas, Pee Jay Gealone, Arpon Lucero, Jr., Oliver Padua, Nico Aspra, Marben Ramos
 Researchers' Institution: Bicol University, Divine Word College of Legazpi
 College: College of Engineering, School of Engineering and Computer Studies
 Contact Number: (052) 481 - 1468
 Email of Corresponding Researcher: mullen086@gmail.com

PURPOSE:

In preparation for the adoption of flexible modes of learning brought about by the COVID-19 pandemic, this survey aims to inquire about a student's capacity to undertake online modes of learning such as but not limited to synchronous and asynchronous online classes. Your honest answers will truly help the researcher qualify the readiness of each student to the inevitable shift brought by the adoption of the "new normal" lifestyle.

What is the total monthly income of your household? *

Choose

What is your average weekly allowance? *

Choose

What electronic gadgets/devices do you personally own? (Check all that apply) *

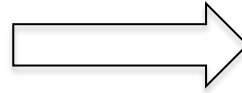
- Laptop
- Desktop PC
- Cellular Phone (cannot access wifi/cellular data)
- Smart Phone (can access wifi/cellular data)
- Tablet
- I do not personally own any electronic gadgets or devices
- Other: _____

Procurement Data Processing Method [11]-[14]

Identification of SUC Attributes

Overall Feedback Score (O, Output): This is the arithmetic average of the ratings given by the respondents on Internet Quality, Internet Speed, and Satisfaction on the internet connectivity provided by an SUC.

Number of IT Related Tenders (I1, Input): This is the total number of IT related tenders posted by an SUC from January 2016 – March 2020.



Total Approved Budget Contract (I2, Input): This is the total Approved Budget Contract (ABC) for IT related tenders from January 2016 – March 2020.

Average Contract Duration (I3, Input): This is the arithmetic average of the contract duration (in calendar days) for IT related tenders from January 2016 – March 2020.

Number of Suppliers Tapped (I4, Input): This is the total number of suppliers tapped for the IT related tenders posted by an SUC.

Determination of Financial Capability

$$\text{Max } \phi + \varepsilon \cdot \left(\sum_{i=1}^m s_i^- + \sum_{r=1}^s s_r^+ \right)$$

s.t.

$$\sum_{j=1}^n \lambda_j \cdot x_{ij} + s_i^- = x_{io}, \quad i = 1, \dots, m$$

$$\sum_{j=1}^n \lambda_j \cdot y_{rj} - s_r^+ = y_{ro} \cdot \phi, \quad r = 1, \dots, s$$

$$\sum_{j=1}^n \lambda_j = 1$$

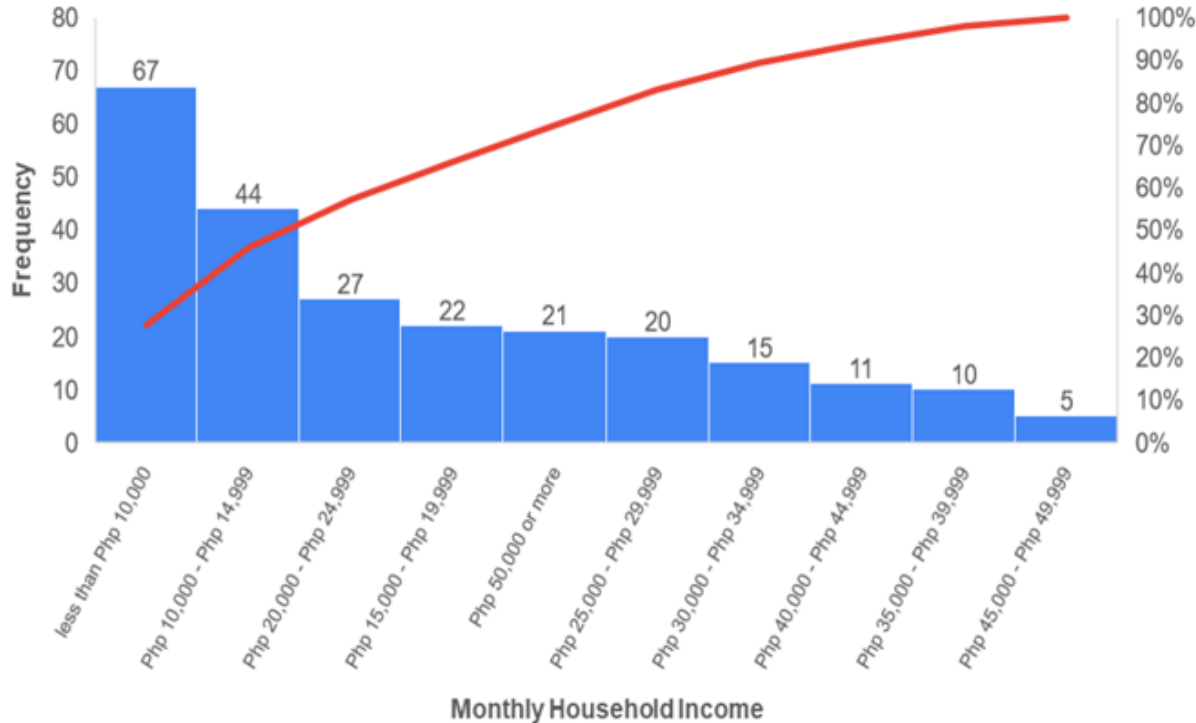
$$\lambda_j \geq 0, \quad j = 1, \dots, n$$

$$s_i^- \geq 0, \quad i = 1, \dots, m$$

$$s_r^+ \geq 0, \quad r = 1, \dots, s$$

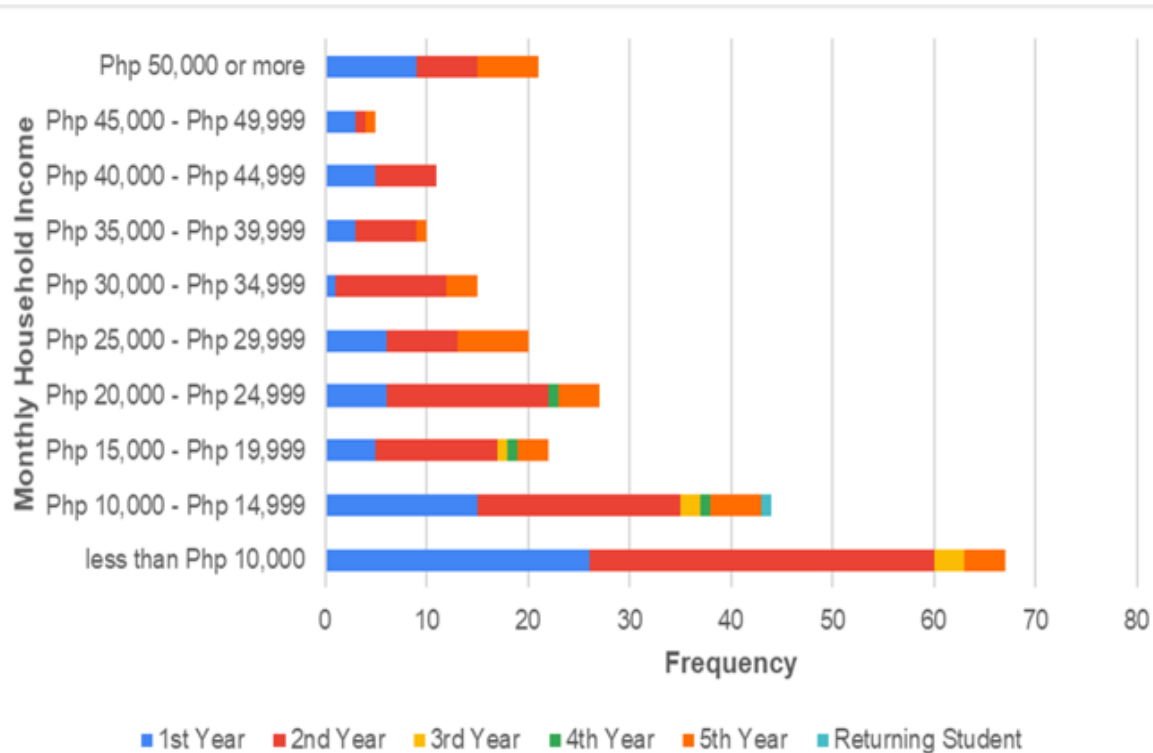
$$\phi \text{ free}, \quad \varepsilon \ll 1$$

Demographics of Students



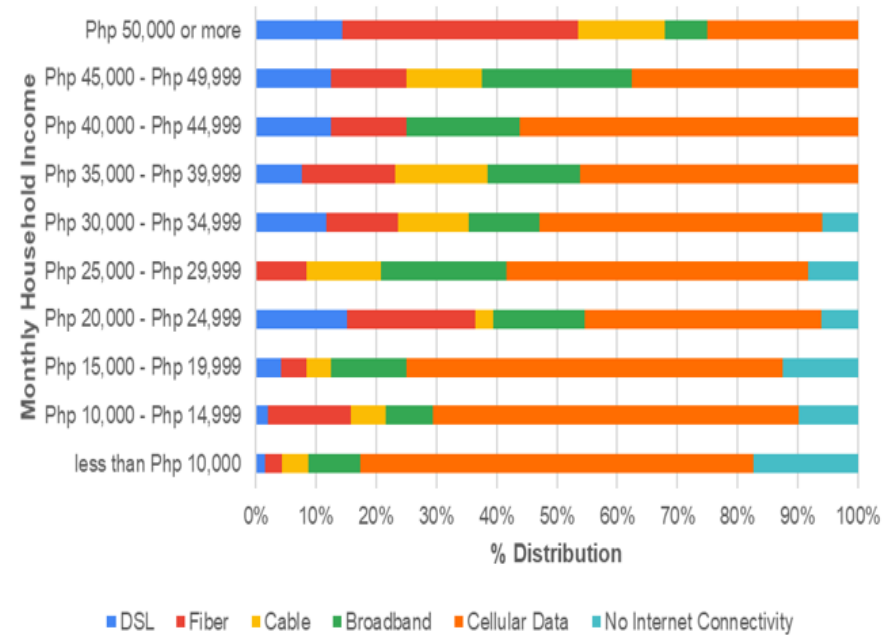
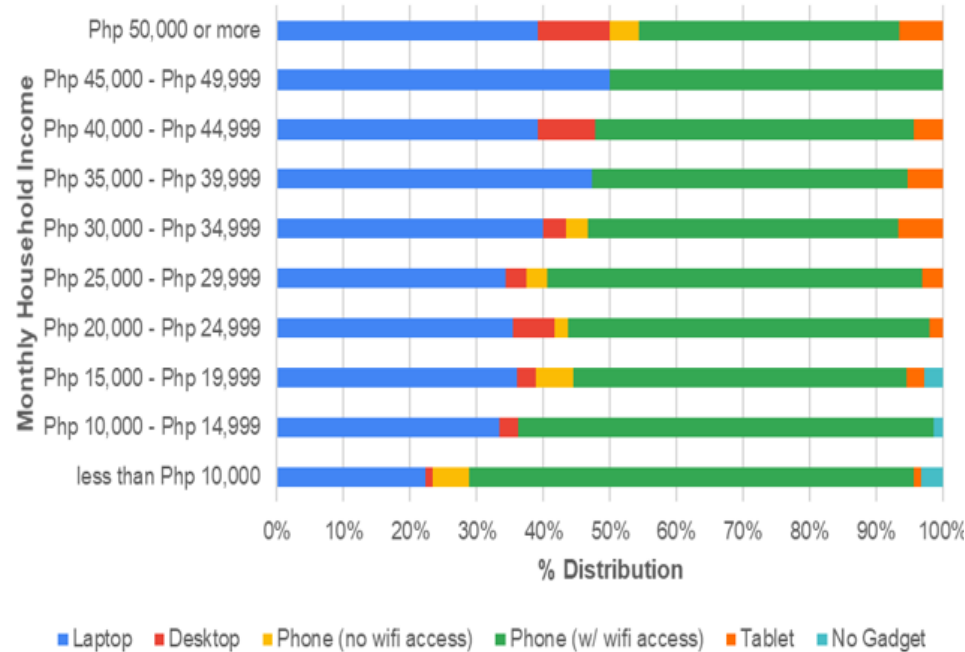
160 (66.11%) out of the 242 who willingly responded from 5 different SUCs in the Bicol Region were reported to have a monthly household income below PHP25,000.

Demographics of Students



Majority (>60%) of the respondents were reported to be 1st and 2nd year students who would be enrolling this 1st Semester AY 2020 – 2021, of whom also belong to those who have reported a monthly household income less than PHP25,000.

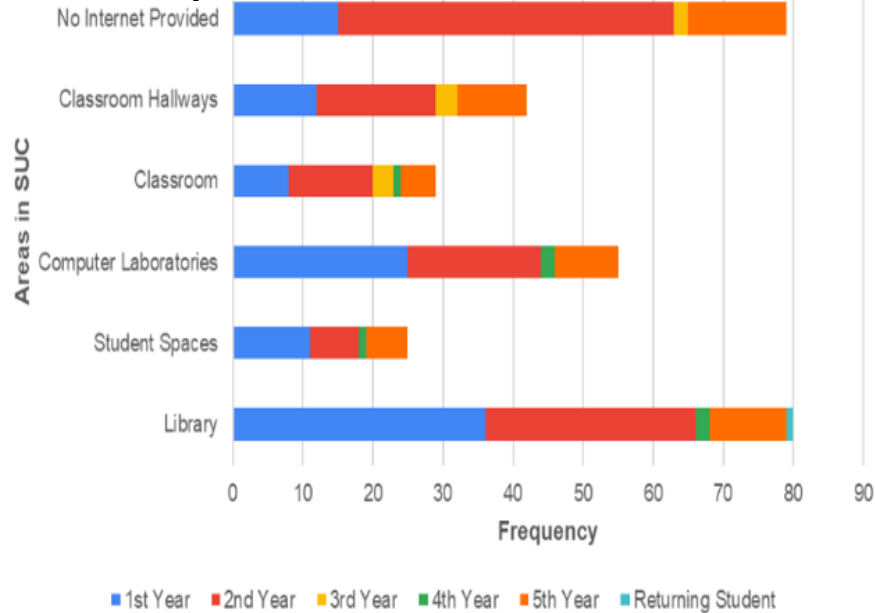
Demographics of Students



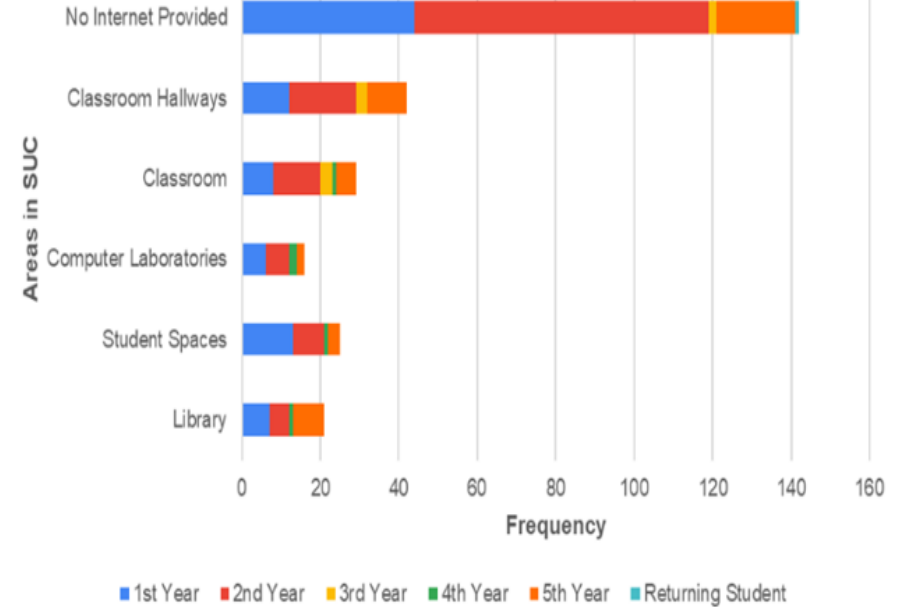
Majority (about 60%) of the students were reported to largely rely on cellular phones and cellular data to accomplish academic tasks given by their respective institutions.

Internet Connectivity Provided by SUCs

Main Campus

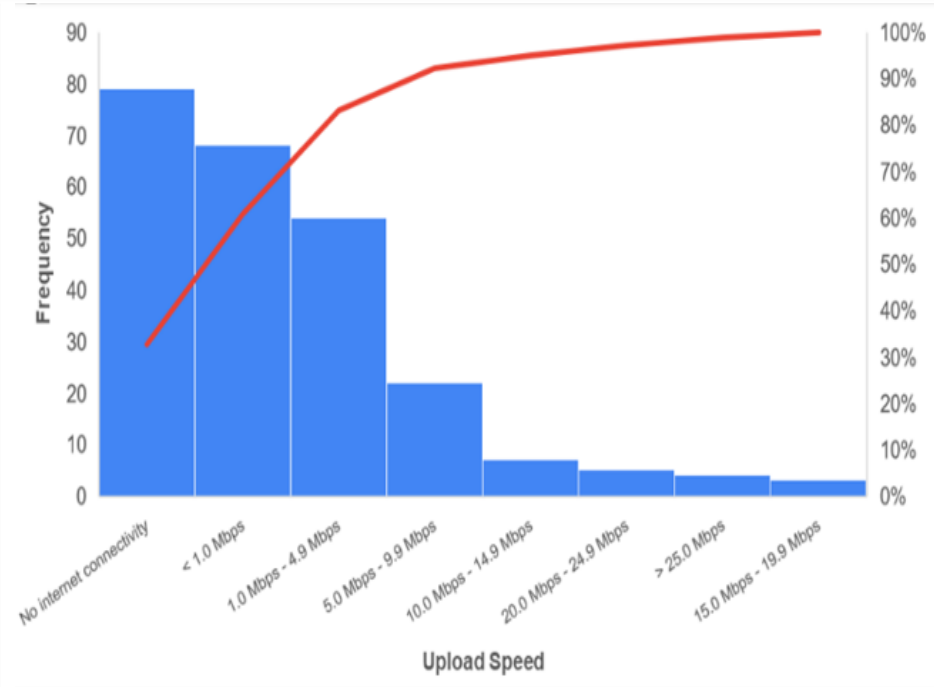
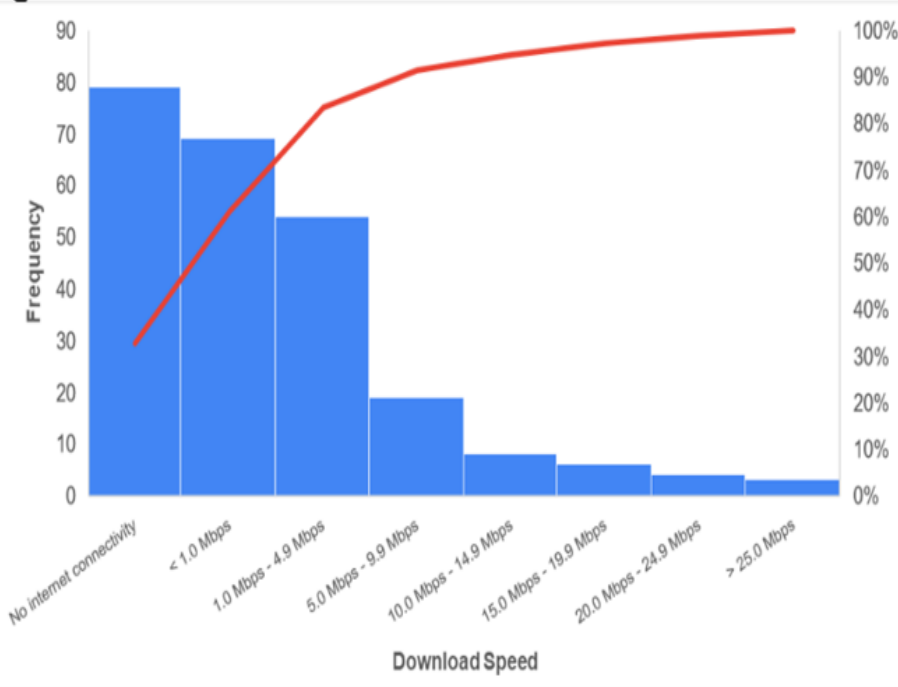


Extension Campuses



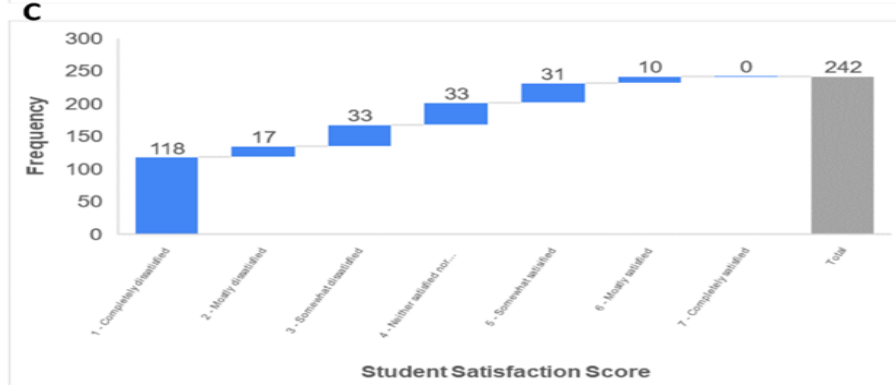
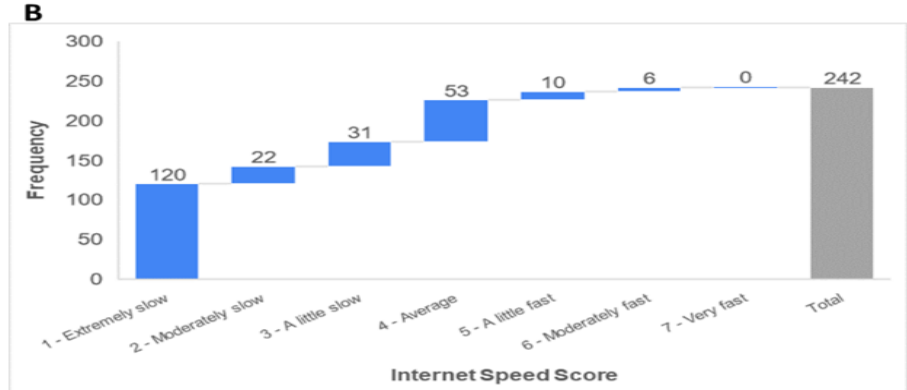
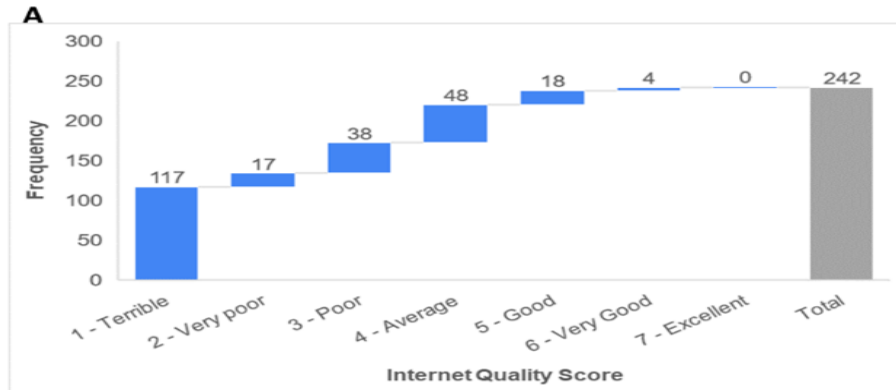
Internet connectivity within SUC main campuses were reported to be primarily provided at the **main libraries**, **classroom hallways**, and **computer laboratories**. A significant number of respondents also claimed that both **main and extension campuses did not generally provide internet connectivity**.

Average Internet Speed Provided by SUCs



Average internet download and upload speeds provided by SUCs as experienced by the respondents were reported to be **below 5.0 Mbps**, with **majority of the respondents experiencing average speeds below 1.0 Mbps**.

Overall Feedback Score Given by Respondents



Likert Scale Ratings Given by Respondents on SUCs' Internet Connectivity

Crucial SUC Attributes

Table 1. Ranking of SUC Attributes

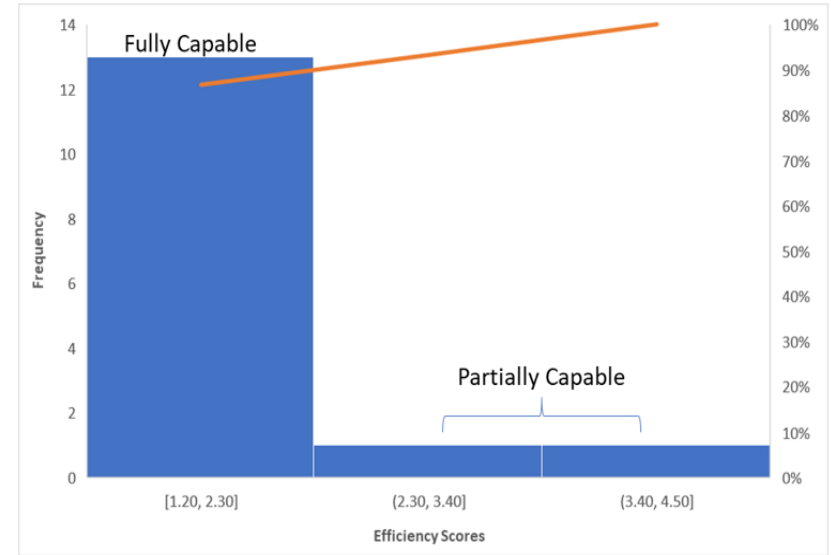
Criterion Name	Criterion Code	Type	Weight (Overall)	Rank (Overall)	Weight (Input)	Rank (Input)
Overall Feedback Score	0	Output	0.1834	5 th	-	-
Number of It Related Tenders	11	Input	0.2116	2 nd	0.2592	2 nd
Total Approved Budget Contract	12	Input	0.2156	1 st	0.2640	1 st
Average Contract Duration	13	Input	0.1888	4 th	0.2313	4 th
Number of Suppliers Tapped	14	Input	0.2005	3 rd	0.2456	3 rd

It was found that the “**Total Approved Budget Contract**” and “**Number of IT Related Tenders**” SUC attributes were crucial in determining the capacity of the SUC to effectively transition into online modes of learning.

Are SUCs in Bicol Region Capable?

Table A.1 Efficiency Scores Calculated for Identified SUCs in Bicol Region

SUC ID	Efficiency Score	Classification
SUC1001	1.71	Fully Capable
SUC1002	4.27	Partially Capable
SUC1003	1.33	Fully Capable
SUC1004	2.19	Fully Capable
SUC1005	2.21	Fully Capable
SUC1006	1.88	Fully Capable
SUC1007	1.93	Fully Capable
SUC1008	1.33	Fully Capable
SUC1009	1.39	Fully Capable
SUC1010	2.39	Partially Capable
SUC1011	1.20	Fully Capable
SUC1012	1.79	Fully Capable
SUC1013	2.13	Fully Capable
SUC1014	1.33	Fully Capable
SUC1015	1.33	Fully Capable

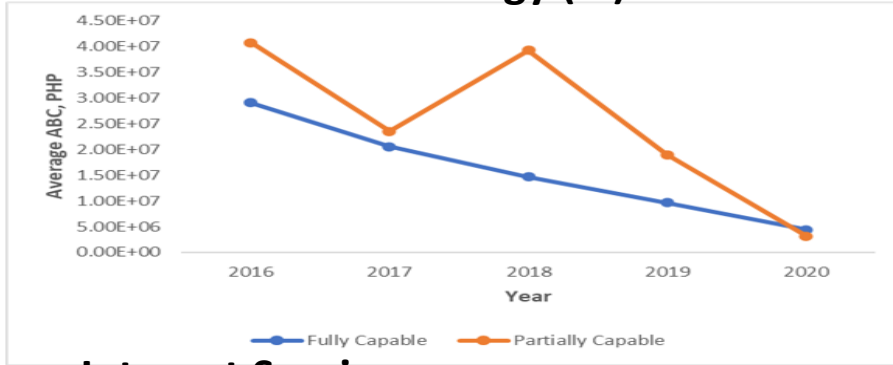


7 out of 9 SUCs were found to be financially capable for the proposed online transition (15 SUC IDs were reported due to the inclusion of extension campuses).

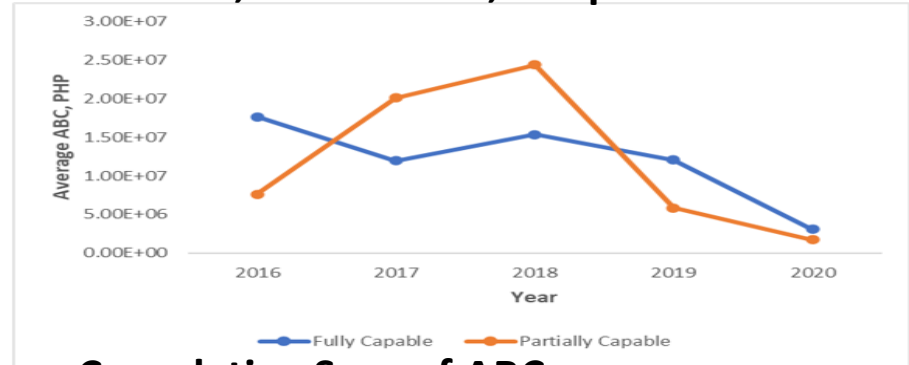


Are SUCs in Bicol Region Capable?

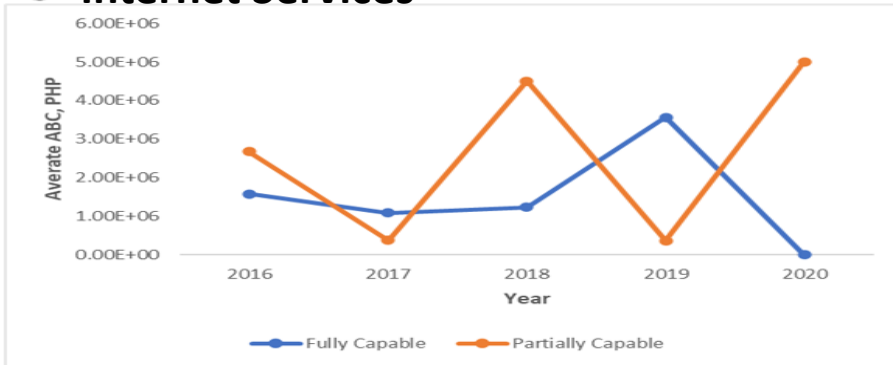
A Information Technology (IT)



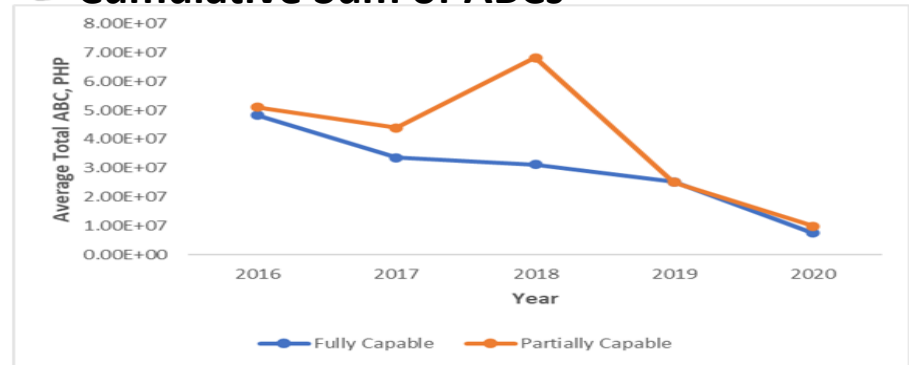
B IT Parts, Accessories, Peripherals



C Internet Services



D Cumulative Sum of ABCs



Total Approved Budget Contract for Year 2016-2020



Possible Reasons for Low Likert Scale Ratings

- Only four (4) contracts amounting to **PHP1.49 million** for procuring computer servers from January 2016 – May 2020 were reported.
- No procurement activity specifically designated for expanding the capacity of their present servers in anticipation of the increased network traffic for online classes was observed for the 1st quarter of the fiscal year 2020.
- Only four (4) contracts amounting to **PHP11.52 million** for securing internet connectivity within SUC campuses were found for the period January 2016 – December 2019. No contract in the 1st quarter of the fiscal year 2020 was found for internet bandwidth expansion in anticipation of the heavy traffic to be induced by online classes.



Possible Reasons for Low Likert Scale Ratings

- Only three (3) contracts amounting to **PHP2.58 million** for improving library capacity were found for the period January 2016 – May 2020. No awarded contracts were found for acquiring learning management and library management systems, and subscription to online databases.
- No contracts for purchase of software for research and instructional purposes were found.
- Majority of the contracts found were designated for procuring “Information Technology Parts and Accessories and Peripherals”. Procurement of USBs, hard drives, and printers were amongst the most commonly awarded contracts.



Adopting Best Procurement Practices for IT

- Allocate at least **PHP7.56 million** for procuring computer servers to accommodate network traffic in the system.
- Allocate at least **PHP3.0 million** in the 2nd quarter of the fiscal year 2020 for procuring additional computer servers in anticipation of the increased network traffic induced by online classes.
- Allocate at least **PHP41.0 million** to increase internet bandwidth and coverage within SUC campuses (including extension campuses).
- Allocate at least **PHP14.0 million** for securing a reliable backup internet connectivity in times of emergencies or disasters.



Adopting Best Procurement Practices for IT

- Allocate at least **PHP120.91 million** for acquiring learning management systems, e-library, library management systems, and online subscriptions to electronic databases (e.g. Elsevier) which allowed full access to the most recent e-books and journal articles.
- Allocate at least **PHP54.72 million** to specifically procure various licensed software (e.g. MATLAB) for research and instructional use either on-site or online.



Conclusions

- Students were generally reported to rely on cellular phones and cellular data for accomplishing their respective academic tasks. Hence, it is strongly recommended that **synchronous and asynchronous learning activities with low data consumption be implemented.**
- A budget allocation of at least **PHP241.19 million** was observed to establish a robust IT infrastructure fully capable of implementing online modes of learning (i.e. online learning made available by University of the Philippines).
- Since no significant investments necessary for the conduct of online modes of learning were observed, it is strongly recommended that SUCs in the region **include in their Annual Procurement Plan (APP)** acquisition of online learning management and library management systems, and subscription to online databases.



Conclusions

- Parallel to what has been observed for the procurement of learning and library management systems and subscription to online electronic databases, it is also strongly recommended that SUCs in the Bicol Region **prioritize procurement of software for research and instructional use.**
- SUCs in the region are **financially capable** of the proposed online transition; however, **realignment of their appropriations** specifically for improving their present IT infrastructure is strongly recommended.

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MS. FREI SANGIL, MSDS
Chief Executive Officer
Layertech Software Labs, Inc.

**LAYERTECH LEARNING
TEAM PH**

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BICOL UNIVERSITY RESEARCH DEVELOPMENT AND EXTENSION OFFICE



**DR. ARNULFO
MASCARIÑAS**



**DR. AMELIA
DOROSAN**



**DR. LUIS
AMANO**



**DR. AMELIA
GONZALES**



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Thank you for listening!



Start children off
on the way they should go,
and even when they are old
they will not turn from it.

Proverbs 22:6

DailyVerses.net

<https://dailyverses.net/proverbs/22/6>



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