Original Article

# Why Research Matter?: An Evaluative Study of Research Productivity Performance of the Faculty Members of the Polytechnic University of the Philippines

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## Abstract

This study evaluates the research capability of the Polytechnic University of the Philippines (PUP) in realizing a Research University status through faculty productivity in research activities such as production, presentation, and publication. Using the data collected from Quarterly Accomplishment Report (QAR) submitted by the faculty members, the participation rate and compliance rate of the faculty in research activities were computed to measure their research productivity. Specifically, participation rate was used to determine the rate of engagement of faculty in research activities while compliance rate was utilized to identify if the faculty involvement in research was based on their required mimimum role in each research activity and their academic rank. The results show that the average participation rate of the faculty in the three research activities was below 26 percent wherein almost three-fourths (75%) of the faculty did not at all participate in any of the research activities. Among the three research activities, faculty were more engaged in research production. Accordingly, the average compliance rate of the faculty members in research in each of the research activities was no more than 20%. Specifically, faculty with ranks of Associate Professor and Professor were more involved in research activities than those with ranks of Instructor and Assistant Professor. Because of these results, the University's interventions to enhance research productivity were crucial. These interventions include research capability programs, development of culture of research which may result in research collaborations and linkages, and policy creation considering research productivity as a factor of job promotion.

**Keywords**: Faculty Evaluation, Performance Evaluation, Research Presentation, Research Productivity, Research Publication.

## I. INTRODUCTION

The performance evaluation of members in any institution and profession has an important role in identifying their strengths and weaknesses. This may help the institution to design and implement suitable programs and policies to enhance the members' capabilities and productivity. In the academe, especially in higher education, faculty members are evaluated based on work experience, research, extension, linkages, and awards to earn promotion, tenure, salary increases, and other benefits (Kotrlik, Barlett, Higgins, & Williams, 2002; Chen, Nixon, Gupta, & Hoshower, 2010). Aside from these variables, the Polytechnic University of the Philippines (PUP) includes student, peer, and supervisor evaluations in evaluating the performance of its faculty. These indicators are crucial not only for the promotion and assignment of teaching load of the faculty , but also for the purpose of levelling by the State Universities and Colleges (SUCs) and for rationalizing the proposed national budget allocation for PUP.

Accordingly, most faculty members have very satisfactory (VS) and outstanding (O) ratings on student, peer, and supervisor evaluation and on extension services which enable them to have full-time teaching loads. However, they need to improve on their performance in research activities, such as research production, research presentation, and research publication, to get promoted and to enjoy the incentives from doing research activities as indicated in PUP Executive Order No. 24 Series of 2020, Implementing Guidelines on Merit Promotion for Faculty Members Based on Research Publication and Citation, and in PUP Executive Order 25 Series of 2020, Revised Implementing Guidelines on University Publication Assistance, Publication, and Citation Incentives, respectively. In addition, since research is one of the elements of SUC levelling, an improvement in these research activities will result in a higher SUC level of PUP. Thus, active participation in research production, presentation, and

publication is needed by the faculty to enhance their academic performance and by the University to acquire a higher SUC level.

As an intervention, PUP included Pillar 6: Vigorous Research Production and Utilization as one of the ten pillars of the University's Institutional Development Plan (IDP) to promote research productivity and integrity of its faculty members. In line with this, various policies and guidelines were crafted and implemented to boost research production and utilization, and to establish strong presence and impact on the international academic community, such as (1) merit promotion based on research publication and citation, (2) publication assistance, research incentive, and paper presentation financial assistance, (3) outstanding research awards, and (4) specifying the role of the faculty in research production, presentation, and publication according to their ranks. Through these, research productivity among faculty members is expected of them, as research productivity may result in national and international visibility of the PUP in the community of academic institutions. In addition, this can be a channel for the University to establish a reputation for having an outstanding faculty and to showcase its achievements to the public. In fact, PUP ranked 1st in scopus among SUCs in the National Capital Region (NCR) and 22nd among all universities in the entire country in 2021.

Given the present accomplishments of the University in the field of research, this study assessed the research productivity of its faculty based on their involvement in the three research activities, production, presentation, and publication to identify the areas that need improvement and intervention to further and continue the University's achievements and contributions in research. Moreover, faculty compliance with the requirements on their research outputs, based on their academic ranks and roles as researchers, was also determined to assure the utmost participation of the faculty in the three research activities. The results of this study will serve as inputs in the evaluation of existing policies and in the formulation of new possible policies and programs of the University that will encourage all faculty members to be more engaged in research production, presentation, and publication in the succeeding years.

## II. Data and Methodology

This study utilized the descriptive approach of research to explain and describe the production and participation rate of faculty members in research. In addition, the quantitative method was used to assess and analyze the performance and productivity of the faculty using the data from quarterly accomplishment reports (QAR) submitted by all delivery units of the PUP to the Institutional Planning Office (IPO). The collected and consolidated data from the QAR were filtered to capture the data of faculty members on research for the period, 2016 to 2020. These data were classified into three research indicators such as (1) production, (2) presentation, and (3) publication. A study of these three research indicators was deemed necessary in order to understand their role as factors that strengthen the research capability of the PUP, which will ultimately result in realizing its goal of becoming a Research University.

Description of Data

All regular/full-time faculty members of the PUP in the Main Campus (MC) and Branches and Satellite Campuses (BSCs) were considered in this study. There are seventeen different colleges and institutes that belong to MC, namely: College of Accountancy and Finance (CAF), College of Architecture, Design and Built Environment (CADBE), College of Arts and Letters (CAL), College of Business Administration (CBA), College of Communication (COC), College of Computer and Information Sciences (CCIS), College of Education (COEd), College of Engineering (CE), College of Human Kinetics (CHK), College of Law (COL), College of Political Science and Public Administration (CPSPA), College of Social Sciences and Development (CSSD), College of Science (CS), College of Tourism, Hospitality, and Transportation Management (CTHTM), Open University (OU), Institute of Technology (ITECH), and the Laboratory High School (LHS). The Graduate School (GS) was not identified as an independent unit because some of its faculty members also belong to the different colleges in MC.

Table 1. Average Number of Full-time and Part-time Faculty Members in the PUP System for the period, 2016 - 2020

| YEAR | PUP System | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|
| | Full-time (FT) | | | Part-time (PT) | | | |
| | Qty. | Percentage Distribution (%) | Growth rate | Qty. | Percentage Distribution (%) | Growth rate | |
| **2016** | 659 | 35.95 | - | 1174 | 64.05 | - | 1,833 |
| **2017** | 654 | 36.25 | 0.83 | 1150 | 63.75 | (0.47) | 1,804 |
| **2018** | 662 | 36.14 | (0.30) | 1170 | 63.86 | 0.17 | 1,832 |
| **2019** | 670 | 36.63 | 1.36 | 1159 | 63.37 | (0.77) | 1,829 |
| **2020** | 669 | 35.04 | (4.34) | 1240 | 64.96 | 2.51 | 1,909 |
| **Average** | **663** | **36.00** | **(0.61)** | **1179** | **64.00** | **0.36** | **1,841** |

Table 1 shows the combined number of FT and PT faculty members in both MC and BSCs of PUP with an annual average number of 663 and 1,179, respectively. On the average, the PUP System had a total of 1,841 faculty members annually. Noticeably, almost two-thirds of the total number of faculty members or 64 percent were on PT status while more than one-third or 36 percent were on FT status, on the average, from 2016 to 2020. Surprisingly, the number of faculty members with PT status had an average growth rate of 0.36 percent while the number of faculty members with FT status had an average contraction rate of 0.61 percent.

Treatment of Data

This research paper used the following series of averaging methods to analyze the research performance and participation of faculty members:

1. Research Compliance Rate (RCR)

The compliance rate refers to the involvement of the faculty members in three research activities: production, presentation, and publication. Their involvement may be as associate researcher, assistant team leader/co-lead researcher or team leader/lead researcher/independent researcher based on their academic ranks as Instructor, Assistant Professor, Associate Professor, and Professor.

Table 2. Academic Rank and Involvement in Research Production

| Academic Rank | Minimum Role/Involvement |
|---|---|
| Instructor | Associate Researcher |
| Assistant Professor | Associate Researcher |
| Associate Professor | Assistant Team Leader / Co-Lead Researcher |
| Professor | Team Leader / Lead Researcher / Independent Researcher |

PUP Memorandum Order No. 020, Series of 2016, Revised Guideline in the Preparation of Individual Performance Commitment and Review (IPCR) for Faculty Members, enumerated the expected research involvement of faculty members in research activities based on their academic ranks in the following tables.

Table 3. Academic Rank and Involvement in Research Presentation

| Academic Rank | Minimum Role/Involvement |
|---|---|
| Instructor | Institutional Conference |
| Assistant Professor | National Conference |
| Associate Professor | National Conference |
| Professor | National Conference |

Table 2 and Table 3 show the minimum role/involvement of faculty members in research production and research presentation, respectively, according to their academic ranks. However, the table that shows the minimum level of publication based on academic rank was not considered in the study because of data limitation in terms of identifying the list of CHED-recognized journals. Thus, this study considered all research articles published by faculty members in different journals, regardless of whether these are CHED-recognized or not.

The research compliance rate (RCR) is computed as:

$$RCR\ (\%)_t^{ic} = \frac{No.of\ Research_t^{ic}}{No.of\ Faculty\ Members\ with\ R_t^c} \quad (1)$$

where i represents production, presentation, or publication, t denotes the year of the production, presentation or publication of the research output from 2016 to 2020, c refers to the colleges of MC, and BSCs of the University, and R represents the academic rank of faculty members such as Instructor, Assistant Professor, Associate Professor, and Professor.

2. Research Participation Rate (RPR)

The Research Participation Rate refers to the level of participation of faculty members in research activities including production, presentation, and publication. The computation of RPR is:

$$RPR\ (\%)_t^{i} = \frac{No.of\ Research_t^{ic}}{No.of\ Faculty\ Members_t^c} \quad (2)$$

where i represents production, presentation, or publication, t denotes the year of production, presentation, or publication of the research output from 2016 to 2020, and c refers to the colleges of MC, and BSCs of the University. RPR considers the total number of research outputs and the total number of faculty members regardless of their academic ranks.

## III. Related Literature

The Conceptual Definition of Research Performance and Productivity

Generally, research may be defined according to context and use. In the academic context, research involves a systematic process of understanding and examining phenomena and issues where the findings and methods are valid to be accepted as contribution to the existing knowledge and literature. On the other hand, research maybe defined outside its academic context as finding out information and facts in order to accomplish a certain task (Agha, Adam, & Ujebe, 2018). Thus, research is a process of producing new knowledge that contributes to the public knowledge by developing a rational agreement in fields of study (Creswell, 1985; Abramo & D'Angelo, 2014).

Research can be evaluated using different concepts, measures, and methods to identify research productivity. Research productivity is essential in improving learning skills and raising the university's standing leading to international visibility among academic institutions (Creswell, 1985). Aside from that, research impact being openly correlated to the quality of teaching, results in learning about the knowledge of industry which could lead to institutional and national development. Thus, to be recognized as one of the top international universities regarding research productivity, has become the primary goal of different institutions that can be accomplished through the joint efforts of higher education faculty in the areas of research and teaching (Jalal, 2020).

In the academe, especially in the sociology of science, individual research performance of faculty members is evaluated based on publication count, citation count, and peer and colleague ratings (Creswell, 1985). The use of publication and citation to evaluate research impact and quality was also established by Moed, Burger, Frankfort, & Van Raan (1985). Research citation is classified as an impact of research performance rather than on quality, whereas, impact is a compatible characteristic of research performance. Consequently, years later, citation became the measure of impact in research performance analysis (Noyons, Moed, & Van Raan, 1999; Van Leeuwen, et al., 2001). Accordingly, Gayan and Singh (2021) affirmed that citation analysis supports the evaluation of research performances of departments and universities. However, measuring research

productivity through the number of publications per researcher is insufficient since publications have different values (Abramo & D'Angelo, 2014). Thus, a new measure of productivity was introduced called Fractional Scientific Strength (FSS) wherein both quantity and quality of production are included in the calculation, and allows measurement at different organizational levels. It is suitable to use the FSS since there is no adequate normalization of the output value to the input value and a lack of classification of scientists by field of research, leading to rankings of multi-field research units being distorted.

Moreover, Shirabe & Koizumi (2021) studied the sufficiency of research performance of universities by evaluating the quantity, number of publications produced and quality, and citation of published papers, as indicators. Aside from publication and citation as undoubtedly essential indicators, substantiality as another indicator of research performance was established. This indicator acquired the other essential qualities of research in institutes and universities that have overlooked quality and quantity. Furthermore, substantiality established its predictive power in as much as reputation in research was used to evaluate university rankings.

Factors Affecting Research Productivity of Faculty Members

Researchers vary in their research performance levels because there are several compelling reasons why they engage in research. In the academe, research has a significant contribution to the students when the teacher's work is applicable to the students' lesson in the classroom (Agha, Adam, & Ujebe, 2018). The teacher's skills can be disseminated to the students to promote a better and well-informed society where people make decisions based on inquiry and exploration (Angaiz, Jan, & Mehmood, 2021). Providing training sessions to improve research skills is crucial and highly encouraged (Fawzi & Al-Hatami, 2017).

The skills in research is correlated with the age of the researcher which could affect research productivity (Uwizeye et al., 2021). In particular, Hottenrott & Lawson (2013) found out that there is a decline in research productivity and publication-quality as the researcher's age increases. On the other hand, research skills level shows a stable increase as the faculty member's age increases (Tahsildar & Hasani, 2021). Moreover, age of academicians is the main factor of scholarly output and impact (Larivière & Costas, 2016). Older researchers have a more significant number of papers being published, and those are likely to become the most cited papers in their discipline.

Other factor like academic rank of faculty members positively affects research productivity, research quality, and skills on research (Eckhaus & Davidovitch, 2020). The higher the academic rank, the higher productivity, research quality, and skills on research, that can be observed because of the higher educational attainment and experience gained by faculty members with higher academic ranks. In fact, publications of faculty members with professorial ranks are more remarkable and have a higher quality than younger researchers, which might be due to the difference in experience and access to resources (Hottenrott & Lawson, 2013). They also have the highest number of citations (Abramo, D'Angelo, & Di Costa, 2011). However, some faculty members with ranks of associate professor have the highest research skills (Tahsildar & Hasani, 2021). This result is based on the faculty members' perception of their research skills, research productivity, and other factors that hinder research productivity in a public university in Afghanistan using a mixed method of both qualitative and quantitative with 164 full-time faculty members as a sample.

Years of experience can also significantly affect research productivity (Uwizeye et al., 2021) since it is associated with academic rank. In terms of research skills, Tahsildar & Hasani (2021) found out that faculty members' length of teaching experience does not positively affect research skills. This may be true because faculty members with lower lengths of service are more engaged in research in their desire to get promoted to a higher academic rank. On the other hand, there are some faculty members with lesser experience and new faculty members as well, who felt stressed in achieving their research targets because of the lack of skills, competence, and confidence which could affect faculty research progression (Sujatha, Kishore, & Rao, 2020). While academic degree, motivation, rank, and experience have a positive relationship to research productivity, administrative position, lack of self-confidence, and incompetence, negatively affect it (Nasser-Abu-Alhija & Majdob, 2017).

In some universities and institutions, faculty members' engagement in research is based on their teaching load. Generally, the faculty members' teaching load is among the major causes of low productivity and reduction of research productivity among them (Iqbal & Mahmood, 2011). The relationship of teaching load and research productivity was explored by Hu and Gill (2000). Using ANOVA to analyze the sample, it was found out that the faculty member with the lowest teaching load (5-7 hours per week) enjoys the highest research productivity while the one with a higher teaching load has a lower research productivity.

With the same findings, Tahsildar and Hasani (2021) found out that teaching load significantly affects research productivity in terms of the teaching hours, preparation, and variety of subjects handled. In addition, Hesli and Lee (2011) pointed out that the opportunity costs of teaching, such as a large number of courses and preparation for new courses, are the significant factors affecting research outputs. Accordingly, a heavy teaching load has a significant negative effect on research output and harms publication. Overall, teaching workload and administrative work are some of the leading factors that impede commitment to research (Fawzi & Al-Hatami, 2017).

A research-oriented culture would motivate university teachers to be more involved in conducting research. Culture of research may be difficult to define, however maintaining faculty involvement in scholarly activities like conducting research and publication, develops a culture of research (Hanover Research, 2014). Thus, the university is highly encouraged to implement research policies that deal with faculty workload and administrative duties to give teachers enough time to do research and maintain involvement in scholarly activities. This is on top of the research resources and support, like funding, given by universities and institutions (Batool, Hussain, & Ahmad, 2018).

In addition to the crafting of research policies as indicator of the presence of a research-oriented culture in an institution, the occurrence of collaboration with colleagues as intelligence-sharing is deemed essential for the development of expertise. The creation of new ideas is also a demonstration of a research-oriented culture. Information Communication Technology (ICT) helps researchers to communicate with fellow researchers using technology, which would improve research productivity (Hottenrott & Lawson, 2013). The relationship created by collaboration could create networks that could enhance the quality of research through multi-centered research (Angaiz, Jan, & Mehmood, 2021).

Although universities and institutions give incentives and rewards for faculty members to improve on their research productivity, job satisfaction is the most rewarding achievement a faculty member could receive from doing research (Angaiz, Jan, & Mehmood, 2021). Instead of external praise and comments, self-satisfaction and reward from research are signs of creating a research identity that could contribute to research productivity. In addition, a positive research relationship distinguished by mutual trust and respect could contribute to research productivity. It could develop confidence, self-esteem, and research capacity (Ajjawi, Crampton, & Rees, 2018). Therefore, empowerment, justice, sufficient workload, and training to boost staff skills, especially in writing articles and usage of research softwares, should be given to faculty researchers (Hottenrott & Lawson, 2013).

## IV. Results and Discussion

The research performance of faculty members is evaluated based on their contribution and participation in the three research activities such as research production, presentation, and publication. Research production refers to the research papers, prepared and completed, by faculty members; publication refers to the research papers published in journals; research presentation refers to the research papers presented in local, national, and international conferences.

### 4.1 Research Output of Faculty Members

A total of 620 researches was produced by faculty members from 2016 to 2020 in which 425 of these were produced by faculty in MC while 195 were produced in BSCs. On the average, faculty produced 124 research papers annually; however, the participation rate decreased at an annual rate of 2.44 percent.

Comparing the performance of faculty members in MC with that of BSCs, an average of 85 researches in MC were produced annually while an annual average of 39 research papers were produced in BSCs. This is due to the fact that the number of faculty members in MC was greater than that in BSCs with a difference of 230 faculty members or almost 46 percent. On the other hand, it can be observed that production of research papers in MC decreased overtime with an average annual rate of 5.70 percent while production in BSCs increased from 2016 to 2020 with an annual average growth rate of 7.25 percent.

Faculty presented a total of 390 research papers from 2016 to 2020, 109 research papers were presented in local conferences while 281 were presented in international conferences. On the average, faculty members presented 78 research papers annually, 62 papers were presented by faculty in MC while 16 in BSCs. Furthermore, faculty in MC presented 43 papers in international conferences while 18 papers were presented in local conferences, annually. On the other hand, faculty in BSCs presented 13 papers in international conferences and four papers in local conferences, on the average. It can be noted that no presentation

occurred in national conferences in 2020. Also, it is evident that although some faculty were engaged in research presentation, their research presentation in conferences decreased through time with an average decreasing rate of 26.43 percent, 20.45 percent in international conferences, and 39.29 percent in local conferences.

Table 4. Research Performance of Faculty Members Based on the Number of Output per Research Activity from 2016 to 2020.

| Campus | Year | No. of Faculty | Production | Presentation | | | Publication |
|---|---|---|---|---|---|---|---|
| | | | | Local | International | Total Presentation | |
| Main | 2016 | 487 | 90 | 35 | 60 | 95 | 22 |
| | 2017 | 493 | 83 | 18 | 37 | 55 | 22 |
| | 2018 | 483 | 102 | 21 | 60 | 81 | 35 |
| | 2019 | 474 | 83 | 14 | 49 | 63 | 33 |
| | 2020 | 500 | 67 | 3 | 11 | 14 | 77 |
| **Total** | | | **425** | **91** | **217** | **308** | **189** |
| Branches & Satellite Campuses (BSC) | 2016 | 166 | 30 | 9 | 25 | 34 | 7 |
| | 2017 | 162 | 42 | 5 | 10 | 15 | 7 |
| | 2018 | 180 | 46 | 1 | 15 | 16 | 9 |
| | 2019 | 192 | 40 | 3 | 11 | 14 | 4 |
| | 2020 | 203 | 37 | 0 | 3 | 3 | 21 |
| **Total** | | | **195** | **18** | **64** | **82** | **48** |
| PUP System | 2016 | 653 | 120 | 44 | 85 | 129 | 29 |
| | 2017 | 655 | 125 | 23 | 47 | 70 | 29 |
| | 2018 | 663 | 148 | 22 | 75 | 97 | 44 |
| | 2019 | 666 | 123 | 17 | 60 | 77 | 37 |
| | 2020 | 703 | 104 | 3 | 14 | 17 | 98 |
| **Total** | | | **620** | **109** | **281** | **390** | **237** |

While production and presentation decreased over time from 2016 to 2020, research publication of faculty increased over time with an average annual growth rate of 50.17 percent. This is a reflection of the effort of the University towards helping faculty members to publish their completed researches. In fact, there was a total of 237 published articles in the last five years, 189 papers were published by faculty in MC while 48 papers were published by BSCs in different journals. On the average, faculty published 47 research articles annually, 38 papers from MC while nine were from BSCs. The improvement in the number of published research papers was remarkable with 237.93 percent growth rate, from 29 publications in 2020 to 98 published papers in 2021. This was also the case in MC with 250 percent growth rate from 22 to 77 published research articles and in BSCs with 200 percent growth rate from 7 to 21 published research papers.

4.2 Participation of Faculty Members in Research Activities

The participation of faculty in research may be examined based on their academic ranks. According to Eckhaus and Davidovitch (2020), academic rank has positive relationship with research productivity, the higher the academic rank of the faculty the higher the output they produced. Table 5 shows the four academic ranks of faculty in the University and their respective involvement in research activities. The faculty with ranks of Associate Professor produced and published more research papers compared to other faculty members. Since research performance can also be used for promotion to have a higher academic rank and to receive grants and benefits (Kotrlik, Barlett, Higgins, & Williams, 2002), faculty with ranks of Instructor were encouraged to actively participate in research as well. Thus, those with ranks of Instructors and Associate Professors presented a greater number of researches compared to other faculty members with 122 and 112 research presentations, respectively. Faculty with ranks of Professor, who have the highest academic ranks, produced, presented, and published the lowest number of research papers which could be partly explained by the relatively small number of faculty with this academic rank .

Table 5. Research Output and Participation Rate of PUP Faculty Members per Academic Rank in the PUP SYTEM from 2016 to 2020

| Academic Rank | Year | Number of Faculty | Research Output | | | Participation Rate (%) | | |
|---|---|---|---|---|---|---|---|---|
| | | | PRODUCTION | PRESENTATION | PUBLICATION | PRODUCTION | PRESENTATION | PUBLICATION |
| Instructor | 2016 | 228 | 38 | 29 | 2 | 15.93 | 13.25 | 0.45 |
| | 2017 | 250 | 45 | 24 | 7 | 14.92 | 7.10 | 2.91 |
| | 2018 | 242 | 50 | 34 | 13 | 24.41 | 13.10 | 4.16 |
| | 2019 | 266 | 51 | 31 | 11 | 16.54 | 7.35 | 5.47 |
| | 2020 | 193 | 24 | 4 | 20 | 15.09 | 1.67 | 11.90 |
| **Total/Average** | | | 208 | 122 | 53 | **17.38** | **8.49** | **4.98** |
| Assistant Professor | 2016 | 247 | 39 | 27 | 9 | 17.90 | 8.82 | 6.56 |
| | 2017 | 219 | 37 | 19 | 9 | 14.01 | 5.02 | 2.31 |
| | 2018 | 205 | 43 | 22 | 16 | 13.35 | 6.74 | 5.58 |
| | 2019 | 204 | 30 | 19 | 8 | 9.03 | 7.46 | 2.71 |
| | 2020 | 254 | 2 | 6 | 29 | 0.35 | 1.80 | 9.29 |
| **Total/Average** | | | 151 | 93 | 71 | **10.93** | **5.97** | **5.29** |
| Associate Professor | 2016 | 147 | 33 | 26 | 12 | 19.27 | 9.75 | 6.41 |
| | 2017 | 157 | 35 | 21 | 10 | 16.92 | 7.61 | 5.22 |
| | 2018 | 188 | 49 | 37 | 13 | 17.74 | 12.44 | 3.79 |
| | 2019 | 174 | 38 | 22 | 16 | 19.02 | 8.81 | 5.65 |
| | 2020 | 210 | 64 | 6 | 39 | 26.86 | 2.32 | 12.65 |
| **Total/Average** | | | 219 | 112 | 90 | **19.96** | **8.19** | **6.74** |
| Professor | 2016 | 37 | 10 | 13 | 6 | 9.91 | 12.25 | 7.77 |
| | 2017 | 28 | 8 | 6 | 3 | 8.52 | 9.90 | 5.60 |
| | 2018 | 27 | 6 | 4 | 2 | 8.50 | 5.07 | 2.45 |
| | 2019 | 26 | 4 | 5 | 2 | 5.39 | 8.26 | 2.21 |
| | 2020 | 12 | 14 | 1 | 10 | 33.14 | 2.94 | 22.96 |
| **Total/Average** | | | 42 | 29 | 23 | **13.09** | **7.68** | **8.20** |
| **Grand Total/ Annual Average** | | | **620** | **356** | **237** | **15.34** | **7.58** | **6.30** |

It can be noticed that faculty in the entire PUP system with ranks of Associate Professor were more involved in research production as shown by their participation rate of 19.96 percent, as compared to faculty with ranks of Instructor who were also involved in research production but at a lower participation rate of 17.38 percent. On the average, faculty with ranks of Associate Professor and Instructor annually produced 44 and 42 researches, respectively.

Table 6. Research Output and Participation Rate of PUP Faculty Members per Rank in the Main Campus and Branches and Satellite Campuses from 2016 to 2020

| Academic Rank | Year | Number of Faculty | Participation Rate (%) (Main Campus) | | | Participation Rate (%) (Branches and Satellite Campuses) | | |
|---|---|---|---|---|---|---|---|---|
| | | | PRODUCTION | PRESENTATION | PUBLICATION | PRODUCTION | PRESENTATION | PUBLICATION |
| Instructor | 2016 | 156 | 20.41 | 26.51 | 0.90 | 11.46 | 0.00 | 0.00 |
| | 2017 | 172 | 13.65 | 10.81 | 3.51 | 16.19 | 3.40 | 2.31 |
| | 2018 | 159 | 22.01 | 21.63 | 6.79 | 26.82 | 4.57 | 1.54 |
| | 2019 | 167 | 14.15 | 11.63 | 9.25 | 18.94 | 3.06 | 1.68 |
| | 2020 | 101 | 13.78 | 2.81 | 15.65 | 16.40 | 0.52 | 8.14 |
| **Average** | | | **16.80** | **14.68** | **7.22** | **17.96** | **2.31** | **2.73** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Assistant Professor** | 2016 | 178 | 17.77 | 17.65 | 2.01 | 18.08 | 0.00 | 11.11 |
| | 2017 | 162 | 13.14 | 7.66 | 3.83 | 14.88 | 2.38 | 0.79 |
| | 2018 | 146 | 14.61 | 9.76 | 6.71 | 12.10 | 3.73 | 4.44 |
| | 2019 | 145 | 9.53 | 8.72 | 4.90 | 8.54 | 6.05 | 0.52 |
| | 2020 | 192 | 0.34 | 2.02 | 10.28 | 0.36 | 1.58 | 8.30 |
| | | **Average** | **11.08** | **9.16** | **5.55** | **10.79** | **2.75** | **5.03** |
| **Associate Professor** | 2016 | 119 | 18.24 | 19.51 | 8.30 | 20.31 | 0.00 | 4.52 |
| | 2017 | 134 | 16.23 | 9.52 | 5.69 | 17.61 | 5.71 | 4.76 |
| | 2018 | 154 | 20.54 | 16.56 | 5.21 | 14.92 | 8.33 | 2.38 |
| | 2019 | 144 | 16.21 | 11.67 | 11.35 | 21.82 | 5.95 | 0.00 |
| | 2020 | 165 | 26.54 | 4.64 | 16.89 | 27.18 | 0.00 | 8.41 |
| | | **Average** | **19.55** | **12.38** | **9.49** | **20.37** | **4.00** | **4.01** |
| **Professor** | 2016 | 31 | 17.45 | 24.51 | 10.78 | 2.38 | 0.00 | 4.76 |
| | 2017 | 24 | 17.05 | 10.29 | 8.82 | 0.00 | 9.52 | 2.38 |
| | 2018 | 23 | 12.25 | 5.39 | 4.90 | 4.76 | 4.76 | 0.00 |
| | 2019 | 22 | 10.78 | 11.76 | 4.41 | 0.00 | 4.76 | 0.00 |
| | 2020 | 6 | 64.70 | 5.88 | 41.17 | 1.58 | 0.00 | 4.76 |
| | | **Average** | **24.45** | **11.57** | **14.02** | **1.74** | **3.81** | **2.38** |
| | | **Annual Average** | **17.97** | **11.95** | **9.07** | **12.72** | **3.22** | **3.54** |

On the other hand, faculty with ranks of Assistant Professor were able to produce an annual average of 30 research papers while those with ranks of Professor produced an annual average of only eight researches. As to the activity of research presentation, those with ranks of Instructor were involved at a participation rate of 8.49 percent and presented an average of 24 research articles annually. Those with ranks of Associate Professor were also engaged in this activity but at a slightly lower participation rate of 8.19 percent and presented an annual average of 22 researches.

When it comes to research publication, those with ranks of Professor were more involved in this activity compared to the other ranks, as shown by their participation rate in publication at 8.20 percent. Although these Professors had the least number of published research articles, they had the highest participation rate in this activity which means that more faculty with the rank of Professor engaged in publication compared to other ranks. Accordingly, those with ranks of Associate Professor were less involved, having a participation rate of 6.75 percent . Although the faculty with these ranks showed involvement in publication, only a few of them had their outputs published. Those with ranks of Assistant Professor showed relatively poor performance in research. Meanwhile, those with ranks of Associate Professor performed well in research compared to faculty with other ranks. This result is the same as the study of Tahsildar & Hasani (2021).

Overall, faculty members in both MC and BSCs actively participated in producing research papers in 2018 with 21.16 percent and 25.55 percent patrticipation rates, respectively. On the other hand, they had the lowest participation rate in 2020. Surprisingly, faculty in BSCs were more engaged in research production compared to faculty members in MC.

In terms of presentation, faculty in MC were more active than faculty members in BSCs. It can also be noticed that there was a drastic decrease of the participation rate from 21.18 percent in 2018 to 2.24 percent in 2020 in the PUP System, which may have been caused by the COVID-19 pandemic that occurred in 2020.

Meanwhile, the participation rate of faculty on publication increased significantly from 2016 to 2020 with a growth rate of 214.28 percent. Specifically, both MC and BSCs' faculty participation rates increased with a growth rate of 265.42 percent and 156 percent, respectively. It can be noted that faculty in the PUP System were highly engaged in publication in 2020 with a participation rate of 13.42 percent, 16.59 percent in MC and 10.24 percent in BSCs.

4.3 Compliance of the Faculty Members on their Minimum Role in Research Activities Based on Academic Rank

Compliance rate shows how the faculty perform their roles in research activities in accordance with their academic rank. It is expected that the higher the academic rank, the higher the role or obligation of the faculty in a certain research activity. The following discussion explains the compliance behavior of the faculty in research production and research publication; however,their compliance in research presentation was not included because of limited data.

Although the minimum role of Instructors in research production is that of associate researcher, most of them preferred to be lead researchers as indicated by an average compliance rate of 11.20 percent compared to a compliance rate of 5.0 percent as associate researcher and 3.48 percent as co-lead researcher. From 2016 to 2020, instructors were more engaged in research production in 2018 whereas 8.68 percent were associate researchers, 4.96 percent were co-lead researchers, and 16.94 percent were lead researchers. Of the 236 instructors of the University, 5.0 percent were compliant in their minimum role as associate researcher. Furthermore, 14.68 percent were more than compliant as regards their mandated minimum role in research – 3.48 percent and 11.20 percent as co-lead researcher and lead researcher, respectively.

Assistant Professors have the same minimum role in research production as Instructors, however, they had a lower compliance rate compared to that of Instructors for the period, 2016-2020. Only 2.30 percent complied with their minimum role as associate researcher while 3.19 percent and 7.54 percent produced research papers as co-lead researcher and lead researcher, respectively.

In 2020, only one Assistant Professor produced a research paper as lead researcher with a compliance rate of 0.39 percent. Unfortunately, no Assistant Professor produced a research paper as associate researcher and co-lead researcher in the same year. It can also be seen from Table 7 that the compliance rate of Assistant Professors decreased over time.

Since the minimum role of Associate Professors in research production is that of co-lead researcher, it can be observed that among the first three academic ranks, the rank of Associate Professor had the highest compliance rate of 4.79 percent as co-lead researcher. Associate Professors were the most compliant in their minimum role as co-lead researcher in 2020.

In addition, Associate Professors also had the highest compliance rate of 16.55 percent as lead researcher among the first three academic ranks. On the other hand, there were Associate Professors, who produced research papers as associate researcher, with a compliance rate of 3.42 percent, which was lower than their minimum required role in research production. Thus, 78.99 percent of Associate Professors were considered not compliant in their role in research.

Although the number of faculty members with professorial rank is the least among the academic ranks, it can be noticed that Professors had the highest compliance rate of 20.77 percent in their minimum role as lead researcher in research production. This means that among the 26 Professors of the University, only five were able to produce research outputs as lead researcher, on the average. Furthermore, there were still Professors who produced research papers as associate researcher and co-lead researcher with compliance rates of 3.85 percent and 9.23 percent, respectively, even though these roles are considered below the minimum role required of them in research production. Therefore, almost 80 percent (79.23%) of the Professors were non-compliant as lead researcher.

Table 7. Total Research Output and Compliance Rate of Full-time Faculty per Research Role and Academic Rank from 2016 to 2020

| Academic Rank | Year | PUP SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | No. of Faculty | Associate Researcher* | | Co-Lead Researcher** | | Lead Researcher*** | |
| | | | No. of Output | Compliance Rate (%) | No. of Output | Compliance Rate (%) | No. of Output | Compliance Rate (%) |
| **Instructor** | 2016 | 228 | 11 | 4.82 | 9 | 3.95 | 18 | 7.89 |
| | 2017 | 250 | 15 | 6.00 | 7 | 2.80 | 23 | 9.20 |
| | 2018 | 242 | 21 | 8.68 | 12 | 4.96 | 41 | 16.94 |
| | 2019 | 266 | 10 | 3.76 | 7 | 2.63 | 34 | 12.78 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2020 | 193 | 2 | 1.04 | 6 | 3.11 | 16 | 8.29 |
| **Average** | | **236** | **12** | **5.00** | **8** | **3.48** | **26** | **11.20** |
| **Assistant Professor** | 2016 | 246 | 6 | 2.44 | 6 | 2.44 | 27 | 10.98 |
| | 2017 | 219 | 8 | 3.65 | 8 | 3.65 | 21 | 9.59 |
| | 2018 | 205 | 9 | 4.39 | 11 | 5.37 | 23 | 11.22 |
| | 2019 | 204 | 3 | 1.47 | 11 | 5.39 | 13 | 6.37 |
| | 2020 | 254 | 0 | 0.00 | 0 | 0.00 | 1 | 0.39 |
| **Average** | | **226** | **5** | **2.30** | **7** | **3.19** | **17** | **7.54** |
| **Associate Professor** | 2016 | 147 | 5 | 3.40 | 5 | 3.40 | 23 | 15.65 |
| | 2017 | 157 | 9 | 5.73 | 7 | 4.46 | 19 | 12.10 |
| | 2018 | 188 | 6 | 3.19 | 7 | 3.72 | 36 | 19.15 |
| | 2019 | 174 | 4 | 2.30 | 5 | 2.87 | 27 | 15.52 |
| | 2020 | 210 | 6 | 2.86 | 18 | 8.57 | 40 | 19.05 |
| **Average** | | **175** | **6** | **3.42** | **8** | **4.79** | **29** | **16.55** |
| **Professor** | 2016 | 37 | 1 | 2.70 | 2 | 5.41 | 7 | 18.92 |
| | 2017 | 28 | 3 | 10.71 | 4 | 14.29 | 3 | 10.71 |
| | 2018 | 27 | 0 | 0.00 | 1 | 3.70 | 5 | 18.52 |
| | 2019 | 26 | 0 | 0.00 | 2 | 7.69 | 2 | 7.69 |
| | 2020 | 12 | 1 | 8.33 | 3 | 25.00 | 10 | 83.33 |
| **Average** | | **26** | **1** | **3.85** | **2** | **9.23** | **5** | **20.77** |

*Min. Role of Instructors, **Min. Role of Instructors and Assistant Professors, ***Min. Role of Associate Professors

Overall, faculty members with different academic ranks preferred to produce research papers as lead researcher. It can be noted that Instructors were more engaged in research than Assistant Professors as they had a higher compliance rate in their minimum role as associate researcher compared to Assistant Professors. As to Associate Professors, although their minimum role is that of co-lead researcher, there were still faculty members who produced research papers as associate researcher. This is the same case as that of Professors. In 2016, 2017, and 2020, some faculty members with professorial rank produced research papers as associate researcher with percentage shares of 2.70 percent, 10.71 percent, and 8.33 percent, respectively. Surprisingly, the figure shows that a large number of faculty members were not active in research production and were not compliant in the requirements of their respective roles in research.

The minimum role of faculty members per rank in production is the same with their minimum role in publication. However, the compliance rate of faculty members in their role in research was lower in publication compared to production. Table 8 shows that the compliance rate of Instructors and Assistant Professors in their minimum role in research publication was 0.85 percent and 1.42 percent, respectively, which were lower than their compliance rates in research production. Although there were Instructors and Assistant Professors who published research papers as co-lead and lead researcher, 95.50 percent of Instructors and 93.79 percent of Assistant Professors were not compliant in their roles in research.

With regards to Associate Professors, only 1.48 percent of them were compliant in their minimum role as co-lead researcher while 1.48 percent also published research papers below their minimum role. Meanwhile, 7.31 percent took on the role as lead researcher and were more than compliant over their minimum role in research publication. Thus, 89.73 percent were not compliant in any of the roles in research production.

Noticeably, a drastic increase in the Professors' compliance rate from 7.69 percent to 66.67 percent as lead researcher occurred in 2020. However, some Professors served as associate researcher and co-lead researcher even though these were below their minimum role in research as lead researcher. In total, 85.38 percent were not compliant in their roles in research where 0.77

percent performed as associate researcher, 2.31 percent as co-lead researcher, while 82.30 percent were not able to comply with the requirements of any role in research.

Among the three roles in research, Instructors and Assistant Professors in MC preferred to publish research papers as lead researcher, with a compliance rate of 3.71 percent and 3.89 percent, respectively, although their minimum role is that of associate researcher. However, 94.71 percent of the Instructors and 93.67 percent of the Assistant Professors did not comply with any role in research publication. It can also be noticed that a small percentage of Instructors and Assistant Professors complied with their minimum role as associate researcher with compliance rates of 0.79 percent and 1.22 percent, respectively.

Instructors from only three out of 16 colleges in MC were compliant in their role as associate researcher while Assistant Professors of six colleges were compliant in their minimum role in research. However, these colleges had less than a 10 percent compliance rate. On the other hand, Instructors and Assistant Professors preferred to publish research outputs as lead researcher, as 12 out of 16 colleges published researches from 2016 to 2020. Although the number of colleges, whose faculty were able to publish research papers as lead researcher, is greater compared to those whose faculty published as associate researcher, the compliance rates were still significantly low, ranging from 3.55 percent to 22.22 percent.

Table 8. Average Compliance Rate of Faculty in PUP per Role in terms of Research Publication from year 2016 to 2020

| Academic Rank | Year | Compliance Rate | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Associate Researcher | | | Co-Lead Researcher | | | Lead Researcher | | |
| | | PUP | MC | BSCs | PUP | MC | BSCs | PUP | MC | BSCs |
| Instructor | 2016 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.88 | 1.28 | 0.00 |
| | 2017 | 1.20 | 0.58 | 2.56 | 0.40 | 0.58 | 0.00 | 1.20 | 1.16 | 1.28 |
| | 2018 | 2.07 | 2.52 | 1.20 | 0.41 | 0.63 | 0.00 | 2.89 | 3.77 | 1.20 |
| | 2019 | 0.75 | 0.60 | 1.01 | 0.38 | 0.60 | 0.00 | 3.01 | 3.59 | 2.02 |
| | 2020 | 0.00 | 0.00 | 0.00 | 1.55 | 2.97 | 0.00 | 8.81 | 11.88 | 5.43 |
| **Total/Average** | | **0.85** | **0.79** | **0.94** | **0.51** | **0.79** | **0.00** | **3.14** | **0.00** | **2.12** |
| Assistant Professor | 2016 | 0.81 | 0.00 | 2.94 | 0.81 | 1.12 | 0.00 | 2.03 | 2.25 | 1.47 |
| | 2017 | 0.46 | 0.62 | 0.00 | 0.91 | 0.62 | 1.75 | 2.74 | 3.70 | 0.00 |
| | 2018 | 2.93 | 2.74 | 3.39 | 2.44 | 2.05 | 3.39 | 2.44 | 2.05 | 3.39 |
| | 2019 | 0.98 | 1.38 | 0.00 | 0.00 | 0.00 | 0.00 | 2.94 | 3.45 | 1.69 |
| | 2020 | 1.97 | 1.56 | 3.23 | 2.76 | 2.08 | 4.84 | 6.30 | 7.29 | 3.23 |
| **Total/Average** | | **1.42** | **1.22** | **1.97** | **1.42** | **1.22** | **1.97** | **3.37** | **3.89** | **1.97** |
| Associate Professor | 2016 | 0.68 | 0.84 | 0.00 | 0.00 | 0.00 | 0.00 | 7.48 | 6.72 | 10.71 |
| | 2017 | 1.27 | 0.75 | 4.35 | 0.00 | 0.00 | 0.00 | 5.10 | 5.22 | 4.35 |
| | 2018 | 1.06 | 1.30 | 0.00 | 1.60 | 1.95 | 0.00 | 4.26 | 4.55 | 2.94 |
| | 2019 | 1.72 | 2.08 | 0.00 | 0.00 | 0.00 | 0.00 | 7.47 | 9.03 | 0.00 |
| | 2020 | 2.38 | 3.03 | 0.00 | 4.76 | 3.64 | 8.89 | 11.43 | 12.12 | 8.89 |
| **Total/Average** | | **1.48** | **1.68** | **0.63** | **1.48** | **1.26** | **2.50** | **7.31** | **7.68** | **5.63** |
| Professor | 2016 | 0.00 | 0.00 | 0.00 | 2.70 | 3.23 | 0.00 | 13.51 | 12.90 | 16.67 |
| | 2017 | 0.00 | 0.00 | 0.00 | 3.57 | 0.00 | 25.00 | 7.14 | 8.33 | 0.00 |
| | 2018 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.41 | 8.70 | 0.00 |
| | 2019 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.69 | 9.09 | 0.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2020 | 8.33 | 16.67 | 0.00 | 8.33 | 16.67 | 0.00 | 66.67 | 116.67 | 16.67 |
| **Total/Average** | | **0.77** | **0.94** | **0.00** | **2.31** | **1.89** | **4.17** | **14.62** | **16.04** | **8.33** |

*Min. Role of Instructors, **Min. Role of Instructors and Assistant Professors, ***Min. Role of Associate Professors

Although colleges with Assistant Professors have low compliance rates, ranging from 2.56 percent to 13.23 percent, 12 out of 16 (75%) colleges complied with their roles in research publication where six out of 12 (50%) colleges were compliant in their minimum role as associate researcher, six out of 12 (50%) colleges were also compliant as co-lead researcher, and 12 out of 16 (75%) colleges were compliant as lead researcher.

Like the Instructors and Assistant Professors in MC, Associate Professors preferred to publish researches as lead researchers as well, with a compliance rate of 7.68 percent. Some Associate Professors complied with their minimum role, with a compliance rate of 1.26 percent, while most of them (91.06%) did not comply with their minimum role as co-lead researcher, including the 1.68 percent Associate Professors who published research papers as associate researcher.

As per the different colleges, Associate Professors had the highest compliance rate as lead researcher among the four academic ranks although they had a low compliance rate in their minimum role as associate researcher where 11 out of 16 colleges were able to publish research papers as lead researcher. On the other hand, there were six (6) colleges that complied with their minimum role but with low compliance rates ranging from 1.27 percent to 11.11 percent. There were Associate Professors from six (6) colleges who published researches below their minimum role as associate researcher.

Moreover, 16.04 percent of Professors were compliant in their role in research publication as lead researcher. Meanwhile, 83.96 percent were not compliant in their role including the 0.94 percent who published as associate researcher, 1.89 percent as co-lead researcher, and 81.13 percent who did not comply with any role. In particular, faculty with ranks of Professor in nine out of 16 (56.25%) colleges did not comply with any role in research publication. Three colleges produced research papers as associate researcher and five colleges produced as co-lead researcher. Although these Professors were able to publish research papers from 2016 to 2020, their roles in these publications were below their required role in research.

The of BSCs' compliance rates of Instructors, Assistant Professors, and Associate Professors in their minimum roles in research publication were greater than the faculty members in MC with the same academic ranks. However, faculty members in MC with the same ranks had higher compliance rates as lead researcher. Same as in MC, faculty members in BSCs prefer to publish research papers as lead researcher, with a compliance rate of 2.12 percent for Instructors, 1.97 percent for Assistant Professors, 5.63 percent for Associate Professors, and 8.33 percent for Professors.

Few faculty members from BSCs were active in research publication compared to their counterparts in MC. In spite of this, their compliance rates which ranged from 5.3 percent to 37.50 percent, were better than those in MC. Instructors from three out of 21 BSCs published researches as associate researcher; Ragay,16.70 percent, QC, 15.0 percent, and Bataan, 5.9 percent. In addition, Instructors from Ragay had the highest compliance rate of 37.50 percent as lead researcher, followed by Sta. Rosa, 11.40 percent, and Mulanay, 10.0 percent.

Although the minimum role of Assistant Professors in research is that of associate researcher, all Assistant Professors (100.0%) in the Sta. Maria branch published research papers as lead researcher which is above their minimum role. Assistant Professors from three BSCs complied with their minimum role: San Pedro, 25.0 percent, Bataan, 19.6 percent, and Lopez, 3.8 percent. In the case of Associate Professors, four BSCs complied with their minimum role as co-lead researcher while five BSCs complied as lead researcher. Associate Professors in Bataan produced research papers as associate researcher, co-lead researcher, and lead researcher. From 2016 to 2020, only six (28.57%) BSCs were able to comply with their role in research publication.

Considering the faculty with ranks of Professor in BSCs, only two BSCs were compliant in their role as lead researcher in publication, Unisan with 12.50 percent and Sto. Tomas with 4.2 percent. Professors in Bataan were able to publish research papers as co-lead researcher which is below their minimum role. From 2016 to 2020, only three BSCs were able to comply with their role in research publication.

It can be noted that the highest compliance rates of all academic ranks as lead researcher were reflected in 2020. On the other hand, the highest compliance rates of Instructors and Assistant Professors in their minimum role as associate researcher occurred

in 2018. Meanwhile, the highest compliance rate of Associate Professors in their minimum role as co-lead researcher was in 2020.

## V. Conclusions and Recommendations

The results show that most of the faculty who were engaged in research activities were more involved in research production. However, the number of produced research papers as well as those presented decreased from 2016 to 2020. While production and presentation decreased over time, research publication of faculty and their participation rates in this research activity increased over time. This is reflective of the University's initiative geared towards enabling the faculty in the publication of their completed research papers. These initiatives include capability building programs through webinars, workshops, and other forms of training on how to publish research papers in collaboration with Scopus and WOS journals publishers, provision of publication assistance and incentives, and promotion through research publication.

From 2016-2018, the participation rate of faculty members in research production increased but declined in 2019-2020. On the other hand, there was a sudden increase in the participation rate in research publication in 2020. This may mean that those faculty who produced research papers from 2016-2018 chose instead to publish their outputs in 2019 and 2020, since these were the years when the University exerted more of its efforts towards increasing research publication. This also implies that the same faculty members were active in all three of the research activities.

Moreover, the average participation rate in research activities of the faculty was low (below 26%) wherein almost three-fourths (75%) of the faculty did not at all participate in any of the research activities. Also, there were colleges that did not also participate in any of the research activities. Thus, there is a need for university interventions to increase not only the number of production, presentation, and publication but also the participation rates of faculty in these research activities. These interventions may include the continuation of the capability building programs (Wa-Mbaleka & Gomez, 2017; Fawzi & Al-Hatami, 2017) not only for research publication but also in research production and presentation which can be extended to BSCs to publish their completed research papers and increase their participation in research presentation in as much as research production increased in BSCs compared to their research publication. In addition, the colleges and BSCs should be encouraged to create, design, and implement their own research programs that will develop and nurture a culture of research among faculty through research collaboration within their respective departments, with other colleges in the University, with other universities in the country, and better still with other universities abroad, mentor-mentee coaching, roundtable discussions, and holding research conferences (Huenneke, Stearns, Martinez, & Laurila, 2017; Angaiz, Jan, & Mehmood 2021).

Accordingly, the average compliance rate of the faculty members based on their academic rank and their role in research in each of the research activities was no more than 20%. Specifically, faculty with ranks of Associate Professor and Professor were more involved in research activities than those with ranks of Instructor and Assistant Professor. However, few of the faculty in BSCs were compliant in their minimum roles in research. Since academic ranks of faculty members are positively associated with research productivity because higher academic rank means more experience, skills and expertise (Abramo, D'Angelo, & Di Costa, 2011; Hottenrott & Lawson, 2013; Eckhaus & Davidovitch, 2020; Tahsildar & Hasani, 2021; Uwizeye et al., 2021), there is need to immediately implement PUP Executive Order No. 26 Series of 2020: Research Activities: Production, Presentation, and Publication (REAP3) of the University to motivate and allow more time for the faculty, most especially those with ranks of Associate Professor and Professor, to undertake research on top of their teaching assignments. REAP3 was crafted as a response to PUP Memorandum Order No. 20, Series of 2016.

To further enhance the measurement of research productivity in the study, research citation may be included as an indicator of research performance (Noyons, Moed, & Van Raan, 1999; Gayan & Singh, 2021; Van Leeuwen, et al., 2001). The compliance of faculty members in research presentation based on their academic rank and the minimum level of research presentation may also be included in succeeding studies on research performance of the faculty since this is part of REAP3. Lastly, it is best to include the reasons or factors behind the low participation rates and compliance rates of the faculty in research activities as well as of the various approaches which can provide relevant inputs in the review of existing University policies or in crafting new ones.

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