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RESEARCH ARTICLE

Extent of Contribution of Some Causative Factors in Enhancing the Research Lifeway of State Universities and Colleges in the Philippines as Basis for Relevant Research Policy

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ABSTRACT

The study generally determined the extent of contribution of some causative factors in enhancing the research lifeway of the institution as basis for relevant research policy recommendations. The combination of quantitative – qualitative research approaches is used as the research design of the study. The study found that several factors contributed to enhancing the research lifeway at the institution, with the conduct of research capability building programs, financial rewards and merit systems, institutional research policies, the presence of a research lead unit, and adequate research infrastructure and conditions being the top five factors. However, there were significant differences in the researchers' perceptions of the extent of contribution of these factors. The researchers engaged in various types of research activities, including mixed methods in various disciplines, acting as respondents or subjects of experimental researches, product development, mentoring, and assisting undergraduate students in their research activities. They also believed that research activities helped develop their skills and motivated them to pursue further studies. Barriers to promoting a more positive research lifeway included inadequate time to enhance researchers' capabilities, inadequate mentoring, complacency, lack of equipment or materials, inadequate funding, inadequate knowledge of institutional research policies, heavy teaching loads, and limited collaboration with other institutions. The proposed internal policy recommendations aimed to address these barriers, including improving mentoring and capacitation programs, increasing institutional funds for research, improving information dissemination and consultation about research funding, updating institutional research policies, and reducing teaching loads to provide more time for research activities. Overall, the study highlighted the importance of addressing various factors to promote a more positive research lifeway at the institution and provided recommendations to improve the research environment.

INTRODUCTION

Culture is expressed in various ways. Generally, it refers to the total lifeway of a people, an institution or a group of people who share common goals, aspirations and belief systems. Together, they build a culture that is expressed in practices or mores and statements that guide their actions. Research culture is just one of such expressions of lifeways in an institution. A research culture then as enunciated by Dacles, Valtoribio, del Rosario, Matias and Saludarez (2016) may be described as

shared values, beliefs, attitudes and norms affecting the carrying out of research activities in many institution of higher learning and whose traditional work or duty encompass the trifocal function of instruction, research and community extension. Research culture may be defined as a system of shared meaning regarding research that is held by members of the organisation. However, Narbarte and Balila (2018) stated that university research efforts, faculty engagement in research, and other research-related activities are all means by which research culture and quality may be improved and fostered. In the Philippines the research initiatives are based on the goals articulated by National Higher Education Research Agenda (NHERA-2). The presence of a mature research and development (R&D) program of Higher Education Institutions (HEIs) as stipulated in Ambisyon Natin for 2040 (p.10, 2016) envisioned that Filipinos would become smarter and more innovative. Moreover, Pres. Duterte (2016), through a consultative workshop enunciated the "Ten Point Socioeconomic Agenda" of his current administration to challenge HEIs to strengthen their research capability programs. Alongside the country's international commitments, the 2030 Sustainable Development Goals involve a sound research culture on its quest for inclusive and equitable quality education in both public and private HEIs, and hence stimulate lifelong learning opportunities for all.

The Royal Society (2020) described that research culture encompasses the behaviors, values, expectations, attitudes and norms of our research communities. It influences researchers' career paths and determines the way that research is conducted and communicated. The UK has a long history of shaping global research culture, from the times of the Enlightenment scientists, the foundation of the Royal Society and the frameworks of publishing and peer review, through its recent leadership in championing science as an open enterprise. Building on this history and the strengths of research culture today, the Royal Society, through Professor Mark Miodownik FREng (2018), has started changing expectations, a program of work (POW) to explore how the UK can promote the cultural conditions that will best enable excellent research and researchers here and elsewhere to flourish in the future. Among its foci are the assessment of research and researchers, researcher career development, and open science. The conference brought together debates around research assessment, career progression, researcher development, research dissemination and research integrity. Over the two days, attendees had the opportunity to think creatively about how the culture of research can be different, to share and build on best practices across the sector, and develop new networks with individuals across the research landscape. Accordingly, the POW disclosed its objectives and how it could attain it, as it opined: Changing expectations is a Royal Society program that aims to understand how best to steward research culture through a shifting research landscape through a national dialogue with the research community, by drawing on the experiences of our past and present, and exploring potential futures. Changing expectations investigates the evolving relationship between the research community and the wider research system.

In one article of the Annual Meeting of the New Champions (2018) published by the World Economic Forum (2020), it elucidates that establishing support systems is essential for promoting research culture, where Kelly Chaplin and David Price (2018), forwarded that: the culture in UK research establishments is one of the reasons the country is an attractive and productive place to undertake research. If you want excellent research, you need a positive research culture that supports all individuals involved. Alongside national policies and programmes, local policies and the attitudes and behaviour of staff at all levels influences this.

An important aspect of research culture is an organization's approach to research integrity – the formal and informal ethics, standards, protocols and policies researchers follow in their environment. Organizations are increasingly recognizing the importance of the role of research integrity.

Enhancing research culture doesn't require major effort and resources. Organizations across the UK and globally have made changes linked to integrity that have improved their research culture. These

range from simple approaches such as using informal communication channels to nurture a supportive environment, discussing successes and "failures", to embedding research integrity into the heart of institutional culture, requiring research leaders and senior administrators to lead by example.

Integrity in practice demonstrates that enhancing research culture and integrity does not always require major effort and resources. Simple improvements by individuals can make a positive difference to the research environment.

The Economic and Social Research Council (ESRC, 2020) advocates seven ideas that could help promote good research integrity, hence contribute to improving research culture.

Among these are:

1. Small steps can make a big difference. Facilitating open discussions can help foster a more collaborative environment, by giving researchers the chance to share their experiences of not only their successes, but also their "failures". This helps to build respect and trust within the research team, by talking openly and giving support when things don't always go right.

2. Establishing support systems can boost morale and enhance positive research. Providing and promoting career counseling, coaching and support services available to staff may help to reduce pressures within a research environment, which is imperative to staff well-being. This can help in limiting stress and time pressures, and connect researchers to other resources available at their institution, such as forms for deadline extensions, assistance programs, career services and mental health and well-being services.

3. Ensuring everyone is on the same page. Research teams could openly discuss, amend and build on existing guidelines and to develop a consensus on their collective and individual behaviors and attitudes. This could be used to develop a group standard or pledge, ensuring all team members are aware of what is expected in the research environment. This helps to enhance a positive culture by refining standards and "norms".

4. Research culture "cafes" are an excellent way to share best practice. It encourages researchers and support staff to find time and space to meet to share ideas and experiences. By involving other departments, institutions and sectors, discussions can focus on improving research integrity and culture, to share best practice on what has worked, what hasn't and its impact;

5. Organization, department and team leaders leading by example in promoting an excellent research culture. Often seen as "role models" to their early-career peers, organization, department and team leaders who are at the forefront of promoting a positive research culture – such as by taking part in training, encouraging discussions to address difficult questions in an open and honest way and by having an open-door policy – set a "norm" and redefine standards. Participants at the Royal Society's research culture workshops gave examples of leaders initiating small but impactful ways to set culture and improve morale in the workplace.

6. Discussing training gaps for all team members. Career progression is a key factor in retention and enhances not only the quality of research for the institution, but for the research community as a whole. Researchers can feel more valued if skills needs are reviewed individually and as a group, ensuring they all possess the necessary skills for their role, such as statistics, data-handling, proposal-writing and resource management, identifying gaps and offering courses for development. Software Carpentry developed such an initiative to increase the data literacy of university staff.

7. Embedding research culture at an institutional level. Highlight the importance of research culture and engage all staff across the organization by hosting a research culture and integrity day. Presentations, workshops and panel discussions could be given from across the organization.

Different departments could showcase the ways they have improved research culture and integrity, as well as addressing areas where there is still room for improvement. Research culture is pivotal to research excellence; we are at the beginning of a conversation round promoting this idea. The more research culture is talked about, the more progressive these discussions will become. In integrity in practice, the Royal Society and the UK Research Integrity Office showcase examples of initiatives led by organizations from across the world to inspire and encourage innovation in research culture.

Hinnenkamp, C et al. (2019), articulated that in an educational setting where research is undervalued and not rewarded, there is an enormous challenge to change research culture to become more productive, and hence stimulate its research productivity. Georgeta Ion and Diego Castro Ceacero (2017) stressed that universities must adapt to the challenges of social competitiveness and its new demands, but there is little evidence of how these changes are perceived by the academics. The results point to a clear change in the institutional mission that moves from an institutional model where teaching and research cohabitate together towards another where research activity intensifies. The manifestations of the new research culture are characterized by the quest for efficiency and competitiveness at all levels and bodies. It is also characterized as one that moves towards the scarcity of support measures for training, the confusion perceived between the political discourse and academic practice and the attempt to reposition the university in a social context, by redefining its role and fostering transfer activities.

Research commissioned by Elsevier Analytical Services for the British and Commonwealth Office cited by Narbarte and Balila (2018) highlighted research outputs of five South-East Asian countries wherein selected Philippines HEIs were seen to have low outputs and average or low impact in their most prolific areas. It revealed that the Philippines' call of talent in its research capability indicated the lowest in the group. Also, spending on research and development (R&D) is low compared to the ASEAN peer group. With these challenges, public and private HEIs in the Philippines are going an extra mile to improve their research capabilities to be at par with other HEIs in the ASEAN region.

Another study of Rasmussen (2015), revealed that interdisciplinary research is highly collaborative and growing wherein its success depends on discovery – on the ability of researchers to find collaborators and build networks. With millions of academicians globally, it can be challenging when a researcher is looking outside his/her own field in the corporate world for an expert to work with. Elsevier's e-Portal launched a new version of an analytical web-based tool that enables institutions to present their researchers, research output and grants publicly. Universities, corporations and other research-based institutions can customize their sites and choose what content they want to display – people, organizational units and publications. In addition to the data that is sourced from Scopus, institutions can also add grants and activities to researchers' profiles, any committees or peer review panels they belong to, or keynote speeches they have held. The information is accessible to the public, so other academics, institutions, funders and companies can locate the right experts to work with, or find out about the institution's research strengths.

Nair (2019) expounded that in Mauritius, investment in research is important, but a research culture needs attention and celebration to truly thrive. Developing a knowledge hub for the region means an investment in research. The need to develop a resilient research culture within and beyond borders of the academic community has led to great support from the government for research funding.

Leading universities in the world had developed a firm tradition of research. According to Salazar-Clemeña and Almonte-Acosta (2008) as cited by Dacles et al. (2016), universities in the developed world recognize research as an important part of their responsibilities. Faculty members of higher education institutions (HEIs) thus, have consistently evidenced research productivity together with other factors that contribute to the process. On the other hand, Sanyal and Varghese (2006) expressed that universities in the developing world have retained strong teaching functions but are weak or feeble research functions.

In recent times, especially among state universities and colleges, an added layer in the trinity or responsibility domain among HEIs is business and development. Research production must become a catharsis for entrepreneurial, agro-industrial, horticultural, fishery and agro forestry, technological and environmental development. This type of development embraces the concept of sustainability. As such, faculty members in higher educational institutions are required to become teachers, researchers, service-oriented professionals, technocrats or developers of innovative products or tools and scientists in their own fields.

Dacles, et al. (2016) disclosed that as teachers in higher education institutions, it is presumed that faculty members are aware of these layers of responsibilities. They should not only be precursors of knowledge but must in fact actively be involved in the generation of new knowledge. Research results are not only expected to enhance the teaching and learning process or institutional policies and practices but at the same time, encourage utilization of conducted researches in various fields to improve societal conditions or to help solve socio- economic problems. However, it is a sad reality that research productivity and its utilization particularly among universities in developing countries remain low, minimal if not inadequate. The foregoing statement has been affirmed in the studies of Bernardo (2003) and Salazar-Clemena and Almonte-Acosta (2006) who stated that the Philippines is not an exemption to this reality, thus, rendering the typology of HEIs in the country problematic.

Salazar-Clemena and Almonte-Acosta (2006) expressed that it is in the light of this reality that the Philippine Commission on Higher Education (CHED) has been zealously pushing for a stronger research orientation among the HEIs. The CHED National Higher Education Research Agenda (NHERA I and II) articulated goals of higher education research as well as mechanics and concrete steps for achieving these goals in various fields. CHED has likewise established 12 Zonal Research Centers (ZRC) in the country to further promote and encourage research in the 1,605 state colleges and universities and private HEIs throughout the country.

Despite the CHED initiatives, the current state of higher education research in the Philippines leaves much to be desired in terms of quantity, quality, thrusts, and contribution to national development (Salazar-Clemeña, 2006). There have been stories of successes and victories but these are meager in terms of the needs of the country.

Furthermore, the directives of the CHED and some accrediting agencies for quality assurance, the goal of empowering its faculty towards the development of a research culture, largely through its research units created in various HEIs remain to be saddled by a lot of challenges. While some have proposed excellent mechanisms for merit, rewards, recognition and ranking and promotion to assure a steady number of faculty members conducting research on a yearly basis, a big number of faculty members remain idle and complacent. Some other HEIs meanwhile, still do not have mechanisms in place to support faculty researchers.

Although some institutional policies in support of research particularly in local, regional, and international dissemination have brought the faculty in the vortex of local, national and international recognition, they are few and far between. Also, while a conservative number has been into publication, locally, nationally and internationally, efforts to sustain these remain vague and not discussed at the institutional or departmental levels. The CHED also enunciates that community extension services must be founded on research undertakings to ensure the quality and sustainability of needed community extension programs and services extended by the institution to target communities. Still, most community undertakings are characterized as dole-outs, with unclear mechanisms for sustainability and at best, dispersed, if not, characteristically unplanned.

Undeniably, while faculty discretion is exercised in the fourfold function of state universities and colleges' life, the question of compliance and personal commitment of faculty members in understanding the academic profession in higher institutions of learning must be thoroughly

reflected upon (individual factors). In the same manner the institution's leadership is a vital element in achieving the desired goal. Accordingly, individual HEI must assure that they build facilities for this purpose, craft mechanisms to support faculty researches and create a stronger research culture by networking or linkaging, collaboration and assure that there is a sustainable research fund for these efforts (institutional factors).

The foregoing statements are affirmed by literature and empirical data. For instance, individual factors that hinder research productivity among faculty members included time allocation (Angaiz, 2015; Kaya & Weber, 2003); not enough incentives (Hoffmann & Koufogiannakis, 2014); inadequate or lack of funds (Alghanim, & Alhamali, 2011); inadequate mentoring or skills capacitation (Stafford, 2011; Webber 2011); and lack of interest and lack of motivation (Kendagor, et al., 2012; Shin & Cummings, 2010).

Some institutional factors that serve as barriers to research creativity include lack of institutional research support (Hoffmann & Koufogiannakis, 2014); teaching loads (Webber, 2011; Alghanim, & Alhamali, 2011; Jung, 2012); lack of library resources (Hoffmann & Koufogiannakis, 2014); colleague collaboration in research productivity (Shin & Cummings, 2010); faculty preferences (Shin & Cummings, 2010); and facilities, materials and equipment (Kaya and Weber, 2003; Mamiseishvili & Rosser, 2011).

The foregoing studies have shown partial picture of the problems that serve as obstacle to research productivity but not the totality of the lifeway of the institution's research activities. This study is therefore, premised on the idea that by surfacing the status of the research lifeway or culture of an institution, particularly at the Nueva Vizcaya State University, additional relevant policy recommendations could be crafted as bases for decision making to deal with challenges pertaining to individual or institutional factors.

At the Nueva Vizcaya State University, research production and utilization are important component domains of Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP) accreditation. As the university gears up to maintaining quality assurance, the faculty members are encouraged to conduct researches in various fields with demonstrable institutional, local, regional, national and international significance. At the moment it is observed that the same groups of faculty members conduct researches. Studies conducted are mostly applied researches in agriculture or agro-forestry. Disciplinal and institutional policy-oriented studies are very minimal especially in the behavioral sciences. Enhancement on this aspect is therefore wanting. Hence, by determining the research lifeway of the institution through this study, relevant and proactive measures and mechanisms could be crafted as basis for decision making in research.

So while there were previous studies that focused on teaching and research nexus in exploring faculty functions, productivity, and university academic culture (e.g. Fairweather, 1999; Tierney, 1999; Layzell, 1999; Shanklin, 2001), few studies have been done to examine the research culture and the issues within certain educational contexts that advance or inhibit research productivity, particularly from the perspective of the faculty. This study was also premised on the belief that the development of a research culture should take into consideration the subtleties of the trifocal and or four-fold functions of HEIs, the researcher's mind, and the body of institutional policy in support of research. It was on the basis of this recommendation that this study was conceptualized and put forward for discernment among faculty members and administrators of the said locale.

MATERIALS AND METHODS

Research Design

This study utilized a combination of quantitative–qualitative research approaches using the techniques of survey and open-ended questions to gather information on the extent of contribution

of some presumed causative factors believed to influence the research lifeway of Nueva Vizcaya State University. It also compared the ten causative factors to find out which of these were considered to be the strengths and weaknesses of the institution relative to research. Furthermore, it determined the current practices or experiences by faculty researchers as well as some barriers to the promotion of positive research lifeway at the locale of this study. Based on the salient findings, internal policy recommendations were crafted to deal with the barriers experienced in order to promote a more positive research lifeway in the institution.

Research Locale

The Nueva Vizcaya State University is the research locale of the study. It is the result of the amalgamation of the Nueva Vizcaya State Institute of Technology (NVSIT) of Bayombong and the Nueva Vizcaya State Polytechnic College (NVSPC) of Bambang. The two schools are two state-run colleges in the province of Nueva Vizcaya. The NVSIT has a total area of 148.5 hectares situated at the foot of the scenic Bangan Hill in Bayombong, the capital town of the province and the NVSPC on the other hand, has an area of 14.21 hectares in Bambang, empowered by the Nueva Vizcaya Agricultural Trading (NVAT) center where local farmers sold their agricultural products that sustains and feeds various industries and people of the local, regional, inter-regional and national needs as agriculture-bowl-funnel of the province.

Research Respondents

The respondents of the study encompassed all full time, permanent faculty members, including administrators to gather a holistic picture of the real situation (research lifeway). Since it was presumed and explained in the rationale that faculty members in HEI are expected to conduct researches by virtue of the nature of an HEI, all of them were considered respondents of this study. Table 1 shows the distribution of the respondents per campus and designation. There are 147 school administrators managing the Nueva Vizcaya State University in both campuses. There are 98 and 137 full time faculty members in Bambang and Bayombong respectively for a total of 382 respondents. Both groups are expected to conduct worthwhile researches in their fields of specializations.

Table 1. Distribution of Respondents

Final respondents				
Designation	**Campus Assignment**		**Freq.**	**Percent**
	Bambang	Bayombong		
Administrators with or w/o Part Time Teaching	147		147	38.5
Teachers (Full Time)	98	137	235	61.5
Total			382	100.0

In the retrieval of survey questionnaires, a total of 353 out of 382 (92.4%) submitted their individual survey forms. Some 136 out of 147 (92.5%) surveys were retrieved from administrators with and w/o part time teaching, responses from about 88 faculty members out of 98 (89.8%) were retrieved from Bambang Campus and from 129 faculty members out of 137 (94.2%) were retrieved from Bayombong Campus.

Table 2 further presents some variables relating to additional profiles of the respondents such as sex, age, number of years of teaching, number of years as administrator (or as head) and highest educational attainment.

Table 2. Additional Profile of Respondents

Profile	Cluster	Frequency	Percent
	Male	190	53.8
Sex	Female	163	46.2

	Total	353	100
	21-36 years old	114	32.3
	37-46 years old	121	34.3
Age	47 and above years old	118	33.4
	Total	353	100
	Youngest – 21; Oldest – 68 Mean age -42.2; SD - 9.47889		
	1-10 years teaching	114	32.3
Number of Years in Teaching	11-15 years teaching	117	33.1
	16 and above	122	34.6
	Total	353	100
	Min. 1; Max. – 38; Mean – 14.8; SD - 8.52078		
	No experience	79	22.4
Number of Years as Administrator (or Head)	1-3 years of headship	105	29.7
	4-8 years of headship	112	31.7
	9 and above	57	16.1
	Total	353	100
	Min. – 1; Max. – 35; Mean – 6.6; SD - 6.73240		
	Baccalaureate Degree	65	18.4
Highest Educational Attainment	with Master	151	42.8
	With Doctorate	137	38.8
	Total	353	100

In terms of sex, there are 53.8% males and 46.2% female researchers included in this study. The youngest is 21 years old while the oldest is 68 years old. The mean age is 42.2. Of these, 32.3% are aged 21 to 36, 33.1% are aged 37 to 46 and 34.6% are aged 47 and above. In terms of number of years of teaching, the youngest has one year of experience while the oldest has 38 years of teaching experience. About 32.3 has one to ten years of experience, 33.1% 11-15 years of experience and 34.6% 16 and above years of experience. In terms of number of years as head, 22.4% have no experience, 29.7% with one to three years of experience, 31.7% have four to eight years while 16.1% have nine and above years of experience as administrator. As to highest educational attainment, 18.4% are baccalaureate degree holders, 42.8% with master's degrees and 38.8% finished doctorate degree programs.

Data Gathering Instrument

In gathering the needed data, the study utilized the following:

Causative Factors in Enhancing Institutional Research Lifeway Survey. This survey was patterned from the study of Dacles, et al. (2014). After getting the approval of the main author, this was modified to suit the context of the research locale. The modification is shown in Table 3. It consisted of four main parts namely: (a) Faculty Researchers' Demographic Profile which describes some personal, organizational and research demographic information about the faculty researchers; (b) Causative Factors Research Lifeway Checklist. Comprised of the original ten sub-clusters whose extent of presence in the institution may influence the research lifeway among faculty researchers, it included: (1) research capabilities; (2) research unit; (3) capability research programs; (4) financial reward

system; (5) infrastructure/equipment/ materials; (6) research funding; (7) institutional research policies; (8) working conditions; (9) utilization of research output; and (10) inter-institutional collaboration. Again, some items were modified or revised to suit the context of the locale. The revised tool was content-validated by two administrators at NVSU namely the Vice President for Research, Extension and Business for Development (REBD) and the Director of the REBD. Meanwhile, using the Cronbach Alpha Test, the reliability of the original research instrument was measured per domain

Table 3. Reliability Statistics of the of the Original Research Instrument

Reliability Statistics				
Sub-Clusters	**Cronbach's Alpha (Original Tool) N=50**	**N of Items (Original Tool)**	**Added Items forthe Revised Tool**	**Cronbach's Alpha (Revised Tool) N=25**
a. Research Capabilities	.937	13	The same	.888
b. Research Unit	.952	5	**5 items**	.802
c. Capability Research Program	.946	6	The same	.931
d. Financial Reward System	.933	4	**4 items**	.865
e. Infrastructure/Material/Equipment	.843	4	**1 item**	.914
f. Research Funding	.949	6	The same	.877
g. Research Policies	.938	6	The same	.946
h. Working Conditions	.900	5	The same	.865
i. Utilization of Research Output	.891	4	**1 item**	.880
j. Inter-Institutional Collaboration	.923	4	**1 item**	.775
Overall	**.979**	**57**	**69 items**	**.952**

The original reliability results in Dacles et al. (2014) yielded an overall reliability of .979, while the individual clusters also passed the acceptable rating of 0.700. Since, the tool was revised, it was floated to 25 faculty members (12 from Bambang and 13 from Bayombong Campuses respectively). Results of the overall internal reliability of the revised tool using the Cronbach Alpha test was .952, while the individual domains also passed the acceptable rating of .700. The revised tool therefore also had a high reliability.

Faculty Researchers' Experiences

This was the third part of the survey adopted from the original survey of Dacles, et al. (2014). It analyzed some faculty researchers' experiences in several research undertakings. Data information on this part yielded current faculty engagements in research. This was also modified to suit the context of the locale, especially on REBD's systems and procedures (No. 5 of part III).

Qualitative Part

This was the last part of the survey where some open-ended questions were asked to surface some barriers to research productivity among faculty researchers.

Data Gathering Procedures

In gathering the needed data, the following procedures were strictly undertaken:

Table 4. Phases of Data Gathering

Activities	Date	Venue	Person Involved
1. Finalization of chapter 1-3 based on comments of the members of the examining panel	March 2019	Researcher'sresidence	Researcher andAdviser
2. Finalization of the tool based on the comments of the examining panel	March 2019	Researcher'sresidence	Researcher andAdviser
3. Floating and retrieval ofsurvey questionnaire in Bambang and Bayombong	April to October 2019	NVSU Bambang and Bayombong, NuevaVizcaya	Researcher and Faculty Researchers
4. Recording, tabulating and coding of variables	November 2019	Researcher'sresidence	Researcher andAdviser
5. Analysis and interpretation of Data	December 2019 and January 2020	Researcher's residence, SMU	Statistician &Researcher
6. Writing of Chapter 4 and 5	February-March2020	Researcher'sresidence	Researcher andAdviser

Using the tabular diagram above, the important phases of the data gathering procedure is shown indicating the time schedules, activities, and persons involved which directed the researcher in completing the most difficult parts of the research groundwork.

Statistical Treatment of Data

Computation of frequency counts and percentages in describing the demographic profile of the faculty researchers, The means and standard deviations. These were used to determine the extent of contribution of and presence of some important causative factors in the institution that were essential in influencing the research lifeway based on the survey. The table below reflects the scale value, mean ranges and descriptive equivalence of the four- point scale used in this study.

Table 5. Mean Score Scale and Qualitative Description

Responses	**Mean_ Score Scale**	**Qualitative Description**
StronglyAgree	3.25- 4.00	Very Great Contribution/Very Great Presence in the Academe/Very Greatly Felt
Agree	2.50 - 3.24	Great Contribution/Great Presence in the Academe/Greatly Felt
Disagree	1.75-2.49	Moderate Contribution/Presence in the Academe Felt with moderate extent
StronglyDisagree	1.00 -1.74	Little Contribution/Presence in the Academe/ Felt with a little extent

Friedman Test. Due to the non-normality in the distribution of the respondents' perceptions of the dependent variables, the non-parametric Friedman test was used to determine the comparison across the ten causative factors.

Thematic Clustering and Ranking. The qualitative data gathered through the open- ended questions were openly coded, thematically clustered, ranked and explainedthrough the inductive reasoning technique to arrive at the most valid analyses and interpretations of the barriers experienced by researchers in enhancing the research lifeway of the institution; and the proposed policy recommendations were crafted based on the salient findings ofthis study.

RESULTS AND DISCUSSIONS

Extent of Contribution of the following Causative Factors in Enhancing the Research Lifeway of Nueva Vizcaya State University

Table 6. Overall Extent of Contribution of the following Specific Domains

Descriptive Statistics (N=353)			
Domains	**Mean**	**SD**	**QD**
1. Researchers' Capabilities	2.44	.32570	Moderate
2. Presence of Research, Extension and Business for Development Unit	2.62	.32525	Great
3. Research Capability Programs	2.76	.67844	Great
4. Financial Reward and Merit System	2.75	.58270	Great
5. Infrastructure/Equipment/Materials	2.53	.58801	Great
6. Research Funding	2.61	.59589	Great
7. Institutional Research Policies	2.65	.66772	Great
8. Working Conditions	2.53	.62807	Great
9. Utilization of Research Outputs	2.40	.56538	Moderate
10. Inter-Institutional Collaboration	2.50	.42322	Great
Overall	2.58	.39333	Great Contribution

It was previously presented that these first eight causative factors supported each otherin terms of how respondents viewed the foregoing domains as greatly contributing to enhancing the research lifeway of the institution.

Comparison in the Perceptions of the Faculty Researchers across the ten Causative Factors in enhancing the Research Lifeway of the Nueva Vizcaya State University

Table 7. Comparison Test in the Extent of Contribution across the Ten Causative Factors in Enhancing Research Lifeway

Descriptive Statistics (N=353), Ranks and Test Statistics								
Domains	**Mean**	**SD**	**QD**	**Mean Rank**	**Chi. Sq.**	**df**	**Sig.**	**Decision**
Researchers' Capabilities	2.43	.32570	Moderate	4.56	236.039	9	.0001	Rej. Ho
Presence of Research, Extension and Businessfor Development Unit	2.61	.32525	Great	5.60				
Research Capability Programs	2.76	.67844	Great	6.58				
Financial Reward andMerit System	2.75	.58270	Great	6.64				
Infrastructure/Equipment/ Materials	2.52	.58801	Great	5.10				
Research Funding	2.61	.59589	Great	5.80				
Institutional Research Policies	2.64	.66772	Great	6.19				

Working Conditions	2.52	.62807	Great	5.33				
Utilization of Research Outputs	2.40	.56538	Moderate	4.37				
Inter-Institutional Collaboration	2.50	.42322	Great	4.83				

Table 7 shows the results of the comparison test in the perceived extent of contribution of the 10 causative factors in enhancing the research lifeway of the institution. Because of the non-normality in the distribution of the respondents' perceptions of the dependent variables, the non-parametric tool using Friedman Test was used. It is evident that when compared across, the computed p value was at .0001, which indicates a significant difference across causative factors. The results mean that the respondents varied in their perceptions on the extent of contribution of the ten causative factors in enhancing the research lifeway of the institution.

Table 8. Sources of Variation in the Perceptions (Pairwise Comparison Test)

Pairwise Comparisons						
Measure: MEASURE_1						
(I) factor1	**(J) factor1**	**Mean Diff.(I-J)**	**Std. Error**	**Sig.[b]**	**95% Confidence Interval forDifference**	
					Lower Bound	**Upper Bound**
Researchers' Capabilities	Presence of Research, Extension and Business for Development Unit	-.180*	.029	.000	-.275	-.085
	Research Capability Programs	-.322*	.042	.000	-.461	-.183
	Financial Reward and Merit System	-.312*	.041	.000	-.446	-.179
	Infrastructure/Equipment/ Materials	-.087	.041	1.000	-.223	.048
	Research Funding	-.175*	.042	.002	-.314	-.036
	Institutional Research Policies	-.212*	.042	.000	-.349	-.074
	Working Conditions	-.090	.035	.439	-.204	.024
	Utilization of Research Outputs	.035	.035	1.000	-.081	.150
	Inter-Institutional Collaboration	-.064	.032	1.000	-.167	.040
Presence of Research, Extension andBusiness for Development Unit	Research Capability Programs	-.142*	.027	.000	-.231	-.053
	Financial Reward and Merit System	-.132*	.027	.000	-.220	-.044
	Infrastructure/Equipment/ Materials	.093*	.024	.006	.014	.171
	Research Funding	.005	.021	1.000	-.065	.076
	Institutional Research Policies	-.032	.029	1.000	-.128	.065
	Working Conditions	.090	.031	.183	-.012	.192
	Utilization of Research Outputs	.215*	.026	.000	.130	.300

	Inter-Institutional Collaboration	.116*	.015	.000	.068	.165
Research Capability Programs	Financial Reward and Merit System	.010	.037	1.000	-.113	.132
	Infrastructure/Equipment/ Materials	.235*	.028	.000	.143	.326
	Research Funding	.147*	.031	.000	.046	.249
	Institutional Research Policies	.110*	.026	.001	.026	.194
	Working Conditions	.232*	.025	.000	.150	.314
	Utilization of Research Outputs	.357*	.029	.000	.263	.451
	Inter-Institutional Collaboration	.259*	.030	.000	.160	.357
Financial Reward and Merit System	Infrastructure/Equipment/ Materials	.225*	.030	.000	.128	.322
	Research Funding	.137*	.033	.002	.029	.246
	Institutional Research Policies	.100	.039	.447	-.027	.228
	Working Conditions	.222*	.041	.000	.087	.357
	Utilization of Research Outputs	.347*	.034	.000	.235	.459
	Inter-Institutional Collaboration	.249*	.028	.000	.155	.342
Infrastructure/ Equipment/Materials	Research Funding	-.088*	.024	.012	-.166	-.009
	Institutional Research Policies	-.124*	.024	.000	-.205	-.044
	Working Conditions	-.003	.028	1.000	-.096	.090
	Utilization of Research Outputs	.122*	.023	.000	.047	.198
	Inter-Institutional Collaboration	.024	.026	1.000	-.060	.108
ResearchFunding	Institutional Research Policies	-.037	.029	1.000	-.131	.057
	Working Conditions	.085	.035	.723	-.030	.200
	Utilization of Research Outputs	.210*	.029	.000	.116	.304
	Inter-Institutional Collaboration	.111*	.020	.000	.045	.177
Institutional Research Policies	Working Conditions	.122*	.021	.000	.051	.192
	Utilization of Research Outputs	.247*	.028	.000	.154	.340
	Inter-Institutional Collaboration	.148*	.032	.000	.042	.255
Working Conditions	Utilization of Research Outputs	.125*	.025	.000	.044	.207
	Inter-Institutional Collaboration	.027	.033	1.000	-.082	.135

Utilization of Research Outputs	Inter-Institutional Collaboration	-.099*	.026	.008	-.184	-.013

For example, when the factor, research capabilities was compared with the presence of research, extension and Business for Development as lead unit (p value=.000); research capability programs (p value=.000); financial reward and merit system (p value=.000); Research Funding (p value=.002); and Institutional Research Policies (p value=.000), the computed p values were all less than .05 which indicate significant differences in the perceptions of the extent of contribution in enhancing the institution's research lifeway in these pairs.

In addition, when presence of research, extension and Business for Development Unit was compared with research capability programs (p value=.000); financial reward and merit system (p value=.000); infrastructure/equipment/materials (p value=.006); utilization of research outputs (p value=.000); inter-institutional collaboration (p value=.000), again the computed p values were all less than .05, which indicate significant differences in the perceptions of respondents in all these pairs.

When research capability programs was compared with infrastructure, equipment or materials (p value=.000); research funding (p value=.000); institutional research policies (p value=.001); working conditions (p value=.000); utilization of research outputs (p value=.000); and inter-institutional collaboration (p value=.000), the computed p values were all less than .05, which indicate significant differences in the perceptions of respondents in all these pairs.

Moreover, when financial reward and merit system were compared with infrastructure/equipment/materials (p value=.000); research funding (p value=.002); working conditions (p value=.000); utilization of research outputs (p value=.000); and inter- institutional collaboration (p value=.000), the computed p values were all less than .05, indicating significant differences in the perceptions of the respondents in all these pairs.

When infrastructure/equipment/materials was compared with research funding (p value=.012); institutional research policies (p value=.000); and utilization of research outputs (p value=.000), the computed p values were all less than .05, which indicate significant differences in the perceptions of respondents in all these pairs.

The same can be said with research funding when compared with utilization of research outputs (p value=.000); and inter-institutional collaboration (p value=.000), indicating significant differences in the perceptions of respondents in all these pairs.

In addition, when institutional research policies was compared with working conditions (p value=.000); utilization of research outputs (p value=.000); and inter- institutional collaboration (p value=.000), the computed p values were all less than .05, which indicate significant differences in the perceptions of respondents in all these pairs.

When working conditions was compared with utilization of research outputs (p value=.000), the computed p value was less than .05, indicating significant differences in the perceptions of respondents in all these pairs.

Lastly, when utilization of research outputs was compared with inter-institutional collaboration (p value=.008), the computed p value was less than .05, which indicate significant differences in the perceptions of respondents in all these pairs.

Thus, the results in all comparisons indicate that the respondents had varied perceptions on the extent of contribution of the ten domains as causative factors in enhancing the research lifeway of the institution.'

In the study of Dacles, et al. (2016), while the Friedman test also yielded a p value which was also less than .05, indicating an overall difference in the perceptions of the factors that help cultivate research culture in the academe, the ranking of factors were entirely different from the ranking of causative factors in this study. In the previous study, results of the pairwise comparisons specifically indicated the sources of variation in the perceptions of the faculty - respondents across the ten factors, giving more weight (or higher ratings) to some factors, while lesser (or lower ratings) in the other factors. In descending order, the top-five factors that greatly contributed to enhancing research culture included: (1) presence of a Research Unit; (2) financial reward and merit system; (3) researchers' expertise; (4) research capability programs; and (5) institutional research policies.

In the present study, the top-eight factors that greatly contribute to enhancing research culture in descending order include (1) research capability programs; (2) financial reward and merit system; (3) institutional research policies; (4) presence of Research, Extension and Business for Development as lead unit; (5) research funding; (6) infrastructure/equipment/materials tied with working conditions; (7) inter-institutional collaboration.

The results indicate that the perceptions on the extent of contribution of some factors presumed to enhance the research lifeway of an academe differed from school to school because each one had differing experiences and orientation.

Activities currently being Practiced or Experienced by Faculty Researchers at the Nueva Vizcaya State University

Among some research activities currently being practiced or experienced by the researchers are: (a) on types of researches conducted, they utilize mixed methods in various disciplinal studies; (b) on faculty researcher activities, they act either as a respondents of surveys or as subjects of experimental researches; (c) on faculty engagement, they are more into product development, mentoring activities and helping undergraduate students in their research activities; (d) on the impact of research in their lives, they believe that the activity developed their research skills and motivated them to pursue their graduate or postgraduate studies; and (e) on institutional research policies, they would like the institution to focus on financial assistance for local and international paper presentation, research incentive (financial) mechanism or package and on multidisciplinary research program.

Experiences on Barriers (Challenges, Difficulties or Problems) to the Promotion of a more Positive Research Lifeway in the Institution

Among some research activities currently being practiced or experienced by the researchers are: (a) on types of researches conducted, they utilize mixed methods in various disciplinal studies; (b) on faculty researcher activities, they act either as a respondents of surveys or as subjects of experimental researches; (c) on faculty engagement, they are more into product development, mentoring activities and helping undergraduate students in their research activities; (d) on the impact of research in their lives, they believe that the activity developed their research skills and motivated them to pursue their graduate or postgraduate studies; and (e) on institutional research policies, they would like the institution to focus on financial assistance for local and international paper presentation, research incentive (financial) mechanism or package and on multidisciplinary research program. Some experiences on barriers to the promotion of a more positive research lifeway in the institution included the following: (a) on researchers' capabilities, barriers included inadequate time to enhance researchers' capabilities due to teaching overloads, inadequate mentoring of faculty members to conduct researches and very few faculty members directly involved in research; (b) on the presence of RBED as lead unit, some barriers included inadequate institutional seminar-workshops and other research capability programs, complacency or indifference of faculty members and lack of equipment or materials to support research capability programs; (c) on research capability programs, barriers included inadequate mentoring and capacitation program, few faculty with expertise on research and

lack of time to mentor because of overloading; (d) on financial reward and merit system, institutional funds for research are inadequate, information dissemination on research funds are inadequate and outside funding are very few; (e) on infrastructure, equipment and materials, there is no data treatment center; licensed SPSS software is limited; and inadequate knowledge about how to treat data in relation to the specified research problems; (f) on research funding, research funds are inadequate; consultation about funding of researches is not enough and release of funds in tranches is not done timely; (g) on institutional research policies, knowledge of institutional research policies is inadequate; information dissemination of research policies is also inadequate; and RBED policies need to be updated with current trends in research; (h) on working conditions, there are too many teaching loads, multi-tasking roles and inadequate time to conduct researches; (i) on utilization of research outputs, there are very few research results being utilized; proponents lack enthusiasm to utilize research results, and lack of connection with industries or communities to utilize research results; and (j) on inter- institutional collaboration, there is inadequate partnership or linkages with other institutions of higher learning especially on research; there is lack of inter-agency or industry partner dialogues and limited MOA or MOU concluded for research collaboration.

Proposed Internal Policy Recommendations to deal with the Barriers Experienced in promoting a more positive research lifeway in the institution

Based on the findings, the ultimate goal was to propose internal policy recommendations, which could serve as bases for possible institutional policies and guidelines to deal with the barriers encountered in research in order to promote a positive research lifeway in the institution. Table 9 shows some suggested ideas and/or solutions vis-à-vis the domains and barriers experienced.

Table 9. Proposed Policy Recommendations vis-à-vis Barriers Encountered

Domains	Barriers	Policy Recommendations
1.Researchers' Capabilities	a) Inadequate time to enhance researchers' capabilities due to teaching overloads	A consideration for de-loading of teachers to give flexibility for research activities (18 units teachingloads and 6 units research loads)
	b) Inadequate mentoring of faculty members to conduct researches	Creation of a pool of senior faculty members who are experts in research can be given three unit of mentoring loads each. The three unit-mentoring load is converted to a regular teaching load (three hours per week). Thus, one senior expert can have at least three neophyte researchers under his or her wing or tutelage (15 units teaching load, six units research load and three-unit mentoring load).
	c) Very few faculty members are directly involved	Consideration for items **a** and **b** will solve the problem of very few research participation or involvement
2.The Research, Extension and Business for Development as lead unit	a) Inadequate institutional seminar-workshops and other research capability programs	Regular institutional seminar-workshops for faculty researchers from problem conceptualization to data analysis and interpretation and writing the research paper (At least three sessions per semester and should level up depending on the development of capabilities of participants).
	b) Complacency or indifference of faculty members	It must be instilled in the minds of teachers that in higher education institution, conduct of research isa must. The fourfold function must be carried out. Instruction, productivity, innovation and extension must be carried

		out. A stringent policy on this must be thoroughly monitored and evaluated for ranking and promotion.
	c) Lack of equipment or materials to support research capability programs	Creating concessions among IT industries for needed computers, installations of software with SPSS, library resources and treatment data center.
3.Researc Capability Programs	a) Inadequate mentoring and capacitation program	The deloading of senior faculty members withresearch expertise will solve this problem.
	b) Few faculty with expertise on research	When mentoring is enhanced and research capability program is sustained, this problem can beminimized.
	c) Lack of time to mentor because of overloading	Conversion of a three-unit regular teaching load into research load is a way to find time to mentor other faculty members.
4.Financial Reward and Merit System	a) Inadequate institutional funds for research	Budgetary requirements for research must be allocated. Creating linkages with agencies, industries and non-governmental organizations that support research in both applied and basic researches should be consistently done.
	b) Inadequate information dissemination on researchfunds	Information dissemination of research policies and funds be made available in both hard and soft copies for teachers, in bulletin board displays, school websites and other social media means can effectively reach out information to teachers.
	c) Very few outside funding	Departmental or unit-based efforts to find funding agencies for research must be encouraged.
5.Infrastructure /Equipment/ Materials	a) Absence of a Data Treatment Center	Creation of a data treatment center and training of apool of experts in SPSS can be done to train or helpteachers to treat their data.
	b) Limited SPSS Software to be used	A centralized use of SPSS software installed at the data treatment center can be done to limit and maintain cost effectiveness
	c) Inadequate knowledge about how to treat data in relation to the specified research problems	A pool of experts and continuing research capability building program will minimize this problem.
6.Research Funding	a) Inadequate research funds	Budgetary requirements for research must be allocated and departmental or unit-based efforts to find funding agencies for research must be encouraged.
	b) Not enough consultationon funding of researches	As a prelude to any research capability building program, information dissemination regarding available research funds can be articulated.
	c) Releasing of funds in tranches are not timely done	Since this is dependent on the sponsoring agency, industry or NGO, the institution can open up communications with them to inform them of the need for the tranches. Sometimes, release in tranches is also dependent on the prescribed requirement to be submitted by faculty researches to avail of the tranches.
	a) Inadequate knowledge on institutional research	Information dissemination of research policies should be made available in both hard and softcopies for teachers, in bulletin board displays, school websites and other

7.Institutional Research Policies	policies	social media means to effectively reach out information to teachers.
	b) Inadequate information dissemination of research policies	Same as above
	c) REBD policies need to be updated with current trends in research	REBD VP and Director should continuously update research policies to integrate provisions that reflect current trends.
8.Working Conditions	a) Too many teaching loads	Same as items **1a** and **1b**
	b) Multi-tasking roles	Same as items **1a** and **1b**
	c) Inadequate time to conduct researches	Same as items **1a** and **1b**
9.Utilization of Research Outputs	a) Very few research resultsare utilized	A seminar-workshop on research utilization should form part of the capability building program. Utilization aspect of research results must be made mandatory to measure the relevance of the conducted disciplinal, community-based or institutional policy-oriented studies.
	b) Lack of enthusiasm to utilize research results	Strengthening of this aspect is a must. Policies must be crafted to entice teachers to utilize research results. This must be constantly monitored.
	c) Lack of connection with industries or communities to utilize research results	Creation of linkages and partnership be made at the research conceptualization stages, whereidentification of agencies, industries or community groups which will be benefited become the point item agenda for utilization of research results.
10. Inter-Institutional Collaboration	a) Inadequate partnership or linkages with other institution of higher learning especially on research	The institution or college must look for linkagepartners not just for funding purposes but for research collaboration. This lessens needed financial, physical and human resources
	b) Lack of inter-agency or industry partner dialogues	When either collaboration or partnership is done, articulation of individual functions and tasks should be carried out.
	c) Lack of MOA or MOU for research collaboration	Partnerships must be sealed with memoranda of agreements or memoranda of understanding.

Each domain of the ten identified domains in the above table, complement each other. This means that the policy recommendations cut across domains. Inasmuch as these policy recommendations are products of the salient findings of this study, they are therefore strongly recommended as baseline information for the final institutional policies or guidelines that could be crafted to enhance the research lifeway of the institution.

CONCLUSION

Based on the findings of this study, the following conclusions are derived:

1. Some causative factors that promote research lifeway in Nueva Vizcaya State University are reliant on the conduct of a dynamic research capability building program, the presence of financial reward and merit system, proactive institutional research policies, a dynamic research lead unit, adequate research infrastructure, equipment or materials and enhanced research work conditions.

2. The researchers varied in their perceptions on the extent of contribution of the ten causative factors in enhancing the research lifeway of the institution.

3. Variations in the type of researches conducted, research activities, faculty engagements, determination of research impact and institutional research policies promote the research lifeway of the institution.

4. The faculty researchers experience multifaceted challenges or difficulties in the promotion of a dynamic research lifeway along the ten causative factors.

5. The proposed policy recommendations crafted in this study are seen as relevant in as much as these are rooted in the insights and experiences of faculty researchers of the institution.

RECOMMENDATIONS

In the light of the findings and conclusions derived in this study, the following recommendations are strongly advanced:

1. That the ten specified causative factors believed to influence the research lifeway of the institution be given importance in crafting and implementing institutional policies. Other factors may be explored in future replicate studies to determine their contribution such as determining relevance of research in curriculum development, extension and community outreach activities.

2. To create balance in the aforementioned causative factors, each domain be given equal importance, without each one dominating the other.

3. Trainings, seminar-workshops and other research capability building programs should be scheduled on a regular basis year in and year out to train faculty researchers in the conduct of institutional and disciplinal researches. Continuing faculty engagements such as exposures to research presentation and stronger utilization of researches conducted create a culture of research and utility values among researchers.

4. The barriers experienced by faculty researchers could be minimized, if not contained by crafting proactive research policies and strict implementation of the same through the strong guidance of the REBD and inter-institutional collaboration and linkage.

5. That the proposed policy recommendations crafted in this study be used as baseline information for the legislation of needed and relevant institutional policies and guidelines to promote the research lifeway of the institution.

REFERENCES

Alghanim, S., &Alhamali, R. (2011). Research productivity among faculty members at medicaland health schools in Saudi Arabia: Presence, obstacles, and associated factors. *Saudi Medical Journal, 32* (12) 1297-1303. Retrieved from https://www.ncbi.nlm.nih.gov/ pubmed/22159387.

Angaiz, D. (2015). *An investigation of teachers' education faculty research productivity in public sector universities of Pakistan*. (Unpublished doctoral dissertation) Dowling College, New York, USA. Retrieved from www.ccsenet.org/journal/index.php/ass/article/download/9138/6697.

Anijaobi-Idem, F. & Akuegwu (2012) Research culture and effective university management in South-South Zone of Nigeria. *Journal of Education and Practice*. www.iiste.org ISSN 2222-1735

(Paper) ISSN 2222-288X (Online) 3 (9)

Annual Report (2016). "Innovation, Collaboration and Success". Research and Development (R & D) Program. Nueva Vizcaya State University. Bayombong, Nueva Vizcaya.

Annual Report (2017). Research, Extension and Business for Development (REBD). Nueva Vizcaya State University. Bayombong, Nueva Vizcaya.

Annual Report (2018). Research, Extension and Training (RET) Program. Nueva Vizcaya State University. Bayombong, Nueva Vizcaya.

Annual Report (2019). Research, Extension and Training (RET) Program. Nueva Vizcaya State University. Bayombong, Nueva Vizcaya.

Dacles, D., Valtoribio, D., Del Rosario, F., Matias, C., & Saludarez, M. (2016). Cultivating research culture: An analysis of contributing factors, the institution's research initiatives and collaboration among the HEI's trifocal function. *American Journal of Educational Research*, *4* (6) 439-449. Retrieved from http//www.sciepub

Hinnenkamp, C., Correia, C., and Wilkinson, T. J. (2019). Creating a research culture on the way to AACSB accreditation. *Journal of Education for Business, 94* (3), 204-208. Retrieved May 20, 2020 from https://doi.org/10.1080/08832323.2018.15110362.

Hoffmann, K., Berg, S., & Koufogiannakis, D. (2014). Success in research: Factors that contribute to increased research productivity across librarianship and other disciplines.*Paper presented at the 42nd Annual Conference of CAIS, Canadian Association for Information Science,* Brock University - St. Cathartines, Ontario, May 28- 30, 2014. Retrieved from http://www.lirgjournal.org.uk/lir/ojs/index.php/lir/article/viewFile/ 639/659.

Jung, J. (2012). Faculty research productivity in Hong Kong across academic discipline.*Higher Education Studies*, *2* (4), 1-13. DOI:10.5539/hes.v2n4p1

Kaya, N., & Weber, M. (2003). Faculty research productivity: Gender and discipline differences*. Journal of Family and Consumer Sciences, 95* (4) 46-52.

Kendagor, S., Kosgei, D, Tuitoek, D., & Chelangat, S. (2012). Factors affecting research productivity in public universities of Kenya: The case of Moi University, Eldoret. *Journal of Emerging Trends in Economics and Management Sciences*, *3* (5) 475-484. Retrieved from http://jetems.scholarlinkresearch.com/articles/Factors%20Affecting%20Research.pdf.

Mamiseishvili, K., & Rosser, V. (2011). Examining the relationship between facultyproductivity and job satisfaction. *Journal of the Professoriate*, 5 (2) 100-132.

Narbarte, M. P. (2018). Research Involvement, motivation, and university initiatives as agentsfor enhancing research culture and quality. *Human Behavior, Development and Society, 17*, 68-78.

Narbarte, M. P., Balila, J. S., & Lopez, G. J. (2018, October). Internationalization in higher education institutions in the Asian countries: Towards a framework. In *Abstract Proceedings International Scholars Conference* (Vol. 6, No. 1, pp. 214-214).

Ramsden, P. (2001). Strategic management of teaching and learning. In C. Rust (ed.) *Improving Student Learning Strategically*, pp. 1–10. Oxford: OCSLD.

Robbins, S. P., Millett, B., Cacioppe, R., & Waters-Marsh, T. (2001). *Organizational behaviour: Leading and managing in Australia and New Zealand.* Frenchs Forest. New South Wales, Australia: Pearson Education.

Royal Society (2020). Research culture. Retrieved May 19, 2020 from https://royalsociety.org/topics-policy/projects/research-culture/

Salazar-Clemeña, R. (2006). Higher education research in the Philippines: Policies, practices, and problems. Meek, V. L. & Suwanwela, C. (eds.) *Higher Education Research and Knowledge in the Asia Pacific Region* (pp. 185-200). New York: Palgrave Macmillan.

Salazar-Clemeña, R., & Almonte-Acosta, S. (2008). *Developing research culture in Philippine higher education institutions: Perspectives of university faculty*. Manila: DeLa Salle University,

Shin, J., & Cummings, W. (2010). Multi-level analysis of academic publishing across discipline: Research performance, collaboration, and time on research. *Scientometrics*,*85* (2), 582-594.

Stafford, M. (2011). Faculty research productivity at Addis Ababa University. (Unpublished M.A Dissertation). University of Northern Texas, USA. Retrieved from *http://digital. library.unt.edu*/ark:/67531/metadc67945/m2/1/high_res_d/dissertation.pdf.

Webber, K. (2011). Factors related to faculty research productivity and implications for academic planners, *Planning for Higher Education*, *39* (4) 32-43.