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Conditions Surrounding Publication Performance of Faculty Members of Two Selected Higher Education Institutions In Eastern Visayas, Philippines

Niño Antonio P. Villalino and Editha G. Cagasan

Department of Development and Communication
Visayas State University, Baybay City, Leyte, 6521-A Philippines

ABSTRACT

In the Philippines, only a small percentage of research is published in scientific publications. This study aimed to find out the conditions surrounding publication performance of faculty members in universities in Eastern Visayas. Data were gathered through in-depth interviews from 16 respondents with high publication performance (HPP) and low publication performance (LPP) and through analysis of secondary data. Using the grounded theory approach, a theoretical model was generated. Results showed that the conditions leading to HPP were: (1) favorable research environment characterized by low workload in instruction, availability of funding support and research facilities, access to research mentors, and availability of publication incentives; (2) exposure to research during graduate and undergraduate studies; (3) strong peer influence; (4) positive attitude towards publication of research results; and (5) beliefs in the positive consequences of publishing. On the other hand, the conditions leading to LPP were: (1) unfavorable research environment characterized by high workload for instruction, lack of funding support and research facilities, and lack of access to research mentor; (2) academic background not research-oriented; (3) low level of peer influence; (4) negative attitude towards publishing research results; and (5) availability of other options to disseminate research results. Research findings imply that if given a favorable research environment, faculty members can be productive in research and publishing of research results.

Keywords: Scientific publication, research environment, peer-reviewed publications, HEI

Correspondence: E. G. Cagasan *Address:* Department of Development Communication, Visayas State University (VSU), Visca, Baybay City, Leyte 6521-A Philippines. *E-mail*: edithcagasan@yahoo.com. *Tel. No.* (053) 335-2650.
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INTRODUCTION

The quality of research outputs disseminated by researchers is one of the factors that affect a country's development (Suarez and Lacanilao, 2010). This was also highlighted by Kearney (2009) who said that generated scientific knowledge should be applied in real life situations, thus it would be a tool for development. Therefore, a research process should not end up to the gathering and interpretation of data only; it should span until results, whether positive or negative, is made known to the public through scientific publication. It is therefore a must that researchers share their findings to the public through publication so that these can be used for decision-making and policy implementation. Vinluan (2012) suggested that the most acceptable way to disseminate research findings is through scientific paper in peer-reviewed publications.

In the Philippines, however, only a small fraction of the research outputs are published as scientific papers (Suarez and Lacanilao, 2010). In fact, the Philippines lag behind its Southeast Asian neighbors in terms of research publication. According to Bagarinao (n.d., as cited by Lacanilao, 2009), in 1980, the Philippines lagged behind Thailand and Malaysia but ahead of Indonesia and Vietnam in the number of research publications. However, Indonesia overtook the Philippines in the mid 1990s; Vietnam did so in the mid 2000s. This is discouraging because this could make our country less visible in the research map compared to our neighboring countries. Also, it can be an indication that only a few research outputs of the Philippine researchers are made accessible to intended users.

In Eastern Visayas, some faculty members in universities have published research articles in journals and publications indexed by the Thomson-Reuters Institute for Scientific Information (ISI) but many have not. Based on the data from the Commission on Higher Education-Zonal Research Center (CHED-ZRC) in Region 8, the number of publications in peer-reviewed journals rose from 34 in 2006 to 41 in 2007. It dropped to 38 in 2008, then to 24 and 20 in both 2009 and 2010. This low publication performance among faculty members of higher education institutions (HEIs) in the country is among the reasons why only three universities made it to the 2010 Top 200 Asian Universities (Quacquarelli Symonds Ltd., 2010).

In the Philippine context, there is no clear explanation yet why researchers do not publish research results. Also, there is no visual model yet that can identify and explain the conditions surrounding the publication performance of faculty members of HEIs in the Philippines, specifically in Eastern Visayas. This study aimed to fill in this gap and generate a theoretical model to answer the research question: Why is it that some researchers publish their research

results while others do not? This study is important because findings can serve as basis for academes and funding agencies to strengthen their policies on improving faculty members' publication performance.

RESEARCH METHOD

Research Design

This study followed the grounded theory approach. According to Bitsch (2005), a grounded theory project usually does not begin with a theory from which the hypotheses are deducted. It starts with a research question, and what is applicable to this question is allowed to emerge during the research process. Glaser (2004) emphasized that in grounded theory studies, "the data are not forced to fit into the theory"; rather the theory is inferred from the data. He further explained that grounded theory is developed by collecting scientific facts, constantly verifying it during the data gathering period, and modifying the concepts and relationships to attain its fit, relevance, and workability.

Following the grounded study design, this study was conducted in the main campuses of two research universities in Eastern Visayas.

Entry to the Universities

Prior to the conduct of the study, the researchers sought endorsement from the director of CHED-ZRC Region 8. The endorsement letter was attached to the researchers' letter addressed to the presidents of the two universities. Upon approval by the university presidents, the official roster of faculty members of the research universities was secured from the Human Resources Development Office of each university. The list was matched with the data from CHED-ZRC Region 8 on the number of publications per faculty of the HEIs from 2006 to 2010.

Selection of Respondents

Respondents for this study were faculty members of the two universities. They were chosen through purposive sampling. Based on their publication, respondents were classified as high publication performance (HPP) and low publication performance (LPP) groups. In determining the respondent groups (HPP and LPP), only the number of publications in peer-reviewed journals and books for the period 2006 to 2010 was used as basis. The HPP group was composed of faculty members who had published at least 5 books or scientific articles in ISI-indexed or Scopus-listed or CHED-identified Class

A Journals in the last five years. On the other hand, the LPP group was composed of faculty members with less than 5 publications or none at all in ISI-indexed or Scopus-listed or CHED-identified Class A Journals in the last 5 years.

Sample size was determined using the theoretical sampling procedure. In this sampling procedure, the number of respondents was not pre-determined. Data gathering continued until data reached the saturation point, that is, the stage wherein further observations and interviews add little or nothing to the codes identified by the researcher (Vincze, 2010).

Data Gathering Procedure

Data on conditions surrounding faculty member's publication performance were gathered through in-depth interview with the selected respondents. Before the interviews, the respondents were asked to fill in a questionnaire to determine their publication performance. They were also briefed on the nature and scope of the study, and requested to sign the informed consent for human subject form. After these, an interview was scheduled. Because there were respondents who could not participate in the personal in-depth interview, some interviews were conducted through exchanges of e-mails between the respondents and the researchers, or through a video conference in Skype. An interview guide with open-ended questions was used during the interview. With the respondents' consent, interviews were recorded using a digital recorder.

Secondary data from documents taken from the two universities were also analyzed to determine the research environment and research culture of the two sample HEIs. These documents included: 1) memoranda relative to research in the two universities; 2) Board of Regents resolution approving publication incentives; 3) records of fund allocation for research of each university in the last five years; 4) documents approving the establishment of research centers in the university; 5) annual reports; and 6) research manuals of the two universities.

Data Analysis

Data gathering and analysis applied the constant comparative method (Glaser and Holton, 2004). After each interview, the recorded discussion was transcribed verbatim and encoded in written documents to facilitate data analysis. To analyze interview transcripts, the grounded theory analysis recommended by Creswell (1998) was used. This involved the following steps:

1. *Open Coding* – the whole interview transcript was read. To identify the codes and their properties, the texts were fragmented in Microsoft Onenote. All the identified codes and their properties were written in the code note.
2. *Axial Coding* – codes which were mutually exclusive were grouped together by the researchers. These codes were given appropriate headings based on their properties. The factors surrounding publication performance and the consequences of publishing and not publishing were then identified.
3. *Selective Coding* – the conditions leading to HPP as well as the consequences of the phenomenon were identified, as were the conditions leading to LPP and the consequences of the phenomenon. The storyline was made and the emergent theory was plotted in a form of diagram.

While data gathering and analysis were going on, the researchers maintained an audit trail (diary) to describe observations and reflections during the interview. Drawing on Chiovitti and Piran (2003), audit trails are made so other researchers could follow the same procedure. Furthermore, the researchers kept memos (theoretical notes) about the data and on the conceptual connection between the categories identified (Glaser and Holton, 2004). These memos were written on sticky notes and later transferred to the audit trail so that it would not be easily misplaced.

The quantitative data on the number of publications of the respondents, respondent's affiliation to scientific organizations, and background information (age, sex, educational attainment, and awards received in the last five years -- i.e., 2006-2010) were analyzed using descriptive statistics including frequency counts, percentages and means.

To rate the respondents' and universities' publication performance, the Research Performance Indicators (RPI) weighting scale used by Wassenaar (2006) was followed: 5 points for books; 1 point for edited book; 2 points for new edition/revision of a book; 2 points for articles in peer-reviewed journals; and 1 point for other publications. In case of multiple authorships, the respondent's points were distributed evenly by dividing the points to the number of authors. The average publication performance per year of the respondents was determined using the following formula:

$$APPRY = \frac{(Y_1 + Y_2 + Y_3 + Y_4 + Y_5) + TC}{5}$$

Where:

APPRY = The average publication performance per respondent per year
Y = Research Performance Indicator (RPI) weight scale per year from 2006 to 2010
TC = The total number of citations the publications received from the date it was published (2006) up to 2010

On the other hand, the average publication performance of the university per year was computed using the formula:

$$APPU = \frac{(X_1 + X_2 + X_3 + X_4 + X_5) + TC}{5}$$

Where:

APPU = Average publication performance of the university per year
X = Research Performance Indicator (RPI) weight scale of the university per year from 2006 to 2010
TC = Total number of citations the publications received from the date these were published (2006) up to 2010

Data on total number of citations were taken from CHED-ZRC Region 8 which was in turn based on the report from Reuter-Thomson ISI and Scopus.

RESULTS AND DISCUSSION

Respondent's Socio-demographic Profile

Of the 16 respondents for this study, 5 belonged to the HPP group and 11 to the LPP group. All HPP respondents were from University 1 because no faculty from University 2 was able to satisfy the minimum requirement of the HPP category—that is, at least five publications in refereed journals or books in the last five years. In the LPP group, 5 respondents were from University 1 and 6, from University 2.

Based on the age classification of the National Economic Development Authority (NEDA), 6 of the 16 respondents were middle aged (22-45), 9 were old (46-60), and the remaining one respondent was a senior citizen. Seven respondents were males, and 9 were females. Fourteen of the respondents were married. On the other hand, 11 of the 16 respondents had doctorate

degrees. Of the 5 respondents in the HPP group, 3 were associate professors, while 6 out of the 11 respondents in the LPP group were assistant professors. One respondent in the HPP group had a rank of University Professor, the highest academic rank in a university (Table 1).

Table 1. Sociodemographic profile of the respondents

Variable	HPP Group (n=5)	LPP Group (n=11)
Age		
Middle Age (22 to 45 years old)	3	3
Old (46 to 59 years old)	1	8
Senior Citizen (60 years old above)	1	0
TOTAL	5	11
Sex		
Male	2	5
Female	3	6
TOTAL	5	11
Civil Status		
Single	1	1
Married	4	10
TOTAL	5	11
Highest Educational Attainment		
Master's degree	1	4
Doctorate degree	4	7
TOTAL	5	11
Academic Position		
Instructor	1	0
Assistant professor	0	6
Associate professor	3	2
Professor	0	3
University professor	1	0
TOTAL	5	11
Research awards*		
Local	4	0
Regional	2	2
National	2	0
International	3	0
Affiliation to scientific organization*		
Local organization	1	0
National organization	2	0
International organization	3	1

**Multiple response*

Publication Performance of Respondents and the Sample Universities

Research Performance Indicator was used to determine the average publication performance (APP) of both the respondents and the sample universities. High rating means more publications and citations received over the five-year period.

In the HPP group, the highest computed APP (3.214) was that of respondent 3. All the other HPP respondents except for respondent 1 had a computed APP of more than one (Table 2).

Table 2. Computed average publication performance rating of respondents in the HPP group

HPP Respondent Number	Number Of Publications (2006 To 2010)	Sum Of Research Publication Indicator (RPI) For The 5-Year Period	Total Citations (Including Self Citation)	Average Publication Performance (APP) Per Year
1	5	2.67	0	0.534
2	9	9.84	0	1.968
3	10	12.07	4	3.214
4	9	7.12	0	1.424
5	5	8.62	1	1.924

For the LPP group, only one of the 11 respondents (respondent 1) had publications in ISI-indexed/Scopus-listed/CHED Class A Journal. He was able to publish two articles (single authorship) from 2006 to 2010, so he got a total of four (4) RPI points. However, based on the data from CHED-ZRC, his works received no citations. Therefore, he got an APP of 0.8.

Two respondents from the LPP group also reported to have publications, but the journals they were referring to were only institutional and not identified by CHED as Category A. The remaining eight LPP respondents reported to have no publication. These data were verified by comparing them with the data obtained from CHED-ZRC.

The average publication performance (APP) per year of each sample university was also computed. Results (Table 3) showed that University 1 had higher APP than University 2. This is because during the period considered in this study, University 1 had a total of 151 published research outputs which earned 84 citations. In University 2, there were only two research outputs published in peer-reviewed journals, and these published articles did not receive any citation.

Table 3. Average publication performance rating per year of the two sample universities

Variables	University 1	University 2
Total RPI Weight	294	4
Total Citations	84	0
Average Publication Performance	75.6	0.8

Research Environment

Table 4 shows that University 1 had higher research fund allocation than University 2. In the last 5 years, University 1 allocated a total of Php37 million for research and extension projects, while University 2 allocated only Php3 million. This disparity was also seen in terms of the number of research funding agencies investing in the universities' research and extension (R&E) projects. The number of funding agencies in University 1 ranged from 19 to 21 in the last 5 years, while University 2 had only 9 from 2006 to 2008, 12 in 2009 and 11 in 2010. There was also a wide disparity in the number of research awards received by the HEIs' faculty members. University 1 had 6 international research awards, 51 national, 60 regional, and 39 local awards, while University 2 had only 1 national research award, and 4 regional awards.

Table 4. Funds allocated for research from their higher education budget by the two sample universities (in Philippine peso)

Year	University 1	University 2
2006	9,223,886.00	600,000.00
2007	7,653,037.00	600,000.00
2008	3,702,467.00	600,000.00
2009	8,573,000.00	600,000.00
2010	7,980,000.00	600,000.00
TOTAL	37,132,390.00	3,000,000.00

Research Culture

A review of the history of the two universities revealed that University 1 had been implementing research projects since the 1960s. Thus, it has longer research experience than University 2 which started research activities only in 2004. Recently, however, both universities have a vice-president in charge of their research and extension office. Each university had a committee tasked to review research proposals and the ones that passed the criteria for evaluation

and guidelines are endorsed to the university president. The President in return reviewed and approved the proposal for funding by the university or endorsed the proposal to an external funding agency. To monitor and evaluate research projects, both HEIs held annual in-house research and development (R&D) reviews. University 1 also required faculty members to submit progress reports and to participate in R&D reviews, seminar series, symposia, and other related fora and consultations. Aside from the in-house review, Universities 1 and 2 monitor research projects by requiring the researchers to submit progress reports.

Conditions Surrounding Publication Performance

After analyzing the interview transcripts and the documents pertaining to the sample universities' research environment and culture, this study was able to generate a theoretical model (Fig. 1) showing the conditions that surround the publication performance of faculty-members. The model presents 4 general factors that influence publication performance, the conditions leading to HPP, the conditions leading to LPP, and the consequences of having high and low publication performance.

Conditions leading to high publication performance

Thematic analysis of the interview transcripts of respondents from the HPP group revealed 5 conditions leading to HPP. These include: 1) favorable research environment, 2) peer influence to publish, 3) belief in the positive consequences of publishing, 4) positive attitude towards the rigors in publishing research results, 5) exposure to research during undergraduate and/or graduate education (Table 5).

Favorable research environment.

Based on the respondents' accounts, favorable research environment can be described as having (1) low workload in instruction and administration; (2) available funding support for research; (3) available research facilities which enable faculty researchers to conduct research and generate publishable research outputs; (4) access to research mentors; and (5) availability of publication incentive.

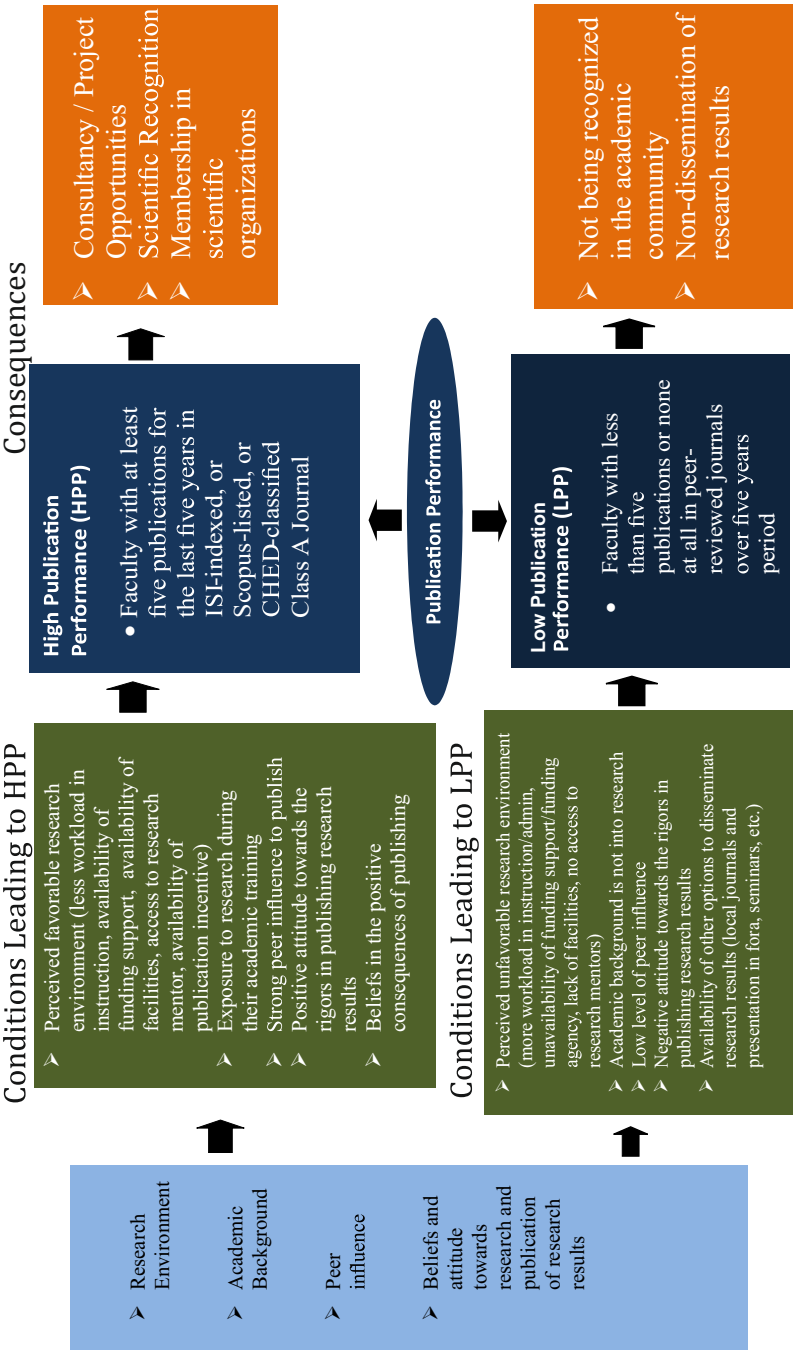

Figure 1. Theoretical model on the conditions surrounding publication performance of faculty members

Table 5. Summary of the conditions leading to HPP of faculty members

Conditions Leading To HPP		Description
Themes	Sub-Themes	
Perceived favorable research environment	Less workload in instruction	Four respondents reported low workload in instruction, thus they were able to focus on conducting research and writing papers for publication.
	Availability of funding support for research	Respondents with connection to big funding agencies had large funds to conduct research. One respondent said it is stipulated in the memorandum of agreement with the funding agency that they would be given research funds, but they had to include research publication as among the deliverables.
	Availability of research facilities	Two respondents said that since they have adequate funds for research, they could buy the needed equipment, so they were able to conduct quality research and produce good data for publication.
	Access to research mentors	Three respondents revealed that access to research mentors (through their scientific organizations, research partners or office peers) enabled them to make clarification related to their research.
	Availability of publication incentives	Two respondents revealed that they were motivated to publish because of the publication incentive offered by their university.
Exposure to research during undergraduate and graduate studies		Three respondents said that their exposure to research during their undergraduate and graduate studies helped them in conducting research projects and influenced them to publish their research results.
Strong peer influence to publish		Three of the respondents explained that they strived hard to publish their research outputs in peer-reviewed journals because they felt pressured by their peers in their scientific organization, their mentors in the department, and their colleagues.
Belief in the positive consequences of publishing	Promotion in the university	Three of the HPP-respondents said that publication is important for their promotion. Since each publication is given credit in the NBC 461 evaluation, the respondents said they were encouraged to publish so they could rise up the academic rank.
	Good reputation in the scientific community	Three of the HPP-respondents said that aside from the desire to get promotion, they also want to establish a name in the scientific community. Since only peer-reviewed journals are accepted in the international scientific community, they do their best to publish their outputs in peer-reviewed journals, so that the international scientific community will know about their

All of the respondents in the HPP group agreed that doing research requires much time, so their low workload in instruction allowed them to conduct research and to publish their research outputs. According to one of the respondents:

> *"...It is really hard to serve as a project leader when you have high workload in teaching. What I did, I talked with the department head, and the department head agreed that I be given less teaching load. Because of that I was able to focus on research. And you know, you have better chances or opportunities to publish if you are heavily loaded in research rather than in teaching..."(HPP-respondent 2)*

HPP-respondent 2 also described how his low workload in instruction gave him the opportunity to conduct research and to publish the results of his research. According to him:

> *If teaching is your priority, you could not expect that you can publish because what are you going to publish if you have no research? If you are into research, then you have great opportunity to publish because you have the primary data to use for publication. I was fortunate that I was given a low load in instruction and was able to focus more on research, that's why my assignment was favorable and it did not hinder me from publishing; it even helped me. (HPP respondent 2)*

The above result supports the findings of Hancock et al. (1992) that faculty members with HPP spend 32 percent less time in teaching and other teaching-related activities.

Availability of research funds also encouraged faculty members to conduct research and to publish their research outputs. According to HPP-respondent 2, he was lucky to be part of a large research project with funding from an Australian agency because he was able to conduct research and consequently had many publications.

Other HPP respondents also revealed that the availability of funding support for research helped them to avail of the needed research facilities. HPP-respondent 2, for instance, said that because of his large funds for research, he was able to purchase needed equipment, thus he was able to conduct research that produced papers published in peer-reviewed journals. According to him:

If you have the needed funding support, you can collect quality data, purchase good equipment that you can use in your research, so you can come up with a paper for publication in good journals. (HPP-respondent 2)

This finding supports the results of the study of Hadjinicola and Soteriou (2005) which revealed that funding received from external sources by the professors increased the number and even the quality of their research articles.

Three of the 5 HPP respondents also affirmed that their early mentors shaped their consciousness to publish. According to HPP-respondent 3, he learned the passion for publication from his supervisors. He said:

"Whenever I have something to clarify, I ran to them and discuss the matter. Then, as time goes by, I learned to handle it on my own. From them I learned a lot in conducting and publishing research" (HPP-respondent 3).

The same was true with HPP-respondent 1 who said that because her professors who became her supervisors trained her well, the research lifestyle became imbedded within her. According to her:

"I am very blessed that I belong to the department where research has been part of the faculty members' culture through the years. The faculty members have made research their lifestyle. Even when I was a rookie at the [name of the department] *I felt that my professors in college who eventually became my superiors trained me well, so that slowly and surely I learned to imbibe their passion for research." (HPP-respondent 1).*

Three of the HPP respondents also said that the monetary incentives they could receive because of their publications encouraged them to publish their research results. According to HPP-respondent 4:

One of the factors that encouraged me to publish is the publication incentives being offered now by the University (HPP-respondent 4).

Peer-influence, exposure to research and positive attitude.

It was found that those faculty members who were affiliated to scientific organizations, or those who belonged to academic units with senior faculty members who could serve as research mentors, were able to publish in refereed journals because of peer influence. Also, faculty members with research backgrounds in their undergraduate and graduate studies, and those who believed in the positive consequences of publishing, were able to publish scientific papers in refereed journals. Those who had positive attitudes towards publication of research results were not easily discouraged by the rigors in publishing.

Consequences of high publication performance

HPP had positive consequences which include: (1) the faculty member having consultancy or large project opportunities, and (2) recognition in the scientific community. Because of their publication in peer-reviewed journals, the faculty members were able to obtain consultancy and large project opportunities. They were also recognized in the scientific community as their merit as a scientist is judged by the international community based on the publications in peer-reviewed journal.

Based on the aforementioned conditions, it is plausible to argue that faculty members are more likely to be able to conduct research and publish scientific papers in refereed journals if they are provided with a favorable research environment and are strongly influenced by their peers in their scientific organizations. Also, they are more likely to conduct research and publish research outputs if they have research partners in the department, have been exposed to research during their undergraduate and graduate studies, have positive attitude towards publication of research results, and if they believe in the positive consequences of publishing.

Conditions leading to low publication performance

The model (Fig. 1) also shows that there were 4 conditions leading to LPP of the faculty members in the 2 sample universities. These include (1) unfavorable research environment, (2) no exposure to research during their undergraduate and graduate studies, (3) low level of peer influence, and (4) negative attitude towards the rigors in publishing research results (Table 6).

Unfavorable research environment in this model is defined as having high workload in instruction and administration, lack of funding support for research, lack of research facilities, and lack of access to research mentors. Faculty members who had high workload in instruction and/or administration had no time to conceptualize and conduct research and to publish papers in refereed journals. Also, those faculty members who lacked funding support and research facilities were less likely to be able to conduct high quality research and generate data that could be published in journals of high standing. Moreover, faculty members who had no access to experts or senior researchers who could guide them in their research endeavors were not able to implement research studies and publish papers in scientific journals. The model also shows that faculty members who were not members of professional and scientific organizations had low level of peer influence to publish, thus were not encouraged to write papers for publication in refereed journals. Also, faculty researchers who considered publishing as rigorous were less motivated to write papers for publication in scientific journals.

LPP led to undesirable consequences which include: the faculty not being recognized in the scientific community, and non-dissemination of research results.

Table 6. Summary of the conditions leading to LPP of faculty members in the two sample universities

Conditions Leading To Low Publication Performance		Description
Themes	Sub-Themes	
Unfavorable research environment	High workload in instruction	Ten respondents revealed that their high workload in instruction deprived them of the time to write research papers for publication in referred journals.
	Unavailability of funding support and lack of access to funding agencies	Though respondents reported that the sample universities were supportive in terms of research funding, one respondent revealed that he has no access to national or international funding agencies so he could not conduct large research projects.
	Lack of facilities	Six respondents said that they were not able to conduct high quality research for publication because they lack the facilities, especially in the bio-physical sciences.
	Absence of research mentor	Four respondents said that they have no access to research mentors. Whenever they need clarification related to their study, they could not ask anyone in their department especially if there are only few of them conducting research.
Academic training was not research-oriented		Some of the LPP-respondents revealed that their undergraduate and graduate degrees were not research-oriented, so they were not trained to conduct research. Thus, they found it difficult to undertake research and to write papers for publication.
Low level of peer influence		Four respondents said that no one encouraged or influenced them to submit their research outputs for publication in peer-reviewed journals. One respondent said that their university president has encouraged them to publish, but only in their local journal.
Negative attitude towards the rigors in scientific publishing		According to some LPP-respondents, they felt disgusted upon seeing so many comments on their paper, which is why they set it aside and concentrated on other priorities. They also said the rigors in publishing discouraged them from submitting papers to peer-reviewed journals.
Availability of other options to disseminate research results		Because the faculty researchers found publishing in referred journals difficult, they opted to disseminate research results through conferences, training events, and seminars. Some published in local journals which are not peer-reviewed and so does not require the rigorous review process.

IMPLICATIONS AND RECOMMENDATIONS

The research findings imply that given a favorable research environment, faculty members can be productive in research and publication. If the administration desires high publication performance among faculty members, it should review their faculty's teaching workload. The university administrators should devise policies so that faculty researchers can conduct research while also attending to their teaching responsibilities. They should also design training programs to enhance the capabilities of their faculty members to conceptualize and implement research and extension projects. Moreover, the university should foster strong linkages with other HEIs and funding agencies so the faculty members can have more access to research funding. Linkages with funding agencies will also help in upgrading research facilities and facilitating staff development.

Designing research and writing research articles for peer-reviewed publications have proven easier for respondents with experience in writing theses. This finding indicates the need to re-examine curricular programs offered by HEIs in the light of the CHED's efforts to make Filipino researchers active contributors to the scientific discourse. HEIs can help achieve this goal if curricular programs, especially those offered at the graduate levels, emphasize research and publication writing.

The need for research mentors was also emphasized by the respondents. Fortunately in Eastern Visayas, the locale of this research, research consortia exist. It is recommended that these consortia develop mechanisms to make research mentoring a part of their programs. In this way, institutions with faculty members who are struggling to publish papers can have peers who will not only hone their junior faculty's skills but also cultivate in them the value of research and publication writing.

Respondents in the LPP group have demonstrated their preference to submit their work in journals that do not observe high quality review. Likewise, it is disheartening to know that despite the low quality publication, these articles are considered for promotion. This is consistent with the observation of Suarez and Lacanilao (2010) that in the Philippines, faculty members are awarded and recognized for producing grey literature. Given this situation, it is now high time for concerned agencies to put up a mechanism to stop the production and publication of journals that are publishing low quality papers. This may be done through non-recognition of the paper not only for promotion purposes but also in the quality assurance systems for HEIs. It is also recommended that publication be among the requirements for awarding tenure to academic staff. This requirement will surely motivate faculty members to publish research papers.

An examination of the research environment of the two universities highlighted the fact that only a terminal report is required at the end of the project supported by the university funds. A terminal report may serve a number of purposes. However, in the efforts to improve publication performance, it is now high time that funding agencies, including the universities, require researchers to submit papers published in peer-reviewed publications as among the deliverables in granting research funds.

Respondents who had quality research training, either during their baccalaureate and graduate degrees, were motivated to publish research papers. This finding clearly highlights the need for universities to revisit the research training provided to their students, making it sure that students are able to develop their research and publication skills. Likewise, to develop in-service faculty members' research skills, it is suggested that concerned organizations and agencies design and implement capability development program. While this research has answered questions, this has also raised a number of questions that should be pursued in future studies. One of these is that, respondents in this study have received awards from international, national and local award-giving bodies. It is interesting to find out if giving research awards is among the factors that can motivate a faculty to publish research papers.

One limitation of the current paper is that, the findings cannot be generalized to other researchers and HEIs. This shortcoming is inherent in research that uses techniques in naturalistic inquiry. It is, therefore, recommended that a survey covering more respondents and universities be conducted. This survey may apply the model generated by this study.

REFERENCES

BITSCH, V. 2005. Qualitative research: A grounded theory example and evaluation criteria. *Journal of Agribusiness*, ***23*****(1)**: 75-91.

CHIOVITTI, R.F., & N. PIRAN. 2003. Rigour and grounded theory research. *Journal of Advanced Nursing, **44*****(4)**: 427-435.

CRESWELL, J.W. 1998. *Qualitative inquiry and research design: Choosing among five traditions*. USA: Sage Publications.

GLASER, B.G. 2004. Naturalist inquiry and grounded theory. *Forum: Qualitative Social Research,* ***5*****(7)***.*

HADJINICOLA, G.C. & A.C. SOTERIOU. 2005. Factors affecting research productivity of production and operations management groups: An empirical study. *Journal of Applied Mathematics and Decision Sciences, 2006,* 1-16.

HANCOCK, T., J. LANE, R. RAY & D. GLENNON. 1992. The ombudsman: Factors influencing academic research productivity: A survey of management scientists. *Interfaces*, ***22*****(5)**, 26-38.

KEARNEY, M.L. 2009. Higher education, research and innovation: Charting the course of the changing dynamics of the knowledge society. In V.L. Meek, U. Teichler, & M.L. Kearney (Eds), *Higher education, research and innovation: Changing dynamics report on the UNESCO forum on higher education, research, and knowledge 2001-2009* (pp. 7-23). Germany: INCHER-Kassel.

LACANILAO, F. (2009) *Doing research for development*. Keynote address at the 27th Meeting of the Association of Systematic Biologists of the Philippines. Retrieved February 7, 2011 from http://www.seafdec.org.ph/news_doing_research_for_devt.htm

QUACQUARELLI SYMONDS LTD. 2010 (n.d.) *Asian university ranking- top 200*. Retrieved February 21, 2011 fromhttp://www.topuniversities.com/university-rankings/asian-universityrankings/2010

SUAREZ, R.K. & F. LACANILAO. 2010. *Reforming Philippine science*. South East Asian Fisheries Development Center: Philippines.

VINCZE, Z. 2010. Grounded theory. In Mills, A. J., G. Durepos, & E. Wiebe, E. (Eds.). *Encyclopedia of case study research,* 429-432. Thousand Oaks, CA: Sage.

VINLUAN, L. R. 2012. Research productivity in education and psychology in the Philippines and comparison with ASEAN countries. *Scientometrics*, **91**: 277–294

WASSENAAR, J. 2006. *Publication performance of individual scientists in consolidated versus non-consolidated teams with different team status level*. Undergraduate manuscript, University of Twente, The Netherlands.